



# FORESTRY

# LEAVES

STUDENT BODY AND ALUMNI ORGAN, COLLEGE OF FORESTRY, U.P.

## *In this Issue*

**FORESTRY IS OUR HOPE**  
—Penska

**THE CONTRIBUTION OF FORESTS TO AGRICULTURE**  
—Call

**TECHNIQUES AND PRACTICES OF FOREST PRODUCTS LABORATORIES AND INDUSTRIES IN THE U.S.**  
—de la Cruz

**PAPERS OF THE SECTIONAL SESSION OF THE 6TH INT'L GRASSLAND CONGRESS APPLICABLE IN THE PHILIPPINES**  
—Sajor

**TIMBER SEASONING METHODS IN AUSTRALIA**  
—Lantican

**COOPERATIVE POLICY BETWEEN GOVT. AND PRIVATE TO ADVANCE FORESTRY IN THE ISLANDS**  
—Guerrero

**BIOGRAPHY OF AGAPITO L. CENABRE**  
—Fernandez

**SOME ANTIMALARIAL DRUGS**  
—Reyes

**MT. MAQUILING AND ITS EMISSIONS (translation)**  
—Blando

**GEORGE M. HUNT AND THE FOREST PRODUCTS LABORATORY**  
—Molino

**NOW IT CAN BE TOLD**  
—Meimban, Jr.

B.F. NOTES  
CAMPUS NOTES  
FORESTRY IN THE NEWS  
SUNSHINE CORNER  
FROM THE MAIL BAG  
EXCERPTS AND EXTRACTS



*President Magsaysay Signing H.B. 324 for the Rehabilitation and Expansion of the College of Forestry Building*

LG989  
AIF7





**The Magsaysay Tree (Narra, *Pterocarpus indicus*) planted by the then Congressman Magsaysay during the Arbor Day celebration in Castillejos, Zambales, on September 10, 1949.**

*What peace is here beneath this tree  
Whose leafy branches shelter me!  
Its roots are deep in earth—secure,  
Quiet and sturdy, staunch and sure,  
A haven for defenseless things,  
A refuge for small, weary wings.  
Its questing branches, reaching high  
Through rain and sunshine, seek the sky.*

*What peace is here! Oh, let me be  
As strong, as tranquil as this tree.  
With roots in earth, where men must dwell.  
It has become a citadel*

*Where any traveler may rest.  
Knowing himself a welcome guest.  
And let my thoughts, like branches, rise  
In search of light. Let me grow wise*

*In faith and love. Oh, let me be  
Serene and steadfast—like this tree.*

—Rowena Cheney

# FORESTRY IS OUR HOPE<sup>1</sup>

by

R. R. FENSKA \*

FORESTER & TREE EXPERT

THE F. A. BARTLETT TREE EXPERT CO.

White Plains, N.Y., U.S.A.

No man has ever lived on this earth without the influence of the forest. If we could eliminate the forests from the earth overnight we would make it impossible for the human race to survive. Even with the reduction of forests beyond a certain point our standard of living would be greatly reduced. Our existence is so integrated with the forest that we can hardly think of an act in which the forest does not influence our lives. We cannot live in a house, use any mode of transportation, eat a meal, carry on business or educational activities, wear clothes, or do the thousand and one activities of modern man without depending, either directly or indirectly, upon the forests of this earth.

A person usually thinks of the economic impact of wood and wood derivatives on mankind which our forest areas provide, such as lumber, poles, railroad ties, pulpwood and the so-called minor products, such as naval-stores, dyes, latex, tannin extracts and the hardwoods. The modern chemist, also, has taken the raw wood a step further in the production and refinement of wood cellulose to give us the innumerable products now on the market under the general term "plastics". Such chemical research on wood has enriched our civilization to a point never dreamed of only a generation ago. And the end is not yet in sight. All of these products from the forest are important, no doubt about it, but they are not the most important.

The most important benefits from our forests are what has sometimes been termed the "indirect influences" of the forest. At the top of the list we must place the prevention of soil erosion and conservation of water. Geologists have stated that it takes about a thousand years for the elements of nature, that is, sun, wind, rain and temperature, to produce an inch of soil from the underlying rocks. In some cases they claim it takes ten times that long. Yet, our chief rivers and their tributaries are carrying eroded soil into the ocean at a much faster rate than it can be created on the surface of the earth.

In the United States there is a place in the State of Tennessee known as the "Ducktown Area". In this area all trees and vegetation were killed by acid fumes from a copper smelter and refinery years ago. Today the region looks like the surface of the moon. Erosion has carried away the top-soil and left red clay fields with ugly gullies. Rains have carried tons of soil into the lower basin to silt-up the reservoirs in the region. Attempts have been made to grow small trees again on the area but the washing away of the soil is faster than the roots can establish themselves. Those trees are putting up a brave fight, but it seems to be too late. The black-top surfaced road winding through the area is the only evidence of civilization in this sylvan region. It is a desolate, barren and frightening scene. The productivity of the

---

<sup>1</sup> Paper presented at the 8th Pacific Science Congress, U.P. Diliman, Quezon City, November 16-28, 1953.

\* Formerly on the forestry faculties of the University of Wisconsin, University of Montana and the State University of New York.

soil, our greatest resource, has been lost through our short-sighted practice in the destruction of our forests without adequate means of replacement before erosion sets in. Millions of acres of once good farmland have been destroyed and more millions of acres already badly damaged.

Engineers have stated time and again that the most effective way to prevent our reservoirs from filling up with silt and mud is through means of a forest cover on our watersheds. Moreover, the Chief of the United States Forest Service recently stated that, "There is more reservoirs; in fact, we have more natural water-storage capacity below the ground than we could hope to build on top of it. From these underground storage reservoirs, up through wells and springs, we can get clean, pure water—and a steady reliable flow of it."

The conservation of our basic soil and water resources are inseparable and must be handled through a national program with both private and public agencies doing their share. This is necessary if we are to safeguard and control the destiny of man.

As to the type of silvicultural practice to regulate stream flow and prevent soil erosion, this must be in harmony with ecological principles rather than strict economic factors. While pure stands of conifers make an ideal cover for retardation of the precipitation and the run-off from watersheds of drainage areas, the fertility of the soil itself is not maintained for the highest yields for any length of time. Stagnation of pure stands of spruce and decline in yield per acre has been demonstrated where this has been tried in central Europe. The remedy has been the mixed, unevenaged stands of conifers with a scattering of deciduous trees, such as Beech or Oaks. The hardwood litter contributes sufficient organic mulch to maintain a productive soil. This, of course, eliminates clear cutting of any sizable areas and exposure of the soil to erosion. Furthermore, the unevenaged mixed stands regenerate themselves by natural seeding and thus

avoid the expensive reforestation costs. Also, windthrow is far less in a mixed, unevenaged stand, or a selection forest, than the planted evenaged stands.

The species to use in any region are the ones best suited to the climate and the site, with the emphasis on native trees. This will avoid the danger of introducing forest pests which may upset the balance in nature through the introduction of foreign insects without their natural enemies to keep them in check.

On all watersheds it is important that a forest cover, or some kind of vegetation, be maintained at the very head-waters of the area to avoid the gathering of the momentum of the downstream flow. The load which a stream will carry increases rapidly with the velocity of the water. As it picks up more sand it soon has a scouring effect on the streambed which starts the soil on its journey to the ocean where it is lost to mankind forever.

The maintenance of such a valuable heritage as our soil should be in the hands of trained specialists in which the forester is an important cog in the machinery. He is the man who finally brings all the factors together into one well integrated program for the conservation of our natural resources, including the multiple uses of which forests are maintained. It is our only hope for the survival of the human race on this earth.

*Compliments of*

**E. B. Cedeña**

**FIREWOOD DEALER**

Midsayap

Cotabato

# The Contribution of Forests to Agriculture\*

By

LELAND E. CALL  
AGRICULTURAL RESEARCH ADVISER  
FOREIGN OPERATIONS ADMINISTRATION  
Manila, P. I.

Forests contribute heavily to the welfare of agriculture. The contributions of the past have been many, principally in providing protective cover to the soil in regions of heavy rainfall and thereby furnishing conditions favorable for the formation of productive soils. Without the cover provided by forests, destructive erosion would have been so rapid under most humid conditions that a productive agricultural soil could not have been formed. Furthermore, without the aid of forests in providing conditions conducive to the accumulation of organic matter, soil forming processes would have proceeded less rapidly and soils of less value to agriculture would have been produced. It is, however, the purpose of this paper to discuss the contribution that forests are making to modern agriculture rather than to stress the contributions of the forests of the past.

The primary value of forests to produce lumber and other forest products useful to agriculture is self evident and usually fully recognized. The secondary values of forests are not so obvious and therefore less well understood. Frequently these indirect benefits are not fully appreciated until the forests are depleted and the benefits lost. When this occurs, it is usually too late to reclaim them completely.

Among the many ways in which forests are beneficial to agriculture, the following are among the most important:

1. *Forests protect the watersheds and help supply a more dependable source of irriga-*

*tion and farm water.* The extent to which forests serve as a means of collecting rainfall, retarding its flow off the land surface and releasing it gradually through the soil, is seldom appreciated as long as forests are fully preserved to serve in this capacity. It is only after they are destroyed that it is learned that springs ceased to flow, that streams and rivers that had a regular flow under good forestry conditions became undependable after the forests are gone. It is as a regulator of the flow of water from watersheds that forests have one of their most valuable assets from an agricultural standpoint—an asset that is usually not fully appreciated until lost.

In most of Southeast Asia where water for irrigation is of utmost importance from the standpoint of rice production and where it is essential that the maximum area of land be irrigated if these countries are to produce sufficient food for the increasing population, forests have unusual value and their protection and preservation is necessary to safeguard water supplies for irrigation. When the forests are properly protected they perform their useful function of retarding floods—retaining part of the rain water where it falls and releasing this water gradually, thus providing a more dependable flow of water throughout the year. In this way, the likelihood of destructive floods is lessened during the wet seasons, and more water is available for irrigation and domestic use during dry seasons. This is one of the most important

---

\* Paper presented at the 8th Pacific Science Congress, Quezon City, November 16-28, 1953.

ways that forests contribute to the welfare of agriculture.

2. *Forests act to stabilize the soil on slopes too steep for farming.* A second important function performed by forests is to protect the soil and prevent landslides and erosions from slopes too steep to farm. Serving in this manner, forests protect lower cultivated farm land and farm improvements that are easily damaged by landslides and deposits of talus washed down from unprotected mountain and hill land. A forest soil cover is also useful in retarding the removal by erosion of soil material from sloping land. This material is often deposited at lower levels in irrigation ditches and other places where it interferes with farm operations.

3. *Forests often provide supplementary grazing for livestock.* Associated with forests are open, extensive areas of grassland suitable for grazing. When properly safeguarded, this land can make a valuable contribution to the economy of the country through the production of livestock products. Before the war, about half of the agricultural wealth of the Philippines was made up of animals and animal products. At that time utilization of forest land for grazing contributed appreciably to this asset. Since the war the cattle grazing industry has been slow to recover. This has been due to the loss of cattle that occurred during the war when grazing herds were devastated. Sufficient time has not elapsed to permit the rehabilitation of these herds.

It is evident that the grazing of forest land can become again an important source of material wealth, not only in the Philippines but throughout much of Southeast Asia and that with judicious management and proper safeguards, forest lands can be utilized for this purpose without detriment to the forests, with advantage to the grazing land and with distinct contribution to the economic welfare of this section of the world.

4. *Forests are a source of much material essential to the farmer.* Communal forests have been extensively developed in Europe.

A communal forest is forest land, owned, maintained and operated by a community. The products are divided and distributed among the owners. Forests of this kind devoted to the growth of trees provide near at hand a source of supply of firewood, fencing material, construction material for buildings and products for many other uses. Areas of land not well adapted to the production of food crops can be devoted to production of this kind without decreasing income from food and cash crops and with distinct advantage from the standpoint of having readily available for many farm uses and at little cost the products produced from wood lots of this character. In a country where bamboo and other quick-growing forest products may be produced readily and with ease, communal forests and wood lots should occupy a more important position in the economy of the country than they occupy at this time.

5. *Forests provide supplementary off-season labor opportunities for farmers.* Most farm work is seasonal in character. Many farmers have periods of time during the year when their labor cannot be too profitably employed on their own farms. Where there are forests near at hand, work can often be obtained in the forests by such farmers for those portions of the year when there is not profitable employment at home—thus, work in forests can provide supplementary farm labor and thus reduce agricultural under-employment.

6. *Forests provide a supplementary food source.* The development of good game and fish habitat in forests makes possible the production of game and fish that can serve as an important supplementary food supply to farmers. This, however, is not an unmixed blessing to those farmers whose farms adjoin forests where the destruction of crops by wild hogs and deer is altogether too common. However, by taking proper precautions, much of this type of damage can be prevented and forests made a valuable supplement-

(Continued on page 14)

# Techniques and Practices of Forest Products Laboratories and Industries in the U.S. \*

By EUGENIO DE LA CRUZ, TA-92 FR. 351  
Chief, Div. of Forest Management

(Continued from last issue)

## DIVISION OF WOOD PRESERVATION

### *Fire Protection Section*

This is the reason that the Laboratory's work in this direction is being concentrated along three lines:

1. Developing fire method tests which could be standardized to be able to forecast as closely as possible fire behaviors under certain conditions.

2. Studying methods of protecting wood against fire:

- a. By impregnating the wood with a fire-retarding chemical.
- b. By the use of coatings of fire-retardant paints.

3. Testing wood structures for their fire resistance. This is mainly in cooperation with manufacturers: like in the case of door manufacturers wanting to find out how long a standard door keep fire away from penetrating.

There are several fire retardants in use at present:

Ammonium phosphate is expensive, but ammonium sulfate is cheaper. The following are being used by the U.S. Navy:

- (1) 80% ammonium sulphate + 20% ammonium phosphate.

- (2) 60% ammonium sulphate + 10% ammonium phosphate + 20% boric acid + 10% borax. This is very satisfactory.

- (3) 60% borax + 40% boric acid. This is rather weak on fire-retardant properties

but toxic to fungus. It takes 4 to 6 lbs. per cubic foot to make wood resistant to fire.

The principle of coating is to protect the surface from immediately catching fire. When the ammonium phosphate is heated it is converted into phosphoric acid and absorbed in the wood and make it difficult to burn. The big problem on hand is to make fire-proof paints weather resistant. But the trouble with many of the salts used for fire proofing is that they are subject to leaching when exposed to the weather.

### *Painting and Finishing Section*

Fundamental and applied researches have been conducted to prolong the life of wood through the use of paints. But there are so many kinds of paints and paint making is still an art rather than an applied science. While paint has been in use in all types of buildings or structures for a long time, it was only in 1920 when work along this field was started in the Forest Products Laboratory. At first the work was confined in testing paints found in the market for durability. Right along with these studies, each kind of paint has to be analyzed to find its composition and quality so as to tie in the results being obtained in the different durability tests involving the use of each of these paints found in the market. It is quite a common practice by manufacturers to use ambiguous terms describing the composition and quality of their respective types of paint.

---

\* Third of a series on the report of Prof. E. de la Cruz.

While a great deal of information have been obtained about paints on these tests, it has not yet been possible to establish general laws of paint behavior to correlate the facts. Besides, the durability of a paint depends on many factors besides its composition, and there is no generally accepted technique of measuring such durability. It was found that there are five factors which significantly affected the serviceableness of exterior paints on woods: (1) the kind and quality of wood painted, (2) the design and use of the building or structure to insure that the wood will remain dry enough to hold paint, (3) the composition and quality of the paint, (4) the technique of application and the program of maintenance, and (5) the severity of the climatic and local conditions of exposure.

With the pin-pointing of these factors it became necessary to develop in the Laboratory certain types of paints which is believed suitable to fit different conditions and uses as a means of solving problems that were encountered with test experiments of manufactured paints.

In the studies of paint durability two types were used: (1) the exposure tests which involve not only a great number of specimens but scattered over wide range of climatic conditions to secure useful comparison and must extend over a period of several years before conclusion may be drawn. This being quite slow it has been considered to accelerate these tests by using (2) artificial weathering tests. But this type of tests has been used only as an auxiliary with a view to rejecting from a large number of previously untried paint compositions those mixtures so seriously faulty that they merit no further consideration, thus reducing the number of paints that need be tested by natural weathering.

From the results gathered it was found that wood properties affect paint performance. For this purpose the commercially important native woods, when purchased in lumber of higher grades, are classified for

painting characteristics into five groups. (USDA Misc. Pub. No. 629, pp. 6-7).

For the benefit of paint users, the Laboratory made a classification of house and barn paints into Group, Type, and Grade but this received very little attention and was immediately opposed by manufacturers. Fortunately, there are now seven small manufacturers who are following this classification. Considering that many people are not in a position to secure the standard paint recommended, effort is made to show them how to buy house and barn paint by buying only paints that show the formula on the label, and learn to read paint formulas by consulting publications on the matter published by the U. S. Department of Agriculture.

#### *Glued Products and Veneer Section.*

Curved members of wood are produced by band sawing or by banding. The former is not only wasteful but it produces curved members that are relatively weak because of cross grain, while the latter is generally stronger and less wasteful of material. It comes in two forms—solid or laminated. The laminated may be individually bent and then glued together in the curved shape, or glued together and then bent.

During the war the Laboratory was kept busy producing molded plywood due to lack of aluminum. With the availability of metals again this work is abandoned in the Laboratory. But much is being done in the manufacture of small boats and to a certain extent in furniture manufacture and to a limited degree in the manufacture of store fixtures where bent or curved laminated wood is used for streamlining. For this purpose, urea or phenolic or melamine glues are used.

Sandwich gluing are of two general types: one for use in house buildings and the other for very light but strong materials for aircraft-constructions. In the former, coat is considered very essential so as to make a material cheap but very satisfactory for



house construction; in the latter, however, strength and lightness of weight is the paramount consideration, the cost of production is not of much importance.

*Veneer*.—There is an unmistakable evidence that veneer was used thousands of years ago but it was not so clear first how it was made in those early times. In more modern times prior to about 1805, when a power-driven circular saw for the purpose was patented and put into operation in England, veneer was cut by simply ripping thin sheets from a block with a hand saw. Shortly after the first power veneer saw was put into operation, a machine for slicing veneers was patented. This was not quite satisfactory but served as the first step to the development of the present-day slicer and rotary lathes. It took about three-quarters of a century, however, to develop a rotary lathe that would now be considered a success.

Veneer may be defined as thin layer or sheet of wood. It is produced on a lathe, a slicer, or a saw, and is commonly known as "rotary", "sliced", or "sawed" veneer, according to the manner of cutting. It may be used as a single ply or as a combination of plies bonded together to form plywood; or it may be glued to lumber or other core materials to form veneered products. They are cut into many thicknesses ranging from 1/40 to 5/16 inch. For special purposes, it is cut as thick as 3/8 and as thin as 1/110 inch, or even less. The standard for softwood are 3/16, 1/8, and 1/10 inch; for hardwoods—1/12, 1/10, 1/8, 3/16, and 1/4 inch depending upon the density of the wood and the type of plywood to be made. Common thickness for rotary cut hardwood face veneers are 1/20, 1/24, and 1/28 inch. But for container veneer, rotary cut hardwood and soft wood are 1/10, 1/8, 1/7, 1/6, 3/16, 7/32, 1/4 and 5/16 inch.

During the war the Laboratory developed technique in the manufacture of molded plywood for aircraft on account of the shortage of aluminum. At present, they are back to

metals. But this method was picked by the industries like in boat building, molded furnitures and in streamlined store-fixtures using laminated materials. In all cases they use water-proof glues such as urea, phenolic or melemine.

Another phase of veneer use presently developed is the two kinds of sandwiches in an effort to produce very light materials but exceedingly strong for its weight. The first is now being used for building construction using wood and the other is with metal facings for aircraft and this is produced without regard to what it will cost. The Air Force is now concerned in getting very light materials but strong too to increase the carrying capacity of their planes.

Veneer making is now an art. It is not simply putting thin slices of wood for facing but these face sheets must be prepared so as to take advantage, as much as possible, of the high quality of grain figures which command a good price for any kind of products of the industry. In general the following points are to be taken into consideration:

- (1) The fundamental problem of making a veneer is the preparation of the log, the condition of the veneer to be produced, and the sharpening of knives.

- (2) The heating of log is of great importance, yet I am afraid this phase is not given much attention in the Philippines. They found that different species are given different heating ranges—birch, 160°F; oak 200°F and they are still experimenting what is the best temperature range for other species. At Roddis Veneer Company the red oak is heated in steam compartment at 4 lbs. per square inch for 4 hours. Although Dr. H. O. Fleischer, a veneer specialist who was with me in my visit to this plant, considers that the treatment is insufficient to raise the temperature of log to over 100°F.

Currently, it is being studied how to heat logs effectively within a shorter time than it is being done at present by the application of electrical heat into big-sized logs to

produce better veneers by placing the log between high frequency fields placed on both sides of the logs as in diagram (Fig. 1). It was tried to place copper plates at both ends of the log but the heating result is not quite satisfactory.

The next to be considered is the cutting angle of the knife with reference to the veneer sheet and the pressure applied opposite the knife so as to produce a high grade veneer free from ruptures. Studies along this field has been conducted in the Laboratory so as to increase the production of high grade veneer by reducing the number of defective sheets obtained from each log.

Then comes the problem of drying the veneer. The Laboratory also had made different temperature tests so as to produce better grades of veneer. Different thicknesses in each species or log must have separate drying treatment. Generally, sapwood is easier to dry than heartwood everything being equal.

In my visit of the Roddis Veneer Company at Marshfield, Wisconsin, I noticed that red oak logs are not cut into veneer in the usual manner as we do in the Philippines. They use what is known as bastard cuts, by placing the clips at the opposite edge of each log's end. And instead of having the log rotate firmly pressed against the knife, it simply swings and pieces of veneer is sliced every swing, growing wider and wider as the slice is made more and more toward the heart of the log. This is known technically as half-round cut (Fig. 2). If the slicing continues beyond the center of the log then it is called—back cut (Fig. 3).

The Roddis people are making all their veneers into doors of all kinds for interior or for exterior use. They use the core by sawing this into 1" x 2" as short as 6" and these are glued side by side and end to end to form the core of panel doors with beautiful grained veneer for facings. They use also framing and fill the space with accordion latch or short blocks arranged like a jig-saw puzzle.

The poor grade veneer are cut into narrow strips to get the best grain pattern out of each sheet and matched by skilled workers, usually women. The poorer grades of veneer are either used as cross banding sheets in multi-ply plywood or inner facings of panel-plywood used for walls. As much as possible veneer of all sorts are scrutinized by trained laborers and cut into some patterns and utilized for various purposes where each will be of distinct value. Nevertheless, there was still a tremendous volume of wastes which are chopped into fuel wood to develop steam for the use of the mill.

## DIVISION OF INDUSTRIAL INVESTIGATIONS

### *Functions*

1. "Plans, directs, coordinates, and conducts fundamental and applied research programs on methods of forest harvesting and the mechanical conversion of forest raw material including logging methods and equipment, sawmilling, development of log and lumber grades, machining characteristics of wood and wood working equipment, utilization of low-grade timber, and utilization of wood as a fuel.

2. "Analyzes and interprets research data and prepares and reviews reports and publications incorporating the results of research on forest harvesting and the mechanical conversion of forest raw material."

3. "Consults with technicians and other officials, both public and private, on research policies and plans and on the application of the results of research on forest harvesting and the mechanical conversion of forest raw material."

4. "Develops and maintains cooperative relations with public and private agencies to further research on timber harvesting and conversion and to improve the harvesting and mechanical conversion of forest and forest raw material."

This is the youngest and one of the smallest divisions of the Laboratory. Most of its experiments are conducted in the field.

There is not much equipment in the Laboratory to work with. This Division was originally organized as a connecting link between the industries and the Laboratory.

Many of the studies made in the field were on *time and costs* in the different mill operations, the main object has been to determine the small-size of the tree that could be logged and sawn into lumber economically. To arrive at a definite result, trees of different sizes and located under different conditions have to be followed from the time they are cut, transported, milled, graded, and the lumber produced from each tree is sold. Work of this nature may take a crew of 6 men to gather the data needed as much as six months, then go back to the Laboratory to analyze the figures and prepare their report. This is done to cover the representative parts of the different forests of the country.

In recent years the Forest Experiment Stations have expanded their activities and they are now doing about 80% of these costs studies.

The development of a system of grading hardwood logs for sawing into standard factory lumber through extensive work at sawmills in each of the important hardwood regions of the United States is another accomplishment of this Division. This system is designed to meet a need, on the part of buyers and sellers of logs, timber, appraisers, and those concerned in managing timber properties for a method of determining the money values realizable when a given lot of logs is sawed into standard lumber. Visible surface characteristics of logs are correlated with the proportions of high, medium, and low grade lumber that the logs will yield.

Heretofore, in the appraisal of logs, quantity rather than quality has been the principal criterion of value, and the quality factor has been left largely to individual judgment with little definite means of measuring it in the log or standing tree. This is now solved with the proper application of log

grading rules that the quality of lumber contained in a group of logs can be fairly accurately estimated. In other words; the use of log grades puts milling, logging, and the management of forest properties on a predictable dollars and cents basis and results in more profitable operation for all concerned. Anyone can arrive at a fair valuation of the timber for both the buyer and the seller by applying current lumber prices, and making proper adjustment for logging and milling costs.

At present, the division is developing a system of grading Douglas Fir veneer logs. For every log out of a given tree a diagram is made showing every visible defect, knots, shake, checks, pith seams, etc., and follow each of these logs in the veneer mill. Every grade of veneer produced out of each is recorded so that one can tell exactly how much is produced under different defects or conditions found in each section of the log. This work is still in progress.

Another study is aimed to benefit small mill operators of the circular saw type cutting hardwoods or softwoods by increasing their efficiency and minimizing wastes. From time to time someone puts up new types of equipment, either in logging and milling, at once, someone in the Division who is keeping tract of all these, studies these equipment and if they are worthwhile, photographs them, and writes leaflets about their virtues or performances and broadcast these freely for the information and benefits of the operators. There is much work done along this line under a general caption, "Improved Harvesting Methods."

One of the things which has received much attention is the barking and chipping of logs. Many of the mills in the West bark their logs before milling. They claimed that they could produce better grades of lumber and reduce wastes as they could see the defects of the logs when barked than otherwise, and the slabs, edgings and trimmings could be chipped and sold to nearby pulp and paper mills as they are free from

bark and dirt. Another reason perhaps is that the barks are also utilized.

The Weyerhouser Company developed several marketable products from the bark of fir, such as:

1. Conditioning materials for the soil.
2. A filler for plastic.
3. A wax for cleaning floors.

Barking is not so much a problem to big mills who are better equipped and are capable of using hydraulic barker. This is quite expensive as it needs plenty of power.

It is the Division's concern to direct its efforts to find a barker that would fit the needs of small mill. They don't try to develop one but are constantly watching for new developments and publicized these for the benefits of the small mills. Swedish barker is found very satisfactory in southern pine regions.

Barker and chippers are so important that a paper mill developed a portable chipper and brought this to the woods and used to chip twigs as small as one inch in diameter. It gets 25% more pulp per acre in so doing, and use this for producing paper board boxes with corrugated in-lay using bark and all.

A new device for separating pulp from bark and other dirt elements has been devised. I saw one of these used in the Mead paper mills at Escanaba. It is a jet adjusted at angle which throws pulp with the bark at the side of funnel shape container and the bark and dirt being heavier drops by gravity to the bottom and ejected while the pulp floats and pushed up and drained away.

Another work is the machining and related characteristics of southern hardwoods which include about 65 of the native hardwoods. In machining properties the work done are—planing, shaping, turning, boring, mortising, and sanding; on related properties—steam bending, nail splitting, screw splitting, a variation in specific gravity, number of annual rings per inch, cross-grain,

shrinkage warp, minor imperfections of hardwoods, and change of color in hardwoods. Along with this work experiments were made on cutting angles, moisture contents, depth of cut, speed of cutter heads, and speed rates. In the Laboratory a type of saw-teeth was designed for circular saw although it could also be applied to the band saw. There is still much work to be done in this field.

In woodworking factories one of the biggest problem is to know which grade of lumber is profitable to use. Years ago, a time study was undertaken by crews from this Division numbering from 2 to 3 men and assigned to these factories. They followed the use of different grades of lumber from the time these entered the mill, in the cutting, processing, etc., step by step and noted how each grade affected man-hours time until the finished stage of the product. But it is hard to make a conclusion on industry-wide basis because of lots of factors involved due to machineries, how good and efficient are these. There is no doubt that the use of high grade lumber is profitable in high class type of furniture but due to lack of these the industry has to fall back on poorer grades of lumber. Fifteen years ago No. 2 and No. 1 common is rarely used in woodworking industries, more so during the war because of lack of labor; the industry cares for nothing but first and second grade lumber. But at present they are beginning to use No. 2 and No. 1 common.

*(To be continued)*



# Papers of the Sectional Sessions of the 6th International Grassland Congress Applicable in the Philippines \*

By VALENTIN SAJOR  
Senior Forester, Bureau of Forestry  
(Philippine Official Delegate)

The Sixth International Grassland Congress, sponsored jointly by the Government of the United States of America and the Food and Agriculture Organization of the United Nations (FAO) was held August 17 through August 23, 1952, at the Pennsylvania State College, State College, Pennsylvania, with around 1,500 delegates representing 53 countries. About 15,000 people viewed the exhibits which included educational materials on the more efficient use of grassland and modern labor-saving implements and equipment.

In addition to the program of field activities, special events, and general sessions, there were also sessions of at least three in each of the 12 Sections to which the delegates and participants were grouped. The following are the names of the sections with the number of papers read in each indicated by the number appearing at the end of each section name:

- A. Genetics and breeding (20).
- B. Improvements and managements of pastures, meadows and turf (19).
- C. Improvement and management of range lands (15).
- D. Ecology and physiology of grasslands (14).
- E. Soil management and fertilization (21).
- F. Seed production and distribution (19).
- G. Soil and water conservation (21).

H. Harvesting and preservation of forage (13).

I. Use of forage in livestock feeding (16).

J. Machinery (6).

K. Experimental procedures in grassland research (14).

L. Improvement and management of tropical grasslands (25).

Papers presented and discussed by delegates and participants from many countries of the world, disclosed the most advanced scientific approaches to grassland farming. Delegates were provided with abstracts of the papers in English, French and Spanish, the official languages of the Congress. The proceedings in two volumes, made clear that grasslands of the world can contribute much toward finding new resources for increasing production and ascertaining ways and means of reversing the downward trend in soil productivity. At this point, it should be borne in mind that grasslands constitute more than half the total land surface of the earth which are not fully developed, and in many cases are declining in soil productivity.

Following the closing of the formal sessions of the Congress, around 200 delegates practically all from countries other than the United States of America took part in four tours to various regions visiting farms, ranches and experiment stations where modern and efficient grassland practices are

---

\* Read May 21, 1954 before the 31st Annual Convention, Philippine Veterinary Medical Association, Assembly Hall, Bureau of Animal Industry, Pandacan, Manila.

being used. The tours which were integral parts of the Congress and lasted from August 24 to September 7, 1952 covered four areas of the United States namely: I. Mid-western, II. Northeastern, III. Southern, and IV. Western.

In each of the tour-area and in every section of the United States of America visited, there are outstanding examples of achievements in grassland farming. The undersigned, as a Philippine delegate, presented and read two technical papers entitled, "Forest Grazing in the Philippines," authored by Forestry Director Florencio Tamesis and the delegate himself, and "Grasses in the Philippines" prepared by him and Forester Teofilo A. Santos. These papers were read under Section "L" of the "Improvement and management of tropical grasslands" group.

A delegate was free to attend as many as he could Sectional or General Sessions and field activities and special events or meetings in addition to the three sessions under his particular section. In my case, I was able to attend some meetings, field trips, special events and sessions under Sections B, C, and K therein in addition to those under the general sessions which consisted—Opening, Plenary and Summary sessions, Grassland for Recreation, Workshop Reporting and Tours Briefing.

As to the tours, I joined the Mid-Western Group (1) which covered experimental grassland demonstration and local points of scientific interest within the States of Ohio, Indiana, Illinois, Missouri, Iowa and Wisconsin, besides of course those in Pennsylvania. At Madison, Wisconsin, we visited the Forest Products Laboratory, wherein Professor Eugenio de la Cruz, Chief, Division of Forest Investigation was then making observation thereat. With Professor de la Cruz, I was also able to visit the reforestation projects in Central Wisconsin between Marshfield and the famous Wisconsin Dales.

To implement further what we discussed during the Congress at Pennsylvania State College, and after our collective touring in

the Mid-Western States, I visited Florida's Tropical Gardens including Key West, the Southernmost U.S. City which has a distance of around 175 miles from Miami Beach, Florida along beautiful parks and highways. Likewise, I implemented our grassland deliberations by visiting the various parks in Washington D.C. particularly those around the Capitol Hill and the White House as well as New York's play grounds and the historical plaza "pasture" and famous Yale's campus in New Haven, Connecticut.

At this juncture, it may be stated that 25 years ago, I received my Master's Degree of Forestry from Yale University, (M.F. '27 Yale), after receiving my B.S.F. from the University of Idaho in 1926. The three outstanding changes I noticed for the last quarter-century in the United States are the following:

1. Television which was entirely absent then in 1927;
2. Planes including "piper cubs" also barely known then; and
3. "Man-made forest" or forest plantations, likewise, were just being started 25 years ago.

After 40 days in the States, I spent 10 days in Europe visiting among others the famous Hyde and St. James Parks in London, Retiro Botanical Garden established in 1871 in Madrid, and the Vatican Park with Castle Gandolfo Garden in Rome. A period of another 10 days was spent during travels mostly by plane. All in all it was exactly two months trip "around-the-world," August 13, to October 13, 1952.

## MIDWESTERN TOUR

From the standpoint of acreage and production the midwest is the most important general farming area of the United States. Emphasis is on production of feed crops for supporting extensive livestock feeding enterprises. The southern part of the region embracing the states of Indiana, Illinois, Missouri and Iowa is the corn belt. Here corn, soybeans, and cereal grains are em-

phasized. Short 3 to 5 year-rotations predominate. Permanent pastures are relegated to rough areas unsuited to cultivated crop production. Hay crops are grown in the rotation primarily for soil improvement and also for feed production. Improved pastures are finding increasing use in the longer rotation. In the northern part of the region, particularly Minnesota, Wisconsin, and Michigan and in eastern Ohio, hay and pasture production predominate. Dairy production in said northern part of the region and beef cattle fattening in feed lots and on pasture in the southern part are the principal livestock enterprises.

Winter feed is required throughout the region. Most forage is now preserved as hay, but use of grass silage is increasing rapidly.

*Geographical Description.*—The Midwest or Corn Belt and Lake States include Ohio, Indiana, Michigan, Illinois, Wisconsin, Minnesota, Iowa, Missouri and the eastern portions of South Dakota, Nebraska and Kansas. Our group toured all except Michigan, Minnesota and the last three mentioned states.

The annual precipitation tends to increase from north to south and from west to east within the region, ranging from approximately 25 to 40 inches. Average temperatures in January vary from nearly 6° in the extreme northern part of Minnesota to about 35°, in southern Missouri. Average temperatures in July in northern Minnesota are about 65°, compared to the average in southern Missouri of approximately 80°. The average number of days without killing frosts is 80 to 180 days northern districts and 140 to 210 days farther south.

Farming in the Corn Belt and Lake States has been devoted largely to producing grains for supporting an extensive livestock feeding enterprises. Most of the crops are used to produce dairy and beef cattle, sheep, and swine. Minnesota, Wisconsin, Michigan and eastern Ohio are included in the hay and

dairy region of the United States. Southwestern Minnesota, Iowa, Missouri, Illinois, Indiana, and western Ohio are in the Corn Belt. The combined acreages of tame hay and pasturage exceed those of corn and small grains in Indiana, Michigan, Missouri, Ohio, and Wisconsin, and approximately those of corn and small grains in Illinois, Iowa and Minnesota. Dairying is the leading farm enterprise in the northern states of the region. Meat production is of great commercial importance in the southern part. The deep, highly fertile prairie soils characteristic of much of this area are cropped more intensively than the forest soils of the dairy region.

*Grassland Characteristics.*—Grasslands of this region are producers of dairy and beef cattle, sheep and swine. Kentucky Bluegrass (*Poa pratensis*) and white clover (*Trifolium renens*) predominate in natural pastures. Many of the seeded or improved pastures are grown in rotation with grain crops on an intensive basis. Principal forage species in improved grasslands include brome grass (*Bromus inermis*), timothy (*Phleum pratense*), orchardgrass (*Dactylis glomerata*), alfalfa (*Medicago sativa*), red clover (*Trifolium pratense*) Ladino clover (*Trifolium repens*, var. Ladino) and birds-foot trefoil (*Lotus corniculatus*). Some of the better pastures in this region will support more than one animal unit per acre whereas others often require as much as 3 acres. In the Philippines, 1 hectare or 2.47 acres will support one animal. Large quantities of forage are preserved each year in the form of hay silage. Silage preservation is becoming increasingly popular.

#### *Papers Applicable in the Philippines*

As already mentioned, the Congress was divided into 12 discussion sections (A-L) concerning the following subjects with the titles of papers applicable in the Philippines listed in the attached list.

In conclusion, it may be said here that the completeness and choice of subject matter

suggests that grassland research including those for the tropics as well as for the Philippines is progressing along broad lines. The five factors each interacting which in turn determine grassland productivity are: (1) productive capacity of the soil, (2) species and strains of plants available, (3) type and genetic constitution of animals to be raised, (4) management, and (5) social relations—each and all of them are not only discussed individually, but consider also their interesting relations. Papers on breeding and selection of plants, soil improvement, management, and other phases, suggest that empirical methods of procedure are giving way to more specific techniques.

From the foregoing, it is very clear that the Philippines may be able to learn and adopt whatever is applicable to our present needs. In short, we have to be practical and follow only those that are of value to our conditions and/or circumstances. I thank you.

**THE CONTRIBUTION . . .** (*Con't from p. 4*)  
tary food source from the game and fish that they may be made to supply.

7. *Forests provide recreation opportunities for farm families.* As a country increases in population and becomes more densely settled, and especially as it becomes more highly industrialized, the need for open spaces where people may go for recreation increases. Forests provide room and playgrounds for this purpose. In the United States and in many other countries, the forested areas are becoming increasingly more valuable for recreational purposes. In some of the more densely settled areas of America, especially through New York and New England, the public forests have been developed into extensive picnic and playgrounds where millions of people go each year for recreation and relaxation. Not much use has been made as yet of forests for this purpose in most Southeast Asian countries, but their use for this purpose will increase. It will come as the lower and middle-income groups of the population improve so that they have more leisure time and more money to spend for recreation purposes.

To summarize, it is well to remember that forests are a most valuable asset. While their use no doubt always will be most highly regarded from the standpoint of their major value—that of providing lumber and other forest products, at the same time they have many other valuable assets—assets that are the value of forests for the protection of watersheds, for the stabilization of soil on sloping land, for supplementary grazing for livestock, for supplying off-season labor opportunities, and for recreation purposes. As time passes, these so-called secondary assets of forests will increase in importance. Every citizen should have a personal interest in public forests of which he is part owner, to see that conservation practices are followed through judicious use, and that the forest are protected and preserved in such a way as to pass on to future generations both the primary and secondary benefits of well managed forest land.

*Compliments of*

**Bravo Lumber  
Enterprises**

**EDUARDO BRAVO**  
*Proprietor*

Midsayap Cotabato



# *Timber Seasoning Methods in Australia*

By DOMINGO LANTICAN  
*College of Forestry*

## I. INTRODUCTION

Australia, with a population of about one-half that of the Philippines, consumes some 900,000,000, board feet of sawn lumber annually. This big consumption is due to the diversified use of wood such as construction of buildings and houses; ship building; manufacture of furniture, vehicles, agricultural implements, toys, sporting goods, and many other uses in the wood working trade.

To meet the demand for lumber, Australian sawmills are supplying the market with local hardwoods and softwoods. However, a considerable need for softwood and hardwood for special uses are supplied through importation. About 35% of the need for lumber had for years been imported from other countries although, it has dropped considerably at present.

Most Australian timber species are hardwood most of which are refractory and have a tendency to warp and shrink excessively. For this reason, there was a time in Australia when prejudice against the use of local hardwood existed so that a great bulk of the lumber consumed were imported from other countries.

To be able to use their hardwood, attempts were made to apply proper seasoning methods so that in 1929 there were already about 40 or 50 kilns intalled for the purpose. Most of these kilns however, were so badly designed and drying procedure not very satisfactory so that very little progress was achieved.

The Division of Forest Products when it was founded in 1929 had the difficult task

of combatting prejudice against the use of Australian timber due to the deformities and defects that occur during drying which were regarded as inherent in the species and could not be remedied.

The Division of Forest Products conducted kiln test; studied best designs that would suit Australian species; developed drying schedules; carried out lectures on the principles and practice of kiln drying; gave correspondence course in seasoning and later designed kilns for seasoning plants free of charge.

The current seasoning equipment and methods which are being used in commercial kilns have been the result of years of research of the division.

The seasoning of lumber in Australia is so wide spread and so well appreciated so that at present, it is estimated that there are some 1,000 units of lumber kilns and dryers of all types.

The success of timber seasoning in Australia is such that inspite of increasing demand for lumber, importation has dropped to a considerable extent.

## II. REASONS FOR SEASONING

Wood would dry up to a point when its moisture content has come to a balance with the surrounding atmosphere, so that lumber which has been machined and used for construction or for furniture would tend to dry in service accompanied by shrinkage if they have been assembled in the green. This shrinkage causes opening and loosening of joints which results in the weakening of the structure aside from the undesirable effects on appearance. In cases of plywood and core

boards which has been assembled before the veneer sheets or the core are of optimum moisture content, warping and twisting would almost inevitably occur.

The aim of seasoning, therefore, is to dry the wood to a moisture content which will be in equilibrium with the average moisture condition likely to be attained by the locality where the wood would be placed in service. At the same time, to dry them with minimum moisture gradient, least degrade and least stress in the shortest possible time.

Seasoning however, is not as simple as drying any other material because of the attendant degrade such as checking, warping, twisting, honeycombing and collapse which accompany the drying; most of which occur during the early stage of the drying, i.e., the removal of free moisture. It is in this stage wherein utmost care is practised. A very high temperature and very low humidity would almost certainly result in severe degrade.

The later stage which involves the removal of hygroscopic moisture is not so critical and may be carried out as fast as possible within the limits of the species.

### III. FACTORS INVOLVED IN SEASONING

There are three factors involved in the drying of wood: temperature, air circulation and humidity.

Heat is necessary to supply energy for the evaporation of moisture from the surface of the wood and the transfusion of moisture from the interior to the surface. With all factors remaining the same, the higher the temperature, the faster is the rate of drying and the faster is the rate of moisture transfusion. However, different species vary in tolerance to temperature. Above certain limits of the species, there is a weakening of the fibers at high temperature which could result in checking and splitting as well as collapse. It is for this reason that a thorough knowledge of the species is necessary to carry out a satisfactory result.

Dry air would absorb moisture, first at a rapid rate and gradually lessen as it nears saturation point, as well as gets colder as the process of absorption continues. Therefore, no matter how dry the air is, a time will come when it will become saturated and will cease to absorb moisture altogether.

In the drying of timber, it is necessary to displace the saturated air in the stack with dry air to insure continuous drying and this is achieved by good air circulation. The faster the circulation, the faster is the drying and vice versa.

As dry air enters a stack of timber, it has a high absorbing capacity and as it continues to draw moisture from the timber, it would have a poor absorbing capacity by the time it reaches the leaving air side of the stack. Under such case, the entering air side of the stack will dry faster.

Although such condition cannot be totally eliminated, it could be minimized by providing a good circulation so that the air would be replaced before it nears saturation point, thereby insuring a continuous supply of fairly dry air throughout the stack.

All factors being equal, the lower the relative humidity the higher is the moisture absorbing capacity of the air. Hence, the rate of drying is greatly dependent on the relative humidity. However, if a certain relative humidity and temperature is maintained in a kiln, a time will come when drying will cease. It is then necessary to change the humidity progressively as drying goes on, to insure a drying condition compatible with the species.

### VI. SEASONING EQUIPMENT

#### A. *Equipment in the Yard*

1. *Handling equipment.*—The handling equipment used in the yard are the overhead gantry, cranes, fork lift, straddle carriers, transfer trucks and the Christensen lift truck. The most common equipment used are the transfer truck and the Christensen lift truck. The transfer truck is used to carry the lift truck from one place to

another in the mill and the lift truck in turn used to carry the load.

The most important advantage of the lift truck is its flexibility. Whereas in kiln installation in the Philippines the trucks or bogies carrying the timber charge stays in the kiln during the drying, the Christensen lift truck is used to carry the charge into the kiln but is removed before the operation of the kiln commences. The Christensen lift trucks therefore, has the advantage in that one truck can be used to load and unload several charges of timber into and from the kiln which eliminates the building and breaking of the stack every time they are loaded or unloaded. Aside from this, the truck is not subjected to corrosive kiln atmosphere during the drying.

The most important feature of the Christensen lift truck is its double frame. The lower frame serves as the chassis and the upper frame used to lift the load. In some types, the upper frame rides on either an inclined plane or a swivel attached to the lower frame so that the upper frame could be lifted or lowered with the aid of a screw or hydraulic cylinder.

2. *Stack support*.—Stack supports are either made of concrete or wood. The usual practice is to use about four feet distance between centers with a clearance of about 18 inches above the ground to permit the use of the Christensen lift truck.

In some cases, when straddle carriers are used, the supports are so designed as to permit straddle carriers to lower their load directly on the holding bays and then subsequent handling allows the use of the Christensen lift truck.

3. *Strips*.—The dimension of strips (stickers) used is about 3/4" thick by 1-1/2" wide.

4. *Stacking guides*.—Stacking guides are frames against which a pile of timber is built. It consists of a frame which moves on a hinge so that it may be set for piling

and then swung back when the pile is removed. It is provided with vertical strip guides at proper intervals so that a vertical alignment of strips is always assured.

5. *Stacking elevator*.—This is a mechanical device fitted with elevator arms which moves on an endless chain and is used for building a timber pile.

## B. *The Kiln*

1. *General description*.—The kilns used in Australia are usually small with capacities of about 5 to 8 thousand board feet (on the basis of 1" thick boards). Such small units have been found most convenient for Australian conditions due to the density of most of their species as well as the various handling method which the timber pile undergo during the drying process. To make up for size, seasoning plants are usually installed in batteries of say four to twelve units or more.

They are brick or concrete constructions steam heated and with forced circulation and heating system located above the pile of timber.

The charge are usually 40 ft. by 6 ft. wide and 6 ft. high which rest on hobs during the drying. This is one of the most important feature of Australian kilns. That is, the charge to be dried does not rest on trucks or bogies inside the kiln. The trucks are used to move the timber in and out of the kiln but does not stay inside the kiln during the drying process.

2. *Estimated parts*: (a) *Heating unit*.—The heating unit is usually the header-return bend system. The coils are of wrought iron pipes which are subdivided into groups by headers so that the number of heating pipes in use at any one time may be controlled depending on the amount of heat required.

(b) *Circulation unit*.—Circulation is furnished by internal cross shaft, flat blade, propeller fans distributed along the length of the kiln with the number depending on the size of the fans used and the length

of the kiln. For average kilns, five or six 36" diameter fans are used.

Electric motors are used to drive the fans. In some plants each fan has its own motor whereas in most kilns fewer but powerful motors are used to drive several fans. In either case, the shafts are driven by pulleys and belts connected to the motor.

(c) Humidifier unit.—There are two means by which the humidity is controlled in the kiln, namely: by humidifying pipe and by the amount of vent opening, although both means may be used in combination.

The humidifying pipe is a wrought iron pipe which is perforated at intervals throughout its length. To maintain the required humidity, steam is introduced into the kiln through this pipe with the amount of steam varying with the need.

This means is most commonly used and is always present in a kiln installation.

The vents are located on the top of the

kiln and are installed in pairs, one on each side of each fan.

The vents serve two purposes: the expulsion of saturated air from the kiln and the intake of fresh air from the outside into the kiln.

### C. The Reconditioner

*Description.* — The reconditioner is a simple unit but is one of the most important units in the seasoning plant in Australia. It is a concrete chamber with a capacity the same as that of the kiln and provided with a perforated steam pipe. Its function is to steam the charge after the preliminary air or kiln drying.

As condensation of the steam is unavoidable, a provision to rid the chamber of condensate is necessary. A simple condensate drain is provided at one end of the reconditioner which is just an opening with a well wherein part of the condensate collects to serve as a water lock to prevent the escape of steam.

*Compliments of*

## Balila Lumber

Barunac, Lebak, Cotabato

JOSE DRUECO

*Manager of Proprietor*

## Dulawan Sawmill & Lumberyard

*(Owned and Operated by  
E. C. Tanghal)  
Cotabato, Cotabato*

Dealer of Logs and Sawn Lumber

*Specialty:* Narra, Dao, Guijo, Molave, Lumbayao, Apitong, Yakal, and Lauan. Rough and Planed Lumber

*Lumber supplier to all building constructions of:*

VICTORINO C. TANGHAL  
*(Architect & Contractor)*

# Cooperative Policy Between Government and Private to Advance Forestry in the Islands

By MARTIN GUERRERO  
*Forest Entomologist, B.F.*

## INTRODUCTION

The forest is a national need and its existence benefits not only a certain group of individuals but the whole race and of generations to come. Its maintenance should be the concern both of the state and of every citizen if forestry is expected to attain a successful establishment and to render its maximum service to mankind. Every individual as well as any private organization, society, or corporation should cooperate with the government in formulating the best plan for administering the vast forests of the country and should take an active part in the proper conservation of such resources in order to perpetuate their usefulness. We must be conscious of the two-fold benefits derived from the forests: namely; their direct contribution to the nation in the production of materials capable of being employed in a variety of ways for our economic development and the indirect influences, as in the promotion of health and sanitation, protection of soil, control of stream flow, conservation of moisture, etc.; which, let alone the forest, no other resource can produce. These benefits play such a national importance in the life of any people that they cannot be valued in terms of money so that it behooves not only upon the government to advance forestry practice but for every one to extend a helping hand in the furtherance of such a general enterprise.

### *Common Ground for the Government and Individual to Cooperate in Forestry Practice*

1. The individual inhabitant is in many ways of great help in forestry although not

with the least intention to perform the work a forester is called upon to accomplish. He may act as an agency of the state in disseminating forestry principles to the great bulk of the masses. It is only by means of making the people forestry-minded that they can appreciate the value of our forests and anyone who undertakes such a humanitarian work is surely cooperating with the government in a noble task. The lack of information or ignorance of the people on the varied uses of, and many services rendered by, the forest to civilization is in most cases responsible for their careless treatment with our forest products.

2. Forestry as a business can never succeed irrespective of whether it is a government ownership if the people are antagonistic to its application. This is especially true in the practice of this profession where time element is an important factor. A specific example may be cited: the reforestation projects carried on by the government where drawbacks have been encountered by the Bureau of Forestry due to the unsympathetic attitude and ill-feeling of the inhabitants to this beneficial work. It is only thru the whole hearted cooperation of the public in general that this part of forestry practice may achieve a successful end.

3. Any citizen even in his private life can be of great help to the cause of forestry by being law-abiding. Many of the violations committed against our forest laws and regulations involving the destruction of forest products valued by the thousands, nay by the millions of pesos, should have been reduced to a minimum if every person understands thoroughly his duties to his country

and exercises his privileges in the right perspective. The extensive cogonal areas and wide second growth forests all over the Philippine Islands which were originally covered with virgin stands of timber should have not been turned to such a state of conditions, now causing our government more harm than good, if our forefathers were aware of the harmful effects of their wastefulness. Other nations which experienced the same fate might have avoided the recurrence of the evil effects of forest devastation if they could foretell the damages wrought by a barren land. By simply obeying the rules and regulations promulgated by the state, one can cooperate in improving the administration of our government, much less in helping the Bureau of Forestry to advance the science of forestry in the Philippines.

4. In dealing with forest violation, the state needs everybody's cooperation in order to bring the real culprit to justice or otherwise to make him pay for the damage done provided for by law. A great many forest offenses could not be acted upon in accordance with existing regulations because the offender cannot be identified or sometimes cannot be located. Such a situation encourages the law breakers to perpetuate their prohibited trade and for the little benefit they get from their illicit practice, the whole nation is penalized. If each inhabitant exercises his civic spirit, any infringement of the law is easily straightened up and undoubtedly the violator cannot escape his corresponding penalty.

5. Persons holding licenses or permits issued by the Bureau of Forestry are likewise of great help in advancing forestry principles thruout the Philippines if they are furnished with adequate instruction as to the proper execution of laws or regulations affecting the administration of our forests. In fact most of the violations committed against the forest are brought to the attention of the government thru the information given by these licensees and permittees. Had it not been due to the untiring efforts of these

persons a great many of the notorious forest law-breakers might have been allowed to operate their illegal business unmolested or unnoticed. Again, the government at various occasions was able to exhibit here and abroad different samples of high grade forest products furnished by some licensees. This no doubt advertised a great deal the true result of forestry, which is an effective way of making the profession more popular.

6. Any person private or what not can cooperate with the state in the conservation of our forest resources. Conservation does not preclude the entire abandonment of our timber stands and their by-products from utilization but it means their wise use. By properly using our forest products each and everybody is taking part in conservation work. However, if we go deeper into the subject, we can help in conservation work in many ways. The mere judicious management of our fire bordering the forests or simply telling our neighbors to take good care of their fires and not to set grass lands on flames is a protection work in itself which can be done by any man even without any technical training. To pasture our animals away from timber lands so as not to trample reproductions or destroy old ones is a patriotic step toward perpetuating our forests. The careful felling of trees and the exercise of wise discretion in transporting forest products from the forests are acts tending to lengthen the existence of our forest resources, which any person can do without incurring any expense on the part of the government.

7. Newspapermen, authors and all other walks of life can do well to cooperate with the government in forest conservation by publishing articles or writing books which serve to inform the public on the economic necessities of the forests. A work of this kind is probably worth more than thousands of pesos appropriated for protection purposes since it educates the masses and it tends to create public sentiment as to the extreme  
(Continued on page 38)

## Biography of

# AGAPITO L. CENABRE

By SEGUNDO P. FERNANDEZ  
Jr. Forester, Bureau of Forestry

AGAPITO L. CENABRE was born on August 18, 1888 in the town of Pamplona, Cagayan. He completed his early education in his home province in 1903; and Manila High School in 1907. He took up the Ranger course in the School of Forestry, U.P. from 1912 to 1914; and returned to the same institution in 1923-1925 and 1927-1928 to earn his B.S.F. degree.

"TITO" as he is intimately called by his friends, rose from the ranks through sheer force of merit, diligence contributing much to his success. He started his public life as a municipal teacher in several towns of Cagayan from 1903 to 1905. He shifted to forestry on April 1, 1908 after qualifying in a civil service entrance examination. He was appointed as Temporary Ranger with station in the Central Office of the Bureau of Forestry in Manila for training. Because of his love for work and sense of responsibility, he earned promotions from one position to another, and creditably handled various technical and administrative assignments in the Bureau.

The various positions he held, after qualifying in the civil service examinations for Ranger, Assistant Forester and Forester, may be chronologically stated as follows: Assistant Ranger; Ranger—Officer in Charge of Station; Senior Ranger—Officer in Charge of Forest District; Forest Supervisor; Forester; District Forester (Cebu, Bohol, Oriental Negros; Northern Mindanao; and Samar and Leyte Districts); Assistant Chief of Division, *Forester-at-Large, in Charge of Public Relations and Inspection Service*; Acting Chief of Division (Division of Forest Lands

and Maps and Forest Management and Forest Concessions); Assistant Chief of Division (on special detail as District Forester of Cotabato and Davao); SUPERINTENDENT OF THE MOUNT APO NATIONAL PARK; FORESTER IN CHARGE OF THE BUREAU OF FORESTRY, for and in the absence of the Director of Forestry, during the emergency as per Special Order No. 491 dated December 24, 1941, issued by the Under Secretary of Agriculture and Commerce; Supervising Forester for Mindanao and Sulu in addition to his duties as District Forester of Davao; Division Forest Inspector (Northeastern and Southern Mindanao); Sr. Forester and Assistant Chief, Division of Forest Concessions and member of the Advisory Staff, investigating and efficiency committees of the Bureau of Forestry.

CENABRE was selected by *The Magindanao*, the oldest Davao Weekly, as Forester of the year 1939. During the early part of 1942, in addition to his duties as District Forester of Davao, he was detailed to head the Department of Industry of the City of Davao and subsequently as acting Provincial Agricultural Supervisor, Bureau of Plant and Animal Industry. After liberation, he was designated by PCAU No. 29 as liaison officer for Mindanao and Sulu between the PCAU and the Bureau of Forestry.

It can be said in passing that "Tito" has left some indelible imprint on the sands of Philippine botany and forestry. As a result of his prolific botanical collections during his exploration surveys throughout the country in the early days the world famous

botanist, Dr. Elmer D. Merrill, named in his honor the following seven (7) species:

1. *Eugenia cenabrei* Merr. N. Sp.
2. *Arthophyllum cenabrei* Merr. N. Sp.
3. *Semecarpus cenabrei*, Merr. N. Sp.
4. *Strychnos cenabrei* Merr. N. Sp.
5. *Glochidion cenabrei* Merr. N. Sp.
6. *Sterculia cenabrei* Merr. N. Sp.
7. *Knoma cenabrei* Merr. Quis N. Sp.

He contributed in no small measure in making popular in the Philippines memorial tree planting, and arbor and birds' day celebration. He also prepared some papers for publication. Of those that were published, the most widely known or read, especially by scientists, is his paper entitled "Cinchona Culture in the Philippines."

A hardworking and trustworthy public servant, CENABRE did not confine himself to Bureau activities alone, but also endeavored to expand and spread his activities as to place himself on a high level and esteem in the community. In testimony of his civic activities, while assigned as District Forester of Davao, he served as Consulting Technical Adviser of the Davao Lumbermen's Association, which in a resolution duly passed, accredited him as the guiding spirit that led to the organization of the association and the one who has shown great interest, zeal and skill in helping enhance the success and prestige of the Association.

As a departing member of the Rotary Club of Davao in 1948, and as a token of his services to the Davao Rotary, a resolution was approved, pertinent portion of which is as follows:

WHEREAS, the older members of the Rotary Club of Davao are unanimous in giving Rotarian "Tito" Agapito L. Cenabre almost exclusive credit for the immediate revival of the Rotary Club of Davao shortly after liberation as a result of which the Rotary Club of Davao had been among the first in the Philippines to have been accorded by Rotary International, a renewed CHARTER as a recognized member thereof, hence, Rotarian "Tito" Agapito L. Cenabre has been as he is, rightfully regarded as the

personification of the Rotary Club of Davao since the liberation."

CENABRE is one of the few among the Veteran employees of the Bureau who was instrumental in the establishment of the Cinchona Plantation in Mindanao; responsible in initiating Act No. 3294 which dealt on the disposition of Kaiñgin fines; and labored, as a lone lobbyist, for the passage of a reforestation Bill known as Commonwealth Act No. 119, the first biggest reforestation fund to be released.

As a tireless organizer of civic societies and associations, "Tito" organized the BSP in Davao before and after the war where he served in various capacities, as field scout commissioner-at-large for camping from 1934 to 1939; president, Davao Council, BSP, 1940-1947; Honorary Adviser, Davao Council; Regional Scout Commissioner for Mindanao and Sulu, 1947; and Field Scout Commissioner-at-large, BSP, todate in Manila. He was also the President of the DACDEA (Department of Agriculture and Commerce Davao Employees Association) from 1940 to 1946.

Aside from his activities in the organizations mentioned, he is associate member of the National Research Council of the Philippines; Member of Philippine Scientific Society and of the Society of Filipino Foresters.

In recognition of his scouting activities, on 11 May 1947, he was awarded the Silver Thanks Badge citation by the National Council, BSP, for meritorious and outstanding service rendered to BSP. The citation particularly referred to his very great interest and enthusiasm in scouting and similar civic organization.

On May 1, 1949, he received the Bronze USA citation, quoted as follows:

"For his continuous outstanding service as a Regional Council wide basis as District Forester and Regional Scout Commissioner for Mindanao and Sulu for many years. Through his indefatigable efforts, the movement has gained secure and ever widening ground in many provinces in Min-  
(Continued on page 38)



## Some Antimalarial Drugs:

# Natural and Synthetic

By AURORA C. REYES  
Chemist, Bureau of Forestry

Malaria is probably the worst of all human scourges. Not only does it kill 3,000,000 people a year, but 300,000,000 fresh victims are infected every twelve months. The medical literature abounds with drugs both natural and synthetic so that reports are rather conflicting as to their dosage and efficacy. Since malaria is a disease characterized by many stages, to effect a radical cure, the drug must have to eradicate all the forms of blood stages of the parasite. So far, no ideal antimalarial drug has been found to date. The ideal drug must possess the following properties: (1) It must destroy the gametocytes or the sexual parasites of malaria in such a way that they become devitalized and non-infective to mosquitoes and thus, prevent the spread of the disease. The effect is said to be prophylactic. (2) It must be effective against the asexual forms which provoke the familiar signs and symptoms of the disease. The effect is said to be suppressive, and thus prevent relapses. (3) It must be effective against the different species of *Plasmodium* producing malaria in man. There are three different species, but only two are important, namely, *Plasmodium vivax* which has low mortality but great tendency to relapse and the *Plasmodium falciparum* which has high death incidence but less tendency to relapse. As to the preventive effect which drugs may have against malaria in man, very little is known.

Cinchona alkaloids have been the favorite "stand-bys" in the treatment of malaria of all forms. It is the oldest drug as an antimala-

rial and was used as the standard prior to World War I. Totaquina is the standardized mixture of cinchona alkaloids. This galenic preparation uses more economically the active principles found in cinchona bark. The various cinchona alkaloids, cinchonine, cinchonidine, and quinidine each has an antimalarial activity which compares well with quinine. Quinine preparations have been known and used since the seventeenth century in the treatment of malaria. The pure crystalline alkaloid was isolated from cinchona bark for the first time by Joseph B. Caventou and Joseph Pelletier on September 11, 1820. Pasteur in 1853 established the relations of the isomers quinine and quinidine, cinchonine and cinchonidine. The correct structure of quinine was proposed in 1908 and was synthesized by R. B. Woodward and W. E. Doering in 1944. Because of the complexity in the structure of the molecule, it took some time before the drug could be synthesized.

Quinine, however, has its limitations in malarial therapy. It has a selective effect on the different stages of the malarial parasite because it affects only the blood stages and does not influence the relapse rate. For this reason, several antimalarials are being synthesized to overcome the shortcomings of quinine.

The cinchona alkaloids, however, remained the only effective means of treating malaria until 1926, when plasmoquine or pamaquin was introduced by Muhlen. Pamaquin was first synthesized by three German scientists, Schuleman, Schonhofen, and

Wingler. This drug was first demonstrated by the British investigators in India before World War II. Because its effectivity lies in its administration in large doses which would be considered toxic, the Germans were led to continue investigating, and in 1933, "atabrine" was developed by Mause and Mietzsch. Other synonyms of atabrine are quinacrine, atebirin, and mepacrine.

As early as 1934, chloroquine had been synthesized by the Germans. It is available in the market in the form of diphosphate under the trade name "Aralen". It is interesting to note that chloroquine was first extensively used in Korea and was found to eliminate successfully the threat of malaria. Several drugs of this type have been developed, namely, oxychloroquine camoquin, santochin, and paludrine. Paludrine (also called chlorguanide and guanatol) is an English preparation. The French put it under the name Nivaquine.

The rapid pace in the production of these synthetic drugs was motivated by the exigencies of the conditions in 1941. Shortly after the bombing of Pearl Harbor, the United States, having been cut off from the main sources of supply of quinine bark by the Japanese and realizing the importance of antimalarial drugs in winning the global war, especially in malaria-infected areas, took active steps in the large scale production of synthesized anti-malarials. Because of military expediency, this loss of natural quinine, therefore, led to the development and further studies of anti-malarials that are more effective and powerful to all types of malarial infection. In the course of the investigation, some of the compounds developed like pentaquine and isopentaquine were clinically tested and were found to be an improvement over its predecessors.

During the war, because of the alarming death toll due to the spread of malaria, the United States under the circumstances found it necessary to prove further into the usefulness of synthetic antimalarials. Up to the

present, the race for superior drugs is going on unabated.

The latest synthetic antimalarial is Daraprim which is twelve times more powerful than chloroquine, the standard antimalarial in wise use as a suppressant in recent years. The scientific name for Daraprim is *pyrimethamine*. It was made by Dr. H. Hitchings and was first announced in April, 1950.

So far, there had been 15,000 drugs tested for their therapeutic effect since 1941. Over 150 compounds have shown evidence of merit in the cure for malaria. All of them either prevent the spread of malaria, cure it, or mask the symptoms.

The Philippines, however, is not yet in a position to manufacture these synthetic antimalarials which is rather a complicated process and requires a complex plant. Nevertheless, we need not worry about synthesis, as the Philippines, unlike other countries, is more fortunate in that she has grown successfully several cinchona species. Thanks to our Bureau of Forestry which pioneered in the cultivation of cinchona. The success, however, is only on one phase—that of cinchona culture; the neglected phase—that of chemical manufacture and utilization. The foresters have done their share, now this is a challenge to our local chemists and chemical engineers. The importance has been repeatedly stressed and need not be over-emphasized. It is high time, therefore, that more serious attention be focused towards this direction.

#### LIST OF REFERENCES

- Alving, Alf. S., "Antimalarials Today," *Drug and Cosmetic Industry*, January, 1950, Vol. 16, No. 1.
- Blevin, B., "World Wide Fight Against Malaria", *New Republic*, March 14, 1949.
- Cooper, C. W., "Summary of Antimalarial Drugs", *Public Health Reports*, Vol. 64, No. 23, June 10, 1949.
- Marañon, et. al., "Philippine Totaquina", *Philippine Journal of Science*, 56:242, 1935.
- Mendoza, J. B., "Present Concepts in Malaria and its Therapy", *The Caduceus, Medical Abstracts*, No. 3, 7:3-23, May-June, 1953.

(Continued on page 38)

# *Mt. Maquiling and Its Emissions*<sup>1</sup>

By ENRIQUE ABELLA Y CASARIEGO

On account of the repair work being done on the premises of the General Inspection Division (Mining Engineer Corps) during the month of May in 1881, it was not possible to carry on any serious investigation work in the office. For this reason and with the object of continuing the study already begun in Central Luzon by the "Inspector General," then absent in the Peninsula [Spain], we made an excursion to the shores of Laguna de Bay and began the study and exploration of Mt. Maquiling which is the first great mountain mass one sees when traveling beyond Manila. We made this choice also on account of the fact that we did not wish to be far from the capital so that we could attend promptly to any emergency work which might arise, since at that time there was no other engineer of the division in the entire Archipelago.

We were able to devote but little time to our field exploration and study because the rains and storms prevailing at that season forced us to leave the slopes of Maquiling and return to Manila. However, we nearly completed the reconnaissance.

In this excursion we were accompanied by assistant Don Secundino Fernandez Miranda who executed the work which we entrusted to him with zeal and exactness. It is apropos also to mention that, thanks to his energy and interest, he was able to reach with a native the highest peak of the mountain, the barometric height of which he took, while we, the rest, dizzy and tired with hard climbing, remained twenty meters below, overlooking the interior wall of the

crater. We ought to mention also the draftsman Martinez, who, not only made good sketches of the mountain and its solfataras, but also helped efficiently in the making of the topographic surveys, thanks to the experience which he had acquired in this kind of work in the survey of Cebu.

We have omitted in the present writing some of the illustrations which we thought at first to be included, because they were found to be not indispensable, and because their completion would retard the presentation of this work which has already been delayed by other more important duties, but which we had always considered a sort of moral obligation that we are fulfilling at present. The topographic and geologic sketch of Maquiling and its vicinity and the view of the mountain seemed to us sufficient to explain and illustrate the data which we have been able to gather and which we have the honor to state in writing as follows:

## *Location and Exterior Aspects of Mt. Maquiling*

On entering Manila Bay on a clear day, one can see to the southeast, rising isolatedly behind a border of low coasts and limiting the horizon, a conical mountain named Maquiling. We cannot, however, consider this mountain as a part of the shore of the great bay, the reason why the mountain can be seen distinctly from the bay being the great elevation of the mountain and the fact that nothing intervenes between it and the bay except the great plains of Manila and the province of Cavite, which extend to the

---

<sup>1</sup> Translated by Prof. Jose B. Blando, College of Forestry, from the original Spanish, entitled "El monte Maquiling (Filipinas) y sus actuales emanaciones volcanicas" 28pp. 2 pl. Madrid: Tello. 1885. Also Boletín de la Comision de Mapa Geologica de España 12. 28pp. 2 pl. Madrid. 1885.

shores of the bay. In reality, this mountain is situated in the interior of the island of Luzon, rising between two large lakes, improperly called Bay and Bombon, and forming the boundary between the central provinces of Batangas and Laguna.

Its exterior form varies according to the direction from which it is observed. From Laguna de Bay, that is to say, from the north, although one sees it rise between the towns of Bay and Calamba in a conical form truncated by four small peaks, no one would ever suspect its volcanic origin, but when viewed from Bombon Lake or from the SW, the upper part of a crater with craggy edges appears and relieves all doubts as to the character and origin of the mountain and easily explains its other peculiarities as well.

Its isolation, however, is not so absolute that its slopes arise on every side from the level of a lake or of a great plain as do the slopes of other volcanic cones of Luzon.<sup>2</sup> Although considerably depressed towards the west, it joins the Suñgay mountain in that direction by a mountain pass about 120 meters above sea level; to the east a series of hills connects it with the small mountain chain of Imuc and Calauan; to the south, with the plateau of Tanauan and Alaminos, with an elevation of 130 meters, and some secondary hills join it to Malarayat, and, lastly, to the north, its lower slopes, which are the lowest around the mountain, submerge under the waters of the large Laguna de Bay.

## HYDROGRAPHY

### *Rivers and Creeks*

As a result of the above-mentioned circumstances, the hydrography of Maquiling does not absolutely have that radial form which the hydrography of similar cones usually present. Two of the streams which rise in the interior of the crater, coming out from the southwest and southeast, res-

pectively, describe two great curves to the north, bounding the western and eastern flanks of the mountain, and flow over the lowest part of its slopes. These two streams are the most conspicuous of those which form the hydrographic system of the mountain under discussion.

The western stream begins at the southern foot of the cliff which faces the interior of the crater and belongs to the highest peaks on the western rim of the crater, but this stream is not permanent above the three springs which feed it, the only ones existing in that part of the mountain. The first spring, named Guja, situated at an elevation of 483 meters, is very small and in the dry season it disappears in the fissures of rocks a few steps beyond its source. Lower down, two other springs appear: first, the Sainsin at an elevation of 327 meters and then, almost at the same elevation, the Comba, both of which have an abundant supply of running water which transforms the dell called Bisog into a permanent stream. This then descends S and SW through one of the openings of the crater of the mountain, then unites with the river Tanauan, of which it is one of the principal tributaries.

### *The Tanauan River and its tributaries*

With the name of Tanauan, the stream which we speak of takes a north northwest direction between the adjacent towns of Tanauan and Santo Tomas, bends afterwards towards the northeast and empties, with the name of San Juan, into Laguna de Bay, near Calamba, where its sediments form a pronounced point. The river, in its course through the plateau of Tanauan and Santo Tomas, has a rocky bed embanked between walls 20 to 35 meters high at certain points, but its lower course is shallow and clayey, and its waters spread over the plain between the town and the rich valley of Calamba. This river has abundant tributaries generally coming from the sides of Maquiling, the most important of which is called

---

<sup>2</sup> Taal, Corregidor, Pulo, Caballo, and Arayat are examples of this type.

Biga, forming the boundary between Batangas and Laguna.

#### *The Pinguian Creek and its tributaries*

The other stream which bounds Maquiling on the east rises from the southeast of the mountain. With the name of Pinguian, it flows towards Barrio Biten, bends north of the hill called Olila towards the northeast, cuts a deep rocky bed through the small chain of hills in the Imuc district, reaches the plain which extends from Calauan to Bay, fertilizing it, and then flows north of this town into Laguna de Bay. Its middle course is called Tigas River, while its lower course, the Mabacan, except that part between the town of Bay and the lake, which is usually called by the name of the town. In its upper and middle parts the Tigas or Mabacan River receives some tributaries of minor importance but, upon reaching the plain, it is joined on the left bank by the important Cayac river which collects all the waters from the northern slopes of the Imuc range west of the Mabacan River, through its two tributaries, called Malanday and La-laog, respectively.

#### *The Cambantoc River*

Aside from the aforementioned rivers, the most important river, because of its course and the large volume of water which it carries, is the Cambantoc. It rises from a deep opening on the eastern side of the crater and descends in this direction down the base of the secondary hills called Mabilog and Bulalo and then bends towards the northeast and north successively to empty into the lake, west of the town of Bay. It is deeply entrenched in its middle and lower courses, although not so deeply as the two rivers described above.

#### *Molawin River*

It rises very near the head of the Cambantoc and follows a course almost parallel to the latter although it straighten towards

the north and also empties into the lake east of Mayondon hill and point.

#### *Dampalit River*

Another river which is well known for its copious waters and beautiful cascade near the town of Los Baños is the Dampalit. It rises north of the peak, flows NNE, with copious waters forming in its lower part a deep gorge, and empties near the town of Los Baños.

#### *Maitim River*

On account of its relative importance, it is also worthwhile to mention the Maitim, or Boot River which meanders between Cambantoc and Molawin, bounding on the east the hillocks of Tuntuñgin, and likewise empties into the lake.

#### *Other streams*

Lastly there are also, besides those already described, a multitude of secondary streams, some of which are intermittent and others permanent, such as the Pansol, Salunu, and Lecheria streams.

### LAKES AND POOLS

Subsidiary features of the hydrography of Mount Maquiling are found in the various lakes and pools, all of which are of volcanic origin and many of which show actual manifestations of volcanic activity.

#### *Alligator Lake*

The Alligator Lake, the largest of these lakes and pools, is simply a crater of elliptical form more than one kilometer long and filled with water to approximately the same level as that of Laguna de Bay.

The small hill which contains this crater is shown in all the sketches that we have seen as a small island named Sumili. It is, therefore, probable that the sediments deposited at the strait which probably existed between this small island and the coast of Los Baños in front of the mouth of the copious Dampalit has caused the visible rise <sup>3</sup>

---

<sup>3</sup> The ancient town of Bay which is the oldest of those founded along the shores of the lake, is now covered by its water west of the mouth of the river.

of the level of the lake and has produced the existing connection which, in fact, is very low and in many places muddy.

#### *The pools of Tadlac*

This phenomenon is observable along the coast between the crateriform hill and the mouth of the Dampalit, where many pools are formed, nearly all of which are hydrothermal and are connected with each other by a wide estuary, called Tadlac.

#### *Other pools and the Natugnos Lake*

Some pools of the same type exist near the road from Calamba to Los Baños but we shall deal with them and the muddy lake of Natugnos when we discuss the volcanic phenomena which actually occur in Maquiling, since all of them are caused by the same igneous subterranean action.

#### *Springs*

Likewise we are deferring to that same section the description of the numerous thermo-mineral springs which issue from the slopes of this mountain.

### OROGRAPHY

Maquiling does not have that simplicity of form which other perfectly conical volcanoes have, such as the Mayon, for example. The crater of Maquiling is eroded on all sides and its slopes are broken by secondary hills. Besides, Maquiling is covered with thick tropical vegetation which hinders geognostic study.

#### *The Form of the Crater and its Edges*

The crater has two deep cuts on the SW and ESE which give way, as we have already said, to the waters which collect within it, presenting in its interior walls abrupt slopes in all directions, especially towards the north, in which they form almost vertical walls of approximately 500 meters elevation. The highest part of the rim is that which faces Calamba and Los Baños, which

is broken into four peaks, the highest of which, according to our barometric observation, has an elevation of 1047 meters or, according to the plan of the Naval Hydrographic Commission, 1135 meters. This rim diminishes in altitude toward the west to 973 meters in the subordinate and conical peak which can be seen from the town of Santo Tomas and through which one can make the ascent to the mountain.

#### *The northern slopes*

The exterior slopes towards the north, especially their upper parts which are formed by a rocky wall and are completely inaccessible and covered with rachitic vegetation, are steeper than those that lead to the other directions. And since in the west and south the slopes are much more gentle, although they may have deep narrow valleys and variable undulations, Mount Maquiling appears as if it were leaning toward Laguna de Bay, from which fact it undoubtedly gets its name.<sup>4</sup>

Along the shores of the great lake two small hills rise. One of them is that which we have already cited when we discussed the Alligator Lake inside it and the other is the Pansol, which is situated north of the highest peak of Maquiling.

We have already said that the hill which now forms the Manlilimbos Point has the form of a ring which surrounds the Alligator Lake and rises toward the north, in the same manner as the rim of the crater of Mount Maquiling. The hill of Pansol is dome-shaped and joins the high slopes of the principal mountain by an undulating ridge, called Lalakay Mountain.

#### *The western slopes*

The western slopes of Mt. Maquiling are very undulating and contain many secondary hills which are prominent in the middle slopes, and numerous in the lower slopes adjacent to the river, where erosion has acted on materials (tuff) which are softer than those found at higher elevation.

---

<sup>4</sup> Maquiling in the dialect of the region means inclined (leaning).

Towards the east the slopes are of even more complicated forms in the series of secondary hills which, parting from Mabilog, not far from the summit and following Bulalo, cross the Tigas River and turns north-east towards the town of Calauan, forming the chain of Imuc and Calauan, which joins Maquiling with San Cristobal and Banahao. The Olila hill which is located on the other side of the river west of Alaminos seems, undoubtedly, to belong to the same class as those which we have mentioned and is likewise subordinate to Maquiling.

The slope at the left of the Cambantoc River presents also some secondary elevations which join together to form a ridge and end at the Tuluñgin Mountains near the lake.

Also, between the Dampalit and Molawin Rivers, there is a pronounced ridge which dips near Los Baños and rises anew along the shores of Laguna de Bay to form the elliptical nipple-shaped Mayondon hill and point.

One may perhaps hazard the hypothesis that this ridge is connected with Talim Island or Jalajala Peninsula, as suggested by Pulo Bay, an intermediate point in this direction, thus correlating those volcanic foci with that of Maquiling. But the form of the bottom of the lake, as it can be conjectured from the few soundings taken of it and with which we are acquainted, seems to belie this hypothesis, which, on the other hand, is reasonable.

## GEOLOGY

### *General composition*

Generally, Maquiling is a volcanic mass composed essentially of dolerites, its lower slopes being covered with tufas, peperinos and conglomerates, which are also volcanic.

The ashes, cinders, rapilli (lapilli and bombs?) and volcanic agglomerates, which must have been produced in the eruptions, giving rise to this massive mountain, have disappeared from the places in which they have formed or fallen, and have constituted

the elements of tufas, peperinos and conglomerates surrounding its base now hidden beneath the water of Laguna de Bay and perhaps already covered with recent mud.

The spongy or lavic types of the dolerites can hardly be seen in the upper parts, the forms and structure of which have been conserved by their more compact component rocks, and can only be noted with certainty around Mayondon and Pansol hills which have been, as we shall see later, secondary or subordinate mouths, apparently of more recent origin.

### *Dolerites*

The type of doleritic rock which we have frequently and constantly found is of granitoid texture and of porphyritic aspect, composed of blackish gray or pink magma with generally crystalline and brilliant feldspar, probably labradorite or oligoclase. Projecting from the union of these components are a few black points which are at times hardly perceptible, and at others visibly formed of augite crystals. According to Roth, who classified the samples gathered by Semper and Jagor, the dolerites also contain olivine and magnetite, but these minerals cannot be distinguished with the naked eye. They also contain little flakes of bronze-colored mica which in some samples are very dark.

In texture, this rock becomes at times coarser or more granitoid, but generally its grains tend to attenuate until they are converted into real mimetites which Doctor Drasche called andesites. He describes them as seen under the microscope as follows: "In the rock is found a mass composed exclusively of plagioclase needles and numerous crystals of magnetite, cementing large crystals of amphibole and augite." According to the said geologist, these andesites have, to the naked eye, something of the structure of obsidian; but all the rocks which we have found, besides the lavic rocks which we shall describe later on, are either granitoid or sandy or compact, and only in the mimesitas which form the wall or crest of the highest peak of the mountain have we seen some,

although scarce, scoriaceous cavities. He adds, "Further on, I found small grey pebbles of fine-grained and porous rock with several small crystals of olivine; the ground mass of the rocks, seen under the microscope, shows the surprising aspect of a fine and regular fabric of plagioclase and amphibole needles, all these crystals being cemented with colorless and amorphous mass. In certain places round grains are also seen, which, by their structure, seem to be products of vitrification, and square pieces of magnetic iron." 5

#### *Basaltic and traphytic types*

In some cases the mimesitas have a tendency in many places to become still more compact, losing their gritty structure and turning into real basalt or basanites, like those which are found in Taal Volcano; in other places, because of the predominance of feldspar and the appearance of perfectly visible amphibole, the mimesitas can be taken for true trachytes, inasmuch as the feldspar, on certain occasions, has an appearance similar, if not identical, to pumice, which is well characterized in the tufas at the base of Mt. Maquiling.<sup>6</sup>

#### *Phenolitic type*

The banded samples found in abundance in the interior of the crater and in other places are very odd, because when their structure is very fine they constitute real phonolites, which we considered as belonging to the trachyte family.

#### *Trachydolerites*

We could perhaps more appropriately call the rocks which constitute Mt. Maquiling grey stones (trachydolerite). It may be observed that those rocks which seem oldest on account of their position are those which

come nearest to the trachytic type, the younger rocks resembling basalt or dolerite, including those rocks of effusive character found in Pansol and Mayondon.

The same thing can be said of the eastern part of Suñgay where the rocks resemble those of Maquiling very much, although they have more phonolite characteristic, so to speak. This fact and the exterior form of the Suñgay Mountain make one suspect that it is older than Maquiling.<sup>7</sup>

#### *Effusive types*

In the hills of Mayondon and Pansol and in certain limited areas, as in the summit of Tuluñgin, there are spongy or scoriaceous rocks of more effusive type and younger than the ones cited. In their exterior they present a red or brownish color due to the oxidation of the iron salts which they contain, but in their interior, in the fracture, they show in their scoriaceous cavities a black and compact paste bespattered with minute feldspar crystals, hence constituting real effusive basanites.

#### *Tufas and peperinos*

All the tufas which cover and surround the slopes of the mountain are very compact and exactly like those which come from the left margin of the Pasig river in Guadalupe and which are used for construction purposes in Manila. They are generally of fine grain, yellowish or brownish grey color, and form benches which seem to adapt to the undulated forms of the fields which they cover, being composed of a clayey cineritious (ash-colored) paste with pieces of "rapilos", principally pumiceous and feldspathic. In many places these tufas are transformed into real peperinos or conglomerates of pebbles almost exclusively of basalt or dolerite.

---

5 See fig. No. 1 of plate D., Vol. VII of "Boletin de la Comision del Mapa Geologico de España."

6 Doctor Drasche calls trachyte a rock which he found on the way from Calamba to Santo Tomas, that is to say, at the foot of Mt. Maquiling, and which has come from its slopes.

7 We have not discussed in detail Mt. Suñgay, which we have briefly and partly visited, because D. Jose Centeno, who was in charge of the careful study of Taal Volcano, which should include the hydrographic region of the Bombon Lake, will discuss it in more detail. We have outlined however, the limits of the tufas of its flank, in order to correlate it with Mt. Maquiling.



## PRESENT VOLCANIC EMISSIONS

All the foregoing rocks have been transformed and metamorphosed in certain places by numerous manifestations of the same volcanic action which produced them, and, therefore, this igneous subterranean action cannot be considered as completely extinct, in spite of the significant signs of relative antiquity of the extinction of the principal focus of the mountain.

Let us, therefore, examine the phenomena which are produced in these numerous manifestations and which can all be included under the name of volcanic emanations.

### *Natugnos*

One of the most remarkable of these emanations is undoubtedly that which is found in the place called Natugnos. In that place, at the right bank of the upper course of the Molawin River at an elevation of about 310 meters, and not far from its bed, there is a small lake having a diameter of about 20 meters, in the proximity of which a faint sulphurous odor can be perceived. Inside the small lake one can see leaden grey muds in active ebullition the bubbles from which burst at the surface, with a peculiar sound and throw forth at the borders and out of them a semi-liquid and pasty mud, the temperature of which reaches 84°C. This bubbling activity must have had some periods of increased intensity, because from the margin of the lake to the Molawin creek a wide trail of deposits and concretions (*moyas*) with rough surface similar to that of the pasty lava flow of active volcanoes can be seen, as if the whole lake had flowed over the sides in the direction of the slope.

In the vicinity of this principal lake there are many others of smaller size, some like

wells and simple mouths of smoke, always muddy, from which vapors gush at high tension and in which the bubbling mud shows different colors, such as red, yellow, brown and sometimes, although seldom, pure white.<sup>8</sup>

### *Concretions*

The nature of these *moyas* or deposits and concretions, formed by the mud of the lakes, are consigned, from the geologic point of view, in the description of the samples collected in the field, which we include at the end of this article; but, furthermore, we deem it useful to insert here the minute and precise description of these substances by Roth from a chemical point of view, based on the samples collected by Semper and Jagor in their travels. "There are places in which the rocks has been transformed by iron oxide into a gray or yellowish gray mass of clayey nature, brittle and with cavities or crevices which contain opal. In the surface of the rock the water<sup>9</sup> has deposited a crust the exterior part of which is wavy. The bluish gray deposits of tufas<sup>10</sup> of hydrated silica with small quantities of basic sulphate of iron oxide alternate with other yellowish-red strata, rich in iron. The bluish gray color comes from a mixture of fine powder, which can be verified by testing the samples with acids and alkali. The tufa has, according to this test, a composition similar to that of the siliceous tufa of Iceland which has been studied by Bickel, a fact which proves the similarity of the phenomena or processes which have occurred in both places. The said rock, when decomposed and it has a yellowish grey color, gives gypsum when placed in water; the reddish brown variety when tested with hydrochloric acid reveals a great quantity of sulphuric acid, and in both varieties iron is found as acid sulphates.

---

<sup>8</sup> There is a description of this place written in 1739, which is kept in the archives of the Convent of the Franciscans in Manila and to which the majority of the travelers, who have cited it, refer: "There is a hill called Natugnos on the top of which is a lake about 400 square feet, in continuous movement on account of the intense vapor that it emits. The mass in it is an extremely white earth which, with the force of the vapor, now and then rises a yard or a yard and a half in queer forms and fall in small pieces upon coming in contact with the surrounding cold air." (Estado geografico etc., by the PP. Francisca- nos. Binondo, 1865).

<sup>9</sup> He should say the volcanic mud of the lake.

<sup>10</sup> Turfaceous sinter, not volcanic tufa.

### *Comparison with those of Tiwi and Iceland*

The similarity which Roth establishes between the phenomena which produces these concretions and the phenomena which produces those of Iceland would make us believe that they are also similar to those which formed the siliceous cones of Naglagbong in the town of Tiwi, Albay, which we had the opportunity of describing in the "Emanaciones Volcanicas de Malinao", and which we compared also with those of Iceland. However, the white cones of Naglagbong come from the water of saline and transparent lakes, the scale-forming elements of which are found in exclusively chemical solution, while the siliceous *moyas* of Natugnos come principally from waters, which, although they contain also elements in solution, contain mud or *moyas* in mixture or in dilution. Aside from this, in Naglagbong the abundance and the beauty of the siliceous deposits should be attributed essentially to the salts contained in sea water, while in Natugnos we cannot nor is there any necessity of invoking such cause, since the presence of sulphurous vapors in the fumaroles acting on the doleritic rocks suffices to explain the formation of the *moyas* and the relatively scant quantities of silica which their concretions contain. These concretions, without doubt, on account of the fumaroles, have acquired neither the growth nor the predominant siliceous element which they acquired in Naglagbong.

Only by the more ferruginous and clayey nature of the deposits of Natugnos could we perhaps compare them with those of the silicic-ferruginous springs of Naglagbong which produced the "cono rojo" (red cone) but always with the essential distinction that on the latter, salt waters have intervened, although probably at a much lower degree than they have in the springs of the "conos blancos" (white cones).

### *Lupang Puti of Los Baños*

East of Natugnos, at an elevation of 374 meters and already in the water shed of the

Maitim River, there is a place called Lupang Puti (white earth), in which the inhabitants dig small wells, tunnels and large trenches in order to obtain "bianquettos" (white bricks) which are used for whitewashing the buildings in the province and in Manila. Two places, called Matanda (old) and Bata (young), are preferred, for these are small exploitations and in them the rocks are whitened or kaolinized by the action of the fumaroles, which, properly speaking, no longer exist, although it may be noticed that in many places the ground is still very hot. This fact proves that vapors still emit in the interior at a low tension and scatter in or impregnate the crevices and the interstices of the rocks without manifesting themselves in the form of real fumaroles.

The clays, which are perhaps selinitic, are not all perfectly white in these places but are blue, gray, red or yellow in certain points, with pure, uniform or porphyritic tints which do not disappear in kneading. These properties make them appropriate for painting and making stucco for marble and colored jasper imitations.

### *Bitin*

In the barrio of Bitin of the town of Bay, near the Pinquian creek and at an elevation of 240 meters, there are also very intense volcanic emanations in the form of solfataras containing the corresponding "bianquettos", which the natives exploit for whitewashing, as in Lupang Puti, Los Baños.

### *Lupang Puti of Bay*

In this place the volcanic activity is more varied than in Natugnos. In this place which the natives also call Lupang Puti, a short distance south of Pinquian Creek, there is a vast barren place in which many fumaroles, some mild and other strong, issue, producing the hissing sound of gases which pass from a high to a low pressure. Wherever the ground is touched, the temperature is high and in the vicinity of the fumaroles it reaches more than 100°C. All the ground is covered with sulphur deposits of varie-

gated color, the most outstanding of which being white, red and yellow, and with beautiful concretions of sulphur, basic sulphate of iron and of perfectly white and yellow featherlike alum crystals.

#### *Pinquian Creek*

Its activity extends north through several mild fumaroles as far as a small tributary of the Pinquian, near which the energy of these fumaroles recrudescs considerably. In fact, some fumaroles are found with mouths of more than 80 cm. in diameter, which produce true eruptions of water and boiling yellowish liquid mud which are projected to a short distance, producing concretions similar to those in Natugnos and, in addition, sulphur and alum crystals.

#### *Pinagrialan*

Lastly, to the NE of the municipality of Santo Tomas, at an elevation of 253 meters, on the western slopes of Maquiling, there is a place called Pinagrialan, in which another solfatara is found with phenomena and concretions similar to those of Bitin and Puting Lupa, and in which some communal development of the white earth is being made for whitewashing buildings. We need not, therefore, dwell upon its description.

#### *Hot springs*

Let us now proceed to describe the other kind of volcanic manifestations which consist of numerous hot springs found on the flanks of Mt. Maquiling. We can and must consider them as the result of interior fumaroles which, instead of coming out, expend themselves in raising the temperature of the waters of the subterranean streams and increasing their solvent power towards certain substances. The hot springs are, so to speak, the last vestiges of the activity of the volcanic foci.

#### *Aguas Santas (Holy Waters)—its history*

The most important springs and also the best known for their medicinal properties

are those which come out in the town of Los Baños and which were already known by the natives in the time of the conquest and called Mainit by them, which means hot. In 1593 the Franciscans built in this place a small sanatorium, but having had some misunderstanding with the Augustinians, who formerly were in charge of the spiritual administration of the town of Bay, to which Los Baños depended, they, in order to obviate further misunderstanding, obtained its formal concession in 1627 and in 1671 erected a hospital and a chapel named Aguas Santas. A few years later, the Royal Patronage took possession of this health establishment and the State took charge of it till 1727, when it was destroyed by fire. This condition of things remained until the arrival of General Moriones, who proposed to restore it, and for this purpose resorted to public charity and actually built, with the proceeds of the collections, three hothouses, and edifice named "Pabellon del General" (The General's Pavilion) and another of large proportions intended for a hospital, which has never been completed.

#### *Temperature and analysis*

The waters which were used in the old establishment of the friars were conveyed through a short conduit of masonry, which still exists. They leave the conduit at a temperature of 91.32°C., and fall into the ruins of an old piscina constructed along the shores of the lake; here the temperature is reduced to 83.75°C. From the piscina the waters, still steaming, flow and mix with those of the lake.

In an analysis of these waters made in Manila in 1787 by a Frenchman,<sup>11</sup> the exterior and organoleptic character of the waters are described with sufficient exactness, but a much lower temperature than that which we have verified has been noted down for the water of the spring.

The description says thus: "The multitude of springs which come out near the

---

<sup>11</sup> Estado geografico de los PP. Franciscanos, etc.

town called Los Baños have the same origin, but they differ in temperature. The principal spring has a temperature of 67°, according to Reaumur thermometer, while the spring of minimum temperature has 29°. The water is clear, almost crystalline white and its odor is somewhat like that of lye, but its taste when fresh is not unpleasant and one can scarcely notice its salt content. When the water cools due to the loss of a great amount of air it becomes tasteless." In referring to the composition of the water, the description continues as follows: "The analysis made by reaction as well as by evaporation has given the same result. Six lbs. of water have given 101½ grains of residue in this way:

Sea salt, calcareous .....	60	grains
Sea salt, of magnesium .....	2½	"
Sea salt, common .....	26	"
Selenites .....	4½	"
Iron .....	½	"
Calcium, clay .....	8	"
	<hr/>	
	10½	"

In 1877 the study of these waters from the medical point of view was entrusted to the military physician Doctor Franco and his report was published in one of the Manila periodicals. According to said report, the water on leaving the spring has a temperature of 89°C

Supposing that this temperature and that of the Frenchman were taken accurately, since there is no reason to doubt it, we may surmise the remarkable fact that the water which in 1787 had a temperature of only 83.75°C. (67°R.), had 89°C. in 1877 and 91.32° in 1881, that is to say, the temperature of the water is rising.

If this fact could be duly verified, it might lead us to some important geologic conclusion.

In the said report of Doctor Franco the result of the analyses of the waters made by the pharmacist D. Leon Guerrero is also inserted. Here are the results:

From 1,000 grams of water a residue of

the following weight and composition was found:

	<i>gram</i>
Sodium chloride .....	0.60
Calcium chloride .....	0.26
Magnesium chloride .....	0.04
Sodium sulfate .....	0.05
Calcium sulfate .....	0.10
Magnesium sulfate .....	0.03
Silica .....	0.02
	<hr/>
	1.10
Loss .....	0.04

Besides, in the 1,000 grams of water, 0.02 cubic meters of atmospheric air and traces of hydrosulphuric (sulfhidrico) and carbonic acids are found, and also traces of ferrous salts, phosphates and undetermined organic substances.

The same Doctor Franco, who calls these waters *salino-cloruradas-termales*, prescribes them as proper remedies for the following ailments: internally for malarial fevers, kidney and spleen infarcts (obstructions), diarrhea and chronic dysentery, atony (weakness) of the digestive tract, gastritis, chronic hepatitis and other afflictions; as baths or sudatory for rheumatism, gout, muscular atrophy, atonic ulcers and old wounds.

Aside from these springs there are also in Los Baños and in certain parts of Calamba and Bay a multitude of thermal springs of diverse temperature and probably also of varied composition, since in the report of Doctor Franco, the following composition which was determined by the pharmacist who made the former analysis is given for the waters of a spring the location of which is not ascertained:

Solid residue .....	1.14
Ferrous carbonate .....	0.47
Calcium carbonate .....	0.45
Magnesium carbonate .....	0.17
Calcium sulfate .....	0.49
Magnesium sulfate .....	0.35
Sodium chloride .....	0.23
Magnesium chloride .....	0.15
Silica .....	0.38
Undetermined substances .....	0.40 (?)
	<hr/>
Loss .....	0.20
Solid residue .....	3.29

### *Tadlac and Sucot*

In the neighborhood of the hill in which the Alligator Lake is located we have seen many hot springs, some in the margins of the Tadlac Creek with a temperature of as high as 49°C and others to the SSW, in a place called Sucot, with 88°C, temperature and of very ferruginous character, judging from the color of the deposits which they produce and, above all, by the astringent taste of the waters.

### *Mayondon*

At the base of Mayondon Hill several springs with 57°C and 40°C temperature are also seen. The waters of these springs have hardly any taste and do not produce concretions.

### *Bacon*

Likewise, in a place called Bacon, located near the road to Calamba, several springs can be seen emitting bubbles which cannot be produced by water vapor, as the temperature in the middle of the spring is only 58°C. Beside this spring is another with only 44°C temperature.

In the same place, on trying to pry a hard crust which has been deposited apparently by an exhausted spring, a dart of vapor gushed up with force and blew the hammer off our hands and reopened immediately a spring with a temperature of 95°C which probably would cool off gradually.

### *Pansol*

In the neighborhood of Pansol Hill, especially towards the west, numerous springs flow, all of which are almost always ferruginous and more or less thermal, the temperatures which we have verified varying from 33° to 47°C. These springs unite with a small stream which comes from another spring called Tigbi, at a higher elevation, and flow down the hill into the lake.

### *Bucal*

In the town of Calamba, alongside the road which leads to Los Baños, a depression

is found in a place called Bucal<sup>12</sup> which has been formed by the meeting of several springs of moderate temperature, ranging from 32 to 36°C. Towards the lake these springs form a copious stream which is utilized as motive power for the sugar mills situated there.

### *Others*

Lastly, between the towns of Los Baños and Bay and between those of Bay and Calamba, in the plain and in places of medium elevation, likewise a multitude of more or less thermal springs flow, the detailed enumeration of which would not only be tiresome but fruitless. It is sufficient to know that they exist along the Cambantoc, Lalaog and Tigbi rivers and in the plain of Calauan.

### SUMMARY AND CONCLUSION

Summing up the facts and the circumstances which we have just enumerated, one may conclude in the first place that Mt. Maquiling, because of its orographic forms and component rocks, is a recent volcanic mountain in the geologic sense of the word, but, on the other hand, the absence of true effusive rocks in the interior of its crater and in its upper flanks indicate that it has been extinct for a relatively long time, as confirmed by the tradition which is not very ancient in these regions, and by the old vegetation in the crater and slopes of the mountain.

The existence of the Maquiling and Pansol hills and above all that of the Alligator Lake and the effusive rocks which compose them, show also that after the beginning of the activity of the principal focus of Maquiling, and perhaps after its partial or total extinction, other foci of less intense activity subordinated to the principal focus have appeared, the last of which is, without doubt, the anular craterlike hill of the Alligator Lake. This lake aside from the aforesaid effusive type of its rocks, still retain the characteristic rapilli, cinerites, and peperinos of recent activity.

---

<sup>12</sup> Tagalog word for fountains or spring.

Probably also, during the interval between the two events, that is between the beginning and extinction of the volcanic activity of Mt. Maquiling, a gradual rise of the adjoining territory including the volcano itself began, because it seems very credible, to us at least, that the mantle of tufas which surround the Maquiling is not of sub-aerial formation but has been deposited at the bottom of a sea which was not very deep and was somewhat stirred, if one is to judge by the big and small haphazardly inter-mixed but perfectly stratified pieces of tufa which composed the volcanic "peperinos" (consolidated volcanic ejecta) and conglomerates of the mountain which do not only exist at the base of Mt. Maquiling, but extend over the southern shore of the lake and the left bank of the Pasig River as far as the outskirts of Manila. Otherwise, it could not be satisfactorily explained how the mere production of volcanic ash carried away by the winds and waters, with the aid of consequent corrosions, could have produced such uniformity and relative compactness of the texture and structure of the tufas and peperinos and such uniformity of the strata, separated by true beds of subaqueous formation.

We believe also that, in favor of this point of view, many other reasons such as the extension and composition of the tufaceous strata of Central Luzon could be adduced, but we do not indicate them here because they would have to be related to other foci which bound, so to speak, the great central plain from the Arayat to the Banahao Mt.

The extinction of the exterior manifestations and, so to speak, effusive activities of the secondary foci of Mayondon, Pansol, the hill of the Alligator Lake and several others in other parts of the mountain, did not cause the sudden extinction of the central interior activities. Much weakened to produce new ruptures and powerful emission of gases and liquids and, we might say, pasty rocks, they limited themselves to issue through the weakest part of former ruptures and through those nearest the principal and

secondary foci or at least through parts that offer the least resistance. These exterior manifestations also issue vapors charged with acid and corrosive substances which metamorphosed the volcanic rocks that have already cooled off, producing in them varied effects. The vapors sometimes succeed in reaching the surface to form solfataras, and at other times merely raise the temperature of the subterranean waters, saturating them with vapors and corrosive substances and making them able to dissolve other new substances contained in the rocks which they encounter in their subterranean passages. These passages likewise become metamorphosed in a greater or smaller zone.

The manifestations of these volcanic phenomena can be plainly seen in Natugnos, in the Pinquian stream, in Pinagrialan and the two Puting Lupa, the principal and dominant points of the solfataric activity, and in the numerous and very hot springs which issue along the shores of Laguna de Bay, the weakest of these solfataric manifestations.

Can we, therefore, consider Maquiling as a completely extinct volcano?

Unfortunately, there is no sign by which we can be sure of the true extinction of a volcanic focus, in the sense that no paroxysm similar to that which produced the volcanic mass itself will recur. While its external manifestations of igneous and gaseous emanations are still manifest with certain degree of energy, as they are in Maquiling, we believe that we cannot or should not consider a volcano completely extinct. It could be said that Maquiling is a volcano which does not produce true eruptions today and that the exterior of its crater is completely extinct, but we must not forget that Spartacus camped with 10,000 gladiators in the interior of the crater of Vesuvius which was then covered with beautiful vegetation, and that today this crater is full of other substances and is the scene of another kind of events which are more natural and certainly had not been foreseen by Spartacus and his gladiators.

# George M. Hunt and the Forest Products Laboratory

By RAFAEL MOLINO

Mr. George M. Hunt, adviser and consultant to the new Forest Products Laboratory at the Forestry Campus, College, Laguna, finished his Bachelor of Science in Chemistry at the University of California. He passed the Board in 1911 and was immediately assigned to the U.S. Forest Service at San Francisco. In 1913, he was transferred to the Forest Products Laboratory at Madison, Wisconsin. For many years, he was Chief of the Division of Wood Preservation of the Laboratory and in 1946, he became Director of the entire Laboratory which, at that time, had over 500 employees. He retired in 1951 after 40 years of service. He remained for two years longer, however, as a consultant.

Sometime last year the United Nations' Food and Agricultural Organization headquarters at Rome cabled him, asking him if he is interested in coming to the Philippines as an adviser and consultant to the Philippine Forest Products Laboratory. His reply was favorable and Mr. Hunt arrived here last April, 1954. He has at present a temporary office at the Division of Forest Investigation pending the completion of the new Forest Products Laboratory building. Here, he will assist in building up the Laboratory's equipment, organizing its staff and starting the program of research. Among the many problems to be tackled after the building is finished, he pointed out the following:

1. Preparation of a long list of additional equipment and apparatus.
2. Beginning the organization of the staff. This will be small at first but is expected to grow during the year.

3. Applications for jobs. There are more applicants than the available positions can accommodate. These positions need technically trained men but most applicants do not have the required training and experience.

4. The problem of installing the machines after the building is finished.

5. The problem of using the equipment after it is installed, and the staff, to produce research results.

"The Philippines," he pointed out, "long has needed such an institution and now that she has it, it must diligently work to serve the country's need. Only a few of the 3,000 species of trees in the Philippines are being commercially used. In the United States, there are only about 400 to 500 species to choose from."

"Among the objectives of the Forest Products Laboratory is to learn the different properties of Philippine woods, how they compare with each other and with the woods of other countries, and what they can be used for. Most of the Philippine woods are short-fibered. If we can only find long-fibered hardwoods to mix with the short-fibered, it would be a good combination for the manufacture of pulp and paper and thus make the Philippines more nearly self-supporting in the field."

"In the Philippines," he said, "we have not found a wood that can compare with the American Hickory for toughness. But with so many species to select from, I hope we can find one for it will be very useful for tool handles and other purposes where toughness is of great importance."

*(Continued on page 44)*

## BIOGRAPHY OF . . .

(Continued from page 22)

danao. In various other ways he has demonstrated a positive interest in the welfare of the local boyhood through volunteer service in Scouting. A real Scouter and leader."

On the occasion of the Golden Anniversary of the Bureau of Forestry on April 14, 1950, Agapito L. Cenabre was a recipient of service award diploma and special gift from Secretary Placido Mapa of the Department of Agriculture and Natural Resources. The service award was in recognition of continuous, faithful and meritorious service rendered to the Bureau for not less than 25 years, while the special gift was for attaining 42 years of service in the same Bureau.

"Tito" had twice made a vow with the seventh sacrament; however, in both cases he was not blessed with any child.

Tito had applied for retirement effective on August 18, 1953, but his services was indefinitely extended by the President of the Philippines in accordance with the decision of the Cabinet. He finally got retired on February 28, 1954.

But this biographer has only narrated so much of what he and other people know about and think of Cenabre. The following extract from a letter of Tito on his retirement, will give a direct insight of the man on his sense of duty and relation with his co-employees.

"\* \* \* I am now retired since February 28, 1954. Of course the reality of such severance is poignant indeed minimized only by the thought that I always did my best in the interest of our country and the forestry profession.

"I cease to be an employee of our bureau, but my love for forestry will always remain, as well as the warm association I had with you. Above all, of course, I wish to thank you and those who have worked with me directly during all these years for their co-operation, and those other co-workers in the Bureau with whom I have come in contact, for all the help, courtesy and understanding extended to me.

"This severance is, however, not the part-

## COOPERATIVE POLICY . . .

(Continued from page 20)

need of a forest. It is perhaps only in this way that we can enlist the support of almost everybody, the rich and the poor, the men and the women, and probably even going to the extent of winning the sympathy of our legislators, who are empowered to formulate our laws and to appropriate our revenues and taxes for such projects deemed necessary for public improvements. Once public sentiment on the preservation of our forests is created, the continuous existence of the Philippine Forests is assured.

### Conclusion

In the furtherance of forestry in the Islands, an individual can cooperate with the government in many ways without the expense of his personal money, yet the help he has made for the cause of forest conservation finds no equal in money value.

---

## SOME ANTIMALARIAL . . .

(Continued from page 24)

Sollmann, "Quinine, Other Cinchona Alkaloids and Other Anti-malarial Drugs", *Manual of Pharmacology*, 7th Ed., 504-24.

Taylor, N., *Cinchona in Java*, New York: Greenberg, 1945, 79pp.

Wood, H., *United States Dispensatory*, 24th Ed., 1342-44, 1947.

Woodward, R. B. and Doering, W. E., "Total Synthesis of Quinine", *Journal of American Chemical Society*, 66:849, 1944.

Wiselogle, *A Survey of Antimalarial Drugs*, Vol. 1, 1941-45.

Valenzuela, et al., "Constituents, Uses, and Pharmacopeias of Some Philippine Medicinal Plants", *Philippine Journal of Forestry*, 6:39, 1949.

"Daraprim: New Antimalarial Drug", *Science News Letter*, November 22, 1952.

---

ing of my ways from yours. I find my mind and body still responsive to our work and I believe I can still be of service to forest users in a private way. \* \* \*

Tito will stay in Manila for a while to work his way privately helping forest users as mentioned in the last quoted paragraph above. He will open his office as Consulting Forester at Capitol Theater Building, R-205, 31 Escolta, P.O. Box 1836, Manila.



# NOW IT CAN BE TOLD

by

JULIAN R. MEIMBAN, Jr.  
*Junior Forester, Bureau of Forestry*

One of the oldest and best known schools for the instruction of tropical forestry in the Far East proudly stands in Makiling. The School of Forestry, the only school of its kind in the Philippines founded in 1910, was formerly a part of the College of Agriculture, University of the Philippines. By legislation in 1916 it finally became an independent unit of the University. Designed and built for about 50 students, the school saw an ever-increasing student population through the years, and in March, 1954, at the close of the academic year, records show that it accommodated over 220 students — 4-1/2 times greater than what its original capacity could accommodate. There was therefore an urgent need for more room and space for classroom instruction. Because of lack of classroom space some classes had to be conducted outdoors to remedy the situation. But during the rainy season, what with the Makiling weather, it is impossible to hold classes under the trees. A bigger building was the only answer.

The MSA technical consultant on forestry in the Philippines and the committee of the College of Forestry, therefore, recommended the reconstruction and extension of the college building. Under the FOA-PHILCUSA Counterpart Projects No. 482, the amount of ₱167,500 had been appropriated for the counterpart fund to match one-half of the estimated amount. However, said amount was not going to be released for the purpose unless a counterpart fund by the University of the Philippines was made available on or before June 30, 1954.

But was the University of the Philippines

able to put up the much needed counterpart fund?

The Forester-in-Charge of the College lost no time in seeing the President of the University, and when he returned with the news that the University was not in a position to put up a counterpart fund for the college of forestry building, the faculty and the student body put their heads together and decided that a bill be drafted asking congress the needed sum for the counterpart, and that a resolution asking it to pass the bill so that the counterpart fund of FOA-PHILCUSA aid in the amount of ₱167,500 would not be lost. The President of the Student Body of the College, together with the adviser, drafted the resolution which was made in printed form signed by the faculty and the student body, and copies of it were distributed to the different congressmen and senators.

As suggested by the President of the University of the Philippines, the Bureau of Forestry prepared the bill for the counterpart fund. Atty. Felix Mabbayag drafted the bill, later known as Bill No. 324 which was introduced by Congressman Gonzales of Laguna. A few days before the bill was presented in Congress, the Forester-in-Charge of the College banking on the loyalty of the alumni wrote personal letters to all of them through the Provincial foresters requesting them to either speak or to write to their congressmen, and senators on behalf of the College of Forestry. The Forestry Alumni Ass'n followed suit and a strong appeal by President Eugenio de la Cruz was sent to every alumnus. Even the *Philippine Collegian*, official organ of the U.P. Student Council, published articles concerning the situation of the College of For-

estry. Copies of the *Collegian* editorial written by Mr. Romeo Teston strongly urging all parties concerned to work for the College of Forestry, together with copies of the Forestry Supplement of *Forestry Leaves*, were distributed in Congress before the bill was taken up for the third reading.

A handful of seniors with faculty members of the College, held a party for the faculty at the Makiling Swimming Pool on the eve of the Junior Prom. That was March 22, 1954. And Governor Chipeco's unexpected presence made the affair more colorful. The faculty and the graduating seniors took the opportunity of requesting the governor to bring to the attention of the President of the Philippines the situation of the College Building. The governor jokingly said that he was going to prepare a brief that same evening for the College and would be the "messenger" to deliver it to the President. The following day he not only spoke but delivered a very eloquent brief to the President on behalf of the College, urging him to certify to the urgency of the bill.

His letter to the President was as follows:

Republic of the Philippines  
PROVINCE OF LAGUNA  
Santa Cruz

Office of the Governor

March 22, 1954

Hon. Ramon Magsaysay  
President of the Philippines  
Malacañang, Manila

My dear Mr. President:

This is an appeal for a very worthy cause. This involves no particular person nor any individual entity. This involves the forgotten College of Forestry, an institution from which come more than 75% of the officials and employees of our own Bureau of Forestry, not to mention the hundreds of key men engaged in the lumber industry, both public and private.

I wish to inform you, Mr. President, that under the FOA-PHILCUSA Counterpart Project No. 482, the amount of ₱167,000.00 was appropriated for the very noble purpose of financing one-half of the estimated amount needed to reconstruct and expand the school building of the College of Forestry in Los Baños, this province. There is no further need of explaining here that this amount was set aside for

the afore-mentioned purpose because it appears very evident to the FOA-PHILCUSA authorities that the necessity was clear for rehabilitating and improving the said school building.

The sorry part about this appropriation, however, is that the amount set up will not be released but will instead be withdrawn if...if no counter-part fund of ₱185,000.00 is similarly raised and appropriated by our own government to defray the other half of the estimated cost. In other words, the first one-half put up by the FOA-PHILCUSA will be useless if we will not take advantage of it. This we can do by appropriating from our own funds the other half of the needed amount.

What other facts I want to explain to present to you the clearest and fairest view of the actual situation can best be pictured to your kind and reasonable mind by the enclosed copies of (1) a Resolution by the College of Forestry Faculty and Student Body Urging Congress to Approve a Bill for the Appropriation of ₱200,000.00 for the Rehabilitation and Expansion of the College of Forestry Building in Los Baños, Laguna; (2) Resolution of the Board of Directors of the College of Forestry Alumni Association, U.P., Requesting Approval of House Bill No. 324 Appropriating ₱200,000.00 for the Rehabilitation and Enlargement of the College of Forestry Building in Los Baños, Laguna; and (3) Committee Report No. 181 in connection with House Bill No. 324 pertinent to the same subject.

I therefore would like to appeal to you to please make House Bill No. 324 an administrative measure and if possible, certify to its urgency to insure its immediate passage and approval. It is certainly a pity and fatality if the ₱167,000.00 already set to be poured out to us by the FOA will not be realized for the purpose it is destined to go due only to our own sluggishness and indifference to the actual needs of our own Bureau of Forestry, in general, and the College of Forestry, in particular.

Your kind attention and usual prompt decision on this point is very much awaited by all of us here in Laguna. We trust that it will not take you very long to realize the tremendous importance of this matter.

Anticipating your full cooperation, please be assured of our sincerest thanks and regards.

Very sincerely yours,

(Sgd.) DOMINADOR E. CHIPECO  
Governor

The chronology of events from the introduction of the Bill to its final signing by President Magsaysay is as follows:

1. Introduced by Congressman Jacobo Gonzales on January 28, 1954.

2. Referred to Committee on Public Works the same day.

3. Reported (Committee Report No. 181) recommending approval, with amendments on March 12, 1954.

4. Referred to Committee on Appropriations by order of the House on May 3, 1954.

5. Reported (Committee Report No. 687) recommending its approval without amendments on May 5, 1954.

6. Passed on second and third readings on May 11, 1954

7. Sent to the Senate the same day.

8. Passed by the Senate without amendment on May 14, 1954

9. Approved by the President June 2, 1954.

10. Republic Act No. 989.

\* \* \*

Third Congress of the Republic  
of the Philippines

First Session

HOUSE OF REPRESENTATIVES

H. No. 324

Introduced by Congressman Gonzales

EXPLANATORY NOTE

The enclosed bill seeks the appropriation of ₱200,000 pesos for the reconstruction and expansion of the College of Forestry building in Los Baños, Laguna. Under the FOA-PHILCUSA Counterpart Project No. 482, the amount of ₱167,000 has been appropriated under the Counterpart fund to meet one-half of the estimated amount needed in the reconstruction and expansion of said building. This counterpart fund will not be released for this purpose unless the amount provided for under this bill is made available.

The main purpose of this bill is to rehabilitate and enlarge the present College of Forestry building which is now too small to accommodate the present enrollment. It is expected that more students will enroll in the future as there is a demand for graduates of this College both in the government service as well as in the lumber industries. This institution was primarily established to train men for the service of the Bureau of Forestry, but because of the expansion of the lumber industry and the industrialization of forest products, graduates are drawn into these phases of work. In fact the expansions in the government service and in private enterprises are such that there is an urgent need for more technical men to fill up the demand. The rehabilitation and expansion of the College of Forestry building will take care of increasing enrollment of students who in due time will go into government service and private enterprises.

In view of the foregoing, and in order to encourage desirable and technically trained men to take up

the forestry profession and to enhance the advancement of forestry education in the Philippines, the approval of this bill is hereby recommended.

(Sgd.) JACOBO Z. GONZALES  
Congressman, First District,  
Laguna

\* \* \*

Third Congress of the Republic  
of the Philippines

HOUSE OF REPRESENTATIVES

H. No. 324

Introduced by Congressman Gonzales

AN ACT

TO APPROPRIATE THE SUM OF TWO HUNDRED THOUSAND PESOS FOR THE RECONSTRUCTION AND EXPANSION OF THE COLLEGE OF FORESTRY BUILDING IN LOS BAÑOS, LAGUNA, AND FOR OTHER PURPOSES.  
*Be it enacted by the Senate and House of Representatives of the Philippines in Congress assembled:*

Section 1. There is hereby appropriated out of the funds in the National Treasury not otherwise appropriated the sum of two hundred thousand pesos which shall be expended by the President of the Philippines for the reconstruction and expansion of the College of Forestry building in Los Baños, Laguna; for the purchase of necessary laboratory and office supplies and equipment and for such other expenditures as may be deemed necessary to carry out properly and effectively the purpose of this Act: *Provided*, That any unexpended balance of the amount herein appropriated at the end of each fiscal year shall be available for the same purposes in succeeding years until the same is exhausted.

Sec. 2. This Act shall take effect upon its approval.

Approved,

\* \* \*

Third Congress of the Republic  
of the Philippines

First Session

HOUSE OF REPRESENTATIVES

COMMITTEE REPORT No. 181

Submitted by the Committee on Public Works, on  
March 12, 1954;

Re: H. No. 324;

Recommending its approval, with amendments.

Sponsors: Congressmen Gonzales and Moreno.

Mr. Speaker:

The Committee on Public Works, to which was referred the Bill (H. No. 324—3rd C.R.P.), introduced by Congressman Gonzales, entitled:

AN ACT

TO APPROPRIATE THE SUM OF TWO HUNDRED THOUSAND PESOS FOR THE RECONSTRUCTION AND EXPANSION OF THE COLLEGE OF FORESTRY BUILDING IN LOS BA-

NOS, LAGUNA, AND FOR OTHER PURPOSES, has considered the same and has the honor to report it back to the House with the recommendation that said Bill be approved with the following amendments:

1. On line 1, substitute the word "appropriated" with **AUTHORIZED TO BE APPROPRIATED IN THE ANNUAL PUBLIC WORKS ACT**;
2. On line 3, substitute the words "two hundred thousand pesos" with **ONE HUNDRED EIGHTY-FIVE THOUSAND PESOS TO CONSTITUTE AS COUNTERPART FUND**;
3. On line 6, change the semi-colon (;) after the word "Laguna" to comma (,), and then between the comma (,) and the word "for," insert the following: **WHICH PROJECT IS INCLUDED IN THE PHILCUSA PROGRAM**;
4. Amend the title of the bill so as to read as follows:

**AN ACT AUTHORIZING THE APPROPRIATION OF THE SUM OF ONE HUNDRED EIGHTY-FIVE THOUSAND PESOS FOR THE RECONSTRUCTION AND EXPANSION OF THE COLLEGE OF FORESTRY BUILDING IN LOS BAÑOS, LAGUNA, AND FOR OTHER PURPOSES.**

Respectfully submitted,

(Sgd.) **FLORENCIO MORENO**  
*Chairman*  
*Committee on Public Works*

\* \* \*

H. Bill No. 324  
Appropriation Committee (CR 687)  
**MALACAÑANG**  
Manila

April 30, 1954

Gentlemen of the Congress:

Pursuant to the provisions of Article VI, Section 21 (2), of the Constitution, I hereby certify to the necessity of the immediate enactment of a bill entitled:

**AN ACT TO APPROPRIATE THE SUM OF TWO HUNDRED THOUSAND PESOS FOR THE RECONSTRUCTION AND EXPANSION OF THE COLLEGE OF FORESTRY BUILDING IN LOS BAÑOS, LAGUNA, AND FOR OTHER PURPOSES.**

Respectfully,  
(Sgd.) **RAMON MAGSAYSAY**

The House of Representatives  
Congress of the Philippines  
Manila

Third Congress of the Republic  
of the Philippines

First Session

**HOUSE OF REPRESENTATIVES  
COMMITTEE REPORT NO. 687**

Submitted by the Committee on Appropriations, on  
May 5, 1954

Re H. No. 324

Recommending its approval without amendment  
Sponsors: Congressmen Gonzales, Fornier, Rodriguez,  
Jr. and Mitra

Mr. Speaker:

The Committee on Appropriations, to which was referred the bill (H. No. 324—3rd C.R.P.), introduced by Congressman Gonzales, entitled:

**AN ACT**

**TO APPROPRIATE THE SUM OF TWO HUNDRED THOUSAND PESOS FOR THE RECONSTRUCTION AND EXPANSION OF THE COLLEGE OF FORESTRY BUILDING IN LOS BAÑOS, LAGUNA, AND FOR OTHER PURPOSES,**

which has been previously reported by the Committee on Public Works as per Committee Report No. 181, has considered the same and has the honor to report it back to the House with the recommendation that the said bill be approved without amendment.

Respectfully submitted,

(Sgd.) **TOBIAS FORNIER**  
*Chairman*

*Committee on Appropriations*

The Honorable  
The Speaker  
House of Representatives  
Manila

\* \* \*

February 23, 1954

**MEMORANDUM for the President  
of the Philippines:**

House Bill No. 324, sponsored by Congressman Jacobo Gonzales, seeking an appropriation of ₱200,000.00 for the rehabilitation and extension of the College of Forestry building, has been presented to Congress for consideration. This bill affects one of the most important units of the University of the Philippines from which the country draws the men to take charge of our vast forest resources. The Bureau of Forestry personnel is composed of men who studied and were trained in the College of Forestry.

Today this College is facing a very critical period in its history for lack of classroom space, equipment and faculty. The present building was constructed in 1928 to accommodate from 60 to 70 students. During the first semester of 1953-1954 the enrollment of this College rose up to 230. It is evident

that it cannot accommodate all the students that are interested in the forestry profession. It cannot fill the demand of the Bureau of Forestry for more forestry-trained personnel as well as that of the lumber and allied industries. For lack of classroom space, the faculty have to conduct their classes outdoors, but this is only possible when the weather is fair.

The FOA-PHILCUSA have jointly found the necessity of giving aid to the College and therefore, approved the granting of an allocation in the amount of ₱167,000.00. The University of the Philippines was supposed to match this amount but owing to lack of funds it deemed it necessary that the bill No. 324 should be sponsored and presented in Congress. Failing to put up the counterpart on or before June 30th this year would mean the reverting of the aid to PHILCUSA.

As this bill vitally affects the training of young men who will be entrusted with the conservation and wise utilization of our forest resources, one of the most important assets of our national economy, your favorable recommendation of this bill as urgent is respectfully requested.

SALVADOR ARANETA  
*Secretary of Agriculture and  
Natural Resources*

\* \* \*

April 12, 1954

President Ramon Magsaysay  
Malacañang  
Manila

My dear Mr. President:

As President of the Philippine Coconut Planters Association, I found out that vast areas in the Philippines, especially the Bondoc Peninsula of my Province of Quezon, are now wasted where only shrubs and grasses grow due to *kaiingin* system and unlawful deforestation. With this anomalous situation now obtaining in my province in mind and to avoid the occurrence of this similar situation, I deem it proper to speak in favor of House Bill No. 324 now pending calendaring.

The matter treated herewith is also racing with time because if we do not take advantage of the assistance up to June 30th this year, said aid will be withdrawn. Provisions for taking advantage of this aid is embodied in the enclosed House Bill No. 324 which affects the College of Forestry. For and in behalf of the College of Forestry I wish to have this bill pushed through.

I need not repeat here the benefits that would be derived from the approval of this bill. Suffice to state that your economic program could be accelerated. In this connection, may it please your honor to certify this bill as an urgent measure.

Assuring you of the gratitude of the people who will be the recipient of the benefits of the approval

of this bill and of my highest respect and esteem, I wish to ever remain,

Very respectfully yours,  
(Sgd.) VICENTE CONSTANTINO  
Governor

*President, Philippine Coconut Planters  
Association*

\* \* \*

H.R. No. 4-B

Congress of the Philippines  
HOUSE OF REPRESENTATIVES  
Manila

Office of the Secretary

May 11, 1954

Mr. President:

I have been directed to inform your Honorable Body that the House of Representatives on May 11, 1954, passed the following House Bill (H. No. 324—3rd C.R.P.), entitled:

AN ACT TO APPROPRIATE THE SUM OF TWO HUNDRED THOUSAND PESOS FOR THE RECONSTRUCTION AND EXPANSION OF THE COLLEGE OF FORESTRY BUILDING IN LOS BAÑOS, LAGUNA, AND FOR OTHER PURPOSES;

in which it requests the concurrence of the Senate.  
(Sgd.) N. PIMENTEL  
Secretary, House of Representatives

It is very difficult to pinpoint who was the person or the persons largely responsible for the actual passage of the Bill and the certification to its being a "must bill" by the President, as well as the getting of the certification by the Budget Commissioner for the release of the counterpart funds from the 1945-1955 budget, as at the time the bill was approved the Budget Office frankly admitted that there were no available funds then.

The College faculty, alumni, and student body however, acknowledge with heartfelt thanks the help of Congressmen Gonzales, Fornier, Mitra and Rodriguez, Jr. for sponsoring the Bill; Secretary Araneta for his memorandum to the President requesting him to certify to its urgency before Congress; Speaker Laurel for recommending to the President that it should be certified as an urgent bill; Governor Chipeco for seeing personally the President on our behalf; Governor Constantino for sending a letter of appeal for our cause; Dean Amos, Prof. Mabesa, Forester-in-Charge, and Forester Cenabre,

who patiently followed the progress of the bill from day to day in Congress; the alumni and friends who wrote and spoke to their Congressmen in behalf of the Bill; and to all who do not wish their names to be mentioned and who in one way or another also helped in the passage and implementation of the Bill.

House Bill No. 324 eventually became Republic Act No. 989 upon its signing by President Magsaysay on June 2, 1954.

When the Forester-in-Charge went to see the President of the University of the Philippines to show him the certification of the Budget Commissioner for the release of the counterpart fund as embodied in Act No. 989, which after so much red tape, was obtained through the explanation of Dr. Paul Bedard, FOA technical adviser to the Bureau, Dr. Tan said, "Congratulations to the faculty, alumni, and student body for their wonderful work. Such a small school to be able to lobby in Congress and get money for its new building, deserves my heartiest congratulations. I was skeptical that you would succeed. As a matter of fact, at the very beginning, I had a feeling that the bill was bound to fail in Congress."

And when the new and beautiful building shall open its doors to welcome the honored guests and the alumni at its inauguration ceremonies, we shall tell again how a small college, so often called the "Forgotten College" in the past, took a chance when it presented a bill asking for the counterpart fund. Nobody then gave it a Chinaman's chance that it would succeed, for Congress was believed to be at the time in no mood to tax the already taxed purse strings of the government. Perhaps the congressmen realized the importance of our College and its graduates to the national economy. And the lobbying done merely consisted of writing and speaking and convincing everyone of them that the bill vitally affected the training of young men who would be entrusted to carry on the task of conserving our forest resources, one of the most important assets of our national economy.

This is the simple story of how a small College left to struggle for itself was able to get what it wanted. It is also the story of its alumni, their love for their Alma Mater and their loyalty to it. It is also the story of faith, patience, courage and prayer answered.

---

GEORGE M. HUNT . . .

*(Continued from page 37)*

When asked for suggestions to solve these problems and make the Forest Products Laboratory efficient, he said, "This is an institution that will be in operation for 100 or more years and its work will never be finished. As present problems are solved, new problems will arise, just as in other fields of research. The cost of wood will change and so will the economic and industrial condition of the country. Wood will become increasingly important as a source of raw material for the chemical industries. The Laboratory must always be a pioneer in these developments.

"The Laboratory, in order to accomplish its purposes, must have a staff of competent

people who are devoted to their tasks and who work together in harmony as a team. It must have good equipment. It must have enough money to operate at a reasonable level. It must have good leadership and freedom to concentrate on technical tasks without regard to politics. Since there are very few people in the nation who are trained for forest products research, the early years of the Laboratory must be training years.

"In the beginning, the staff will consist of only 30 to 40 people but it should grow fairly rapidly and ultimately may have from 100 to 200. The wood utilization problems of the country are big enough and broad enough to keep such a staff occupied indefinitely."

# The Signing of H. B. 324



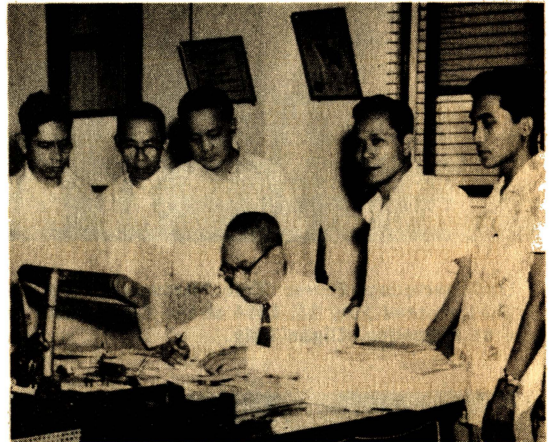
President Magsaysay signing H.B. 324. L.-R.—Unidentified, For. T. Santos, Cong. J. Gonzales (sponsor of Bill) Prof. C. Mabesa, Director F. Amos and For. L. Aguilar.



Senate Pres. Eulogio Rodriguez signs. L.-R.—Cong. J. Gonzales, Ex-Rgr. L. Serrano, Prof. C. Mabesa, For. L. Aguilar and For. T. Santos.



Speaker Jose Laurel, Jr. signs. Among the witnesses are C. B. Gov. M. Cuaderno, Flr. Ldr. A. Tolentino, Cong. J. Gonzales, Prof. C. Mabesa, For. L. Aguilar and For. T. Santos.



The Senate Secretary signs. Interestingly watching are For. L. Aguilar, Prof. C. Mabesa, Cong. J. Gonzales.



Cooling off after the signing of H.B. 324 in Congress. Clockwise: For. T. Santos, Director F. Amos, Cong. J. Gonzales, Prof. C. Mabesa and For. L. Aguilar.

# Here and There



**SECOND PRIZE PAVILION**  
Leyte Carnival and Fair  
Tacloban City  
(July 26 to July 4, 1954)



**Undersecretary Ferrer** Tree "Araucaria"—(*Araucaria exelsa*) planted July 13, 1954 at the Community Center site at Kamaque, Iligan City.



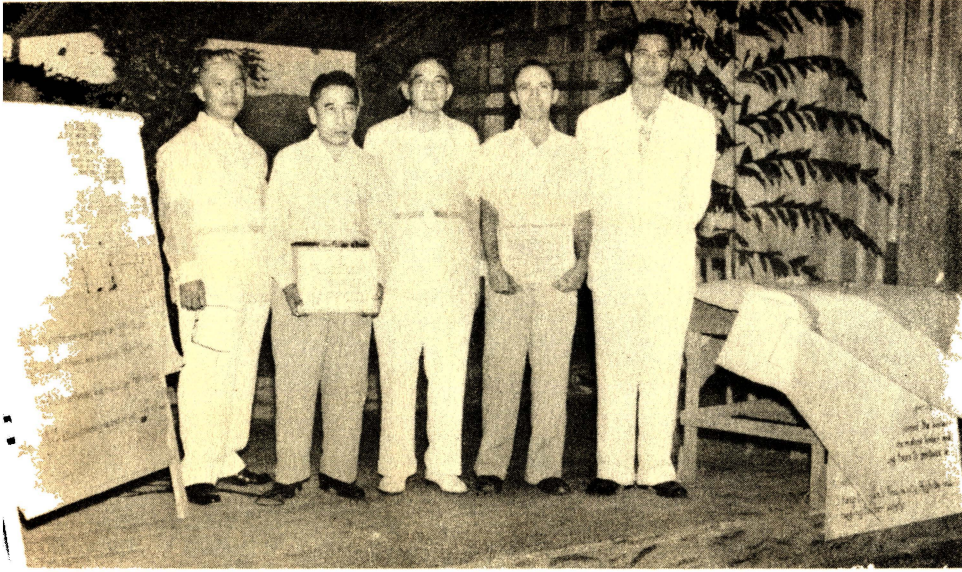
**Rgr. F. Payumo, O.C.,** Sto. Tomas Ref. Project, Sta. Fe, Sn. Marcelino, Zambales, explains his planting plan on reforesting barren areas to **Director: F. R. Amos** and **Mayor of San Marcelino.**



**Director Amos** in a jovial mood at birthday party tendered in his honor.



## ....here and there



Representatives of the Western Mindanao Lumber Co. Inc. and the West Basilan Timber Inc. after receiving the citations as Operator Protector & Operator — Conservator of the year 1952-53 in Basilan City. Board of judges composed of City Mayor N. Valderroza, Foresters N. P. Lalog and H. B. Marcelo.



Oath taking of the Board of Directors of the Forestry Circle, Inc. for the fiscal year 1954-1955 held at the Savory Luncheonette on July 31, 1954. L. to R. Maximo Reyes, business manager; Vicente Leonor, secretary; Tiburcio S. Sevevo, vice-chairman; Roman R. Aquino, chairman; Aurora C. Reyes, treasurer; Nemesio Parel, auditor; Segundo P. Fernandez, PRO; Genaro Borromeo, Sgt.-at-arms; Florencio Asiddao, adviser; Director Felipe R. Amos, inducting officer.

Director Felipe R. Amos with provincial officials of Zambales headed by Gov. Villanueva at the Sto. Tomas Ref. Project, Sta. Fe, San Marcelino, Zambales. With the Director's Party were Sr. For. Florencio Asiddao, For. Daniel Allas, For. Teofilo A. Santos and project accountant Antonio Quejado.



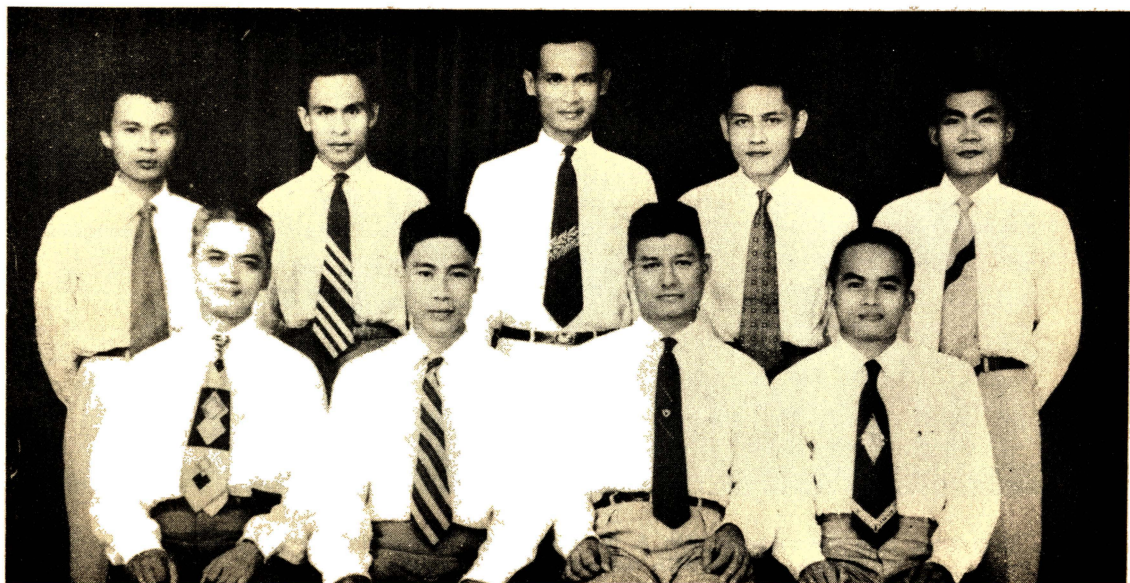
# COLLEGE ORGANIZATIONS



THE FACULTY— STUDENT BODY ORGANIZATION, COLLEGE OF FORESTRY, U.P.



U.P. College of Forestry Coeds and their adviser, Miss H. Jundos. L.-r. (sitting)—Maico, E.; Banaña, T.; Galicia, J.; Cañeda, G.; Miss Jundos, H.; Versoza, C.; Felix R.; Gerardo, J.; and Espregante, M. Standing L.-r.—Tidalgo, E.; Praico, M.; Ilagan, R.; Flores, V.; Chavez, R.; Alombro, M.; Sumague, P.; Amis, H.; Sanchez, R. Not in the picture: Burton, V.



Senior Class Organization and their Adviser, Prof. Jose B. Blando. L.-r. (standing): A. Cabanday, E. Llapitan, P. Arayasastra, M. Gulle, F. Mauricio. (Sitting): Prof. J. B. Blando, P. Bautista, K. Aganidad, B. Batoon.



Junior Class Organization with their adviser, Dr. A. V. Manza. L.-r. (standing): G. Batoon, R. Baggayan, J. Tadle, Q. Tan, A. Eugenio, P. Galinato, F. Pollisco, F. Empedrad, J. Galo, (sitting): M. Tobias, R. Espiritu, M. Battad, Prof. J. B. Blando, Dr. A. V. Manza (Adviser), Prof. C. Mabesa, G. Cañada, Miss H. Jundos, F. Malvas, Jr., S. Alegre Jr., M. Alconcel, (Not in picture) F. Abraham Jr.



Sophomore Class Organization with their Adviser, Dr. A. Manza.



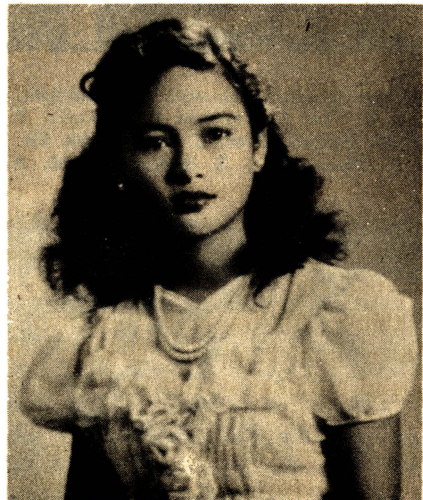
**Zeta Beta Rho, with their adviser, Dr. A. V. Manza, the Forester-in-Charge Prof. C. Mabesa; F.S.B.O. adviser, Prof. Jose B. Blando, and UPSCA adviser, Miss H. Jundos.**



**FRESHMEN CLASS ORGANIZATION**



**Forester AGAPITO CENABRE**



**Miss REMEDIOS FELIX**  
*Sweetheart*  
**Zeta Beta Rho Fraternity**

# A SOPHIE SPEAKS

ROMEO ULANGKAYA

I am not a college scholar, but I passed all my subjects. Although this is an accomplishment not to be crowed about, still it is something not to be sneezed at, either. If you only take a stock of the mortality of the College freshies, you'll note that almost fifty per cent go home before they get the ranger's certificate. Why? It is not because the scholastic rules are tough, the faculty members tough, the subjects tough, or the freshies mushy-brained. No, not by a long shot. The long and short of it is just this: The new students don't know how to study. Some are still deluded with the idea that they are in the high school where one can pass without even as much as scratching one's back. Some relegate their preparations to the eve of exams, relying on their old friend, Mr. Cram. Some believe that there's a holy ghost which infuses one with wisdom at the quiz hour. Some . . . well, why go further. After all, you know the different types of students that make the schoolworld, a small world indeed, but rich in brain specimens. As I said before, I am no scholar but believe you me when I tell you that more is accomplished by wise planning and time budgeting than all the cramming and cribbing put together. Cramming is OK, but after the exams you get the KO. Cribbing is fine as long as your Professor is near sighted and his assistant dumb, so dumb he thinks Alfalfa is a fraternity or UPSCA is a branch of the K.K.K. So cramming and cribbing should be out of the question.

Now, going down to brass tacks. I'm supposed to let you into the secret of successful studying.

In the first place, it will be a wise step for you to have a study schedule. A definite time to study—a definite time to go to bed—a definite time to get up—a definite time to take your meals. If you have exercises to write, don't wait for your pen to tickle your ears and tell you to get moving. Don't wait for the inspired moment to write your themes. Themes are products of perspiration not inspiration. Even sitting besides a charming classmate cannot inspire you with beautiful thoughts. Remember gals are the antonyms of clocks. While these remind you of the time, Eve's daughters make you absent-minded.

So, young Romeo, forget the gals in the meantime. Figures may be good to study, but too much concentration on figures have dizzying effects. One fellow cannot imagine how he became cross-eyed since he had been seeing 3-D figures on the campus on Sundays.

This reminds me: don't have any pin-up girl hanging around you. If you do, your pin-up will pin you down. And once down, you are down and out.

Have your own textbook. Buy one even though you have to forego to the bed-bug ridden *Cine Jerry on Sundays*.

Keep a small desk calendar in your room in the dormitory or wherever you do your studying. It is wise to mark the date on which an assignment is given, the date in which it is due and the latest date on which you are supposed to get warmed up.

During vacant periods, use your time wisely, instead of frittering away time reading comics, doodling, lingering around or day-dreaming. And if you still have homework to do, set aside a definite time and place to

get it done. Don't tell your prof you forgot it at home. He is wise to that. He may ask you to go home and get it. Then you'll feel like a nickel with a big hole in it.

Working in the same place and at the same time each night is an important thing in forming regular study habits. And have all your equipments on hand, i.e., paper, pencil, pen and ink, and textbooks, if you have them. If you don't have them, borrow. Don't pilfer. They might catch the goods on you. And if they do, holy cow! "Damonio!" is the word.

So have everything from pencil to dictionary on hand so that you won't have the excuse for jumping up and down, instead of fully concentrating on your studies.

Set aside also your clothes exclusively for field work. Wear your Makiling tuxedo. It has the color and odor of the mountains. But wash it at least once a month. Otherwise some one might think a *musang* had got lost in the dormitory.

This course of ours needs a great patience and determination in order to get the fruit of the tree. You may be compared to a tolerant tree possessing the inherent capacity for growth, development and reproduction in spite of competition. A tolerant tree, as you know, is very patient and has the determination to grow. That is the type you should belong to. Tolerant but not dumb.

Never get dismayed if you happened to get low grades in the examinations. After all, we know of someone who got 5's. If your professors insist in giving 5, don't worry. When you get through, get yourself appointed as U.P. President then kick the hades out of your professor, i.e., if he's still round. If he's no longer around, why worry? After all 'twill already be too late to worry.

—oOo—

## HANDKERCHIEF CODE

By SHE

In this column, I shall let you in to the secrets of that little flag—the handkerchief. I don't endeavor to tantalize you, only to

let you know—so that, in case, you will know what to do—because I believe in the old saying that **FORWARDED IS FOR-ARMED**. Sometimes, not always remember, the Juliet of a Romeo's heart is heavily chaperoned—they can secretly understand each other by these:

If a handkerchief is:—

1. Drawn across the lips—it means—*Desirous of an acquaintance.*
2. Drawn across the eyes—*I am sorry.*
3. Dropped—*We will be friends.*
4. Taken by the center—*You are too willing.*
5. Twirled in both hands—*Indifference.*
6. Drawn across the cheeks—*I love you.*
7. Drawn through the hands—*I hate you.*
8. Rested on the right cheek—*Yes.*
9. Rested on the left cheek—*No.*
10. Twirled in the left hand—*I wish to be rid of you.*
11. Twirled on the right hand—*I love another.*
12. Folded—*I wish to speak with you.*
13. Drawn across the forehead—*We are watched.*
14. Drawn over the shoulder—*Follow me.*
15. Opposite corners in both hands—*Wait for me.*
16. Placed on the right ear—*You have changed.*
17. Letting it remain on the eyes—*You are cruel.*
18. Winding it around the finger—*I am engaged.*
19. Winding it around the third finger—*I am married.*

Now you know. But don't be too sure. Don't dive so quickly. After all—she or he may not be familiar with the code!

The three efficient virtues are : **KNOWLEDGE, HUMANITY and ENERGY**; and they are to be united in practice: do not attempt to split them apart one from the other—Confucius.



### ARANETA URGES CONGRESS APPROVAL OF MEASURES TO PRESERVE NATIONAL PARKS

Gravely alarmed over the rapid despoliation of forest wealth and historic natural attractions in national parks, Secretary Salvador Araneta of the Department of Agriculture and Natural Resources, in his capacity as Chairman of the Commission of Parks and Wildlife, is seeking approval of an urgent measure to adequately equip the commission to safeguard and preserve forest reservations and game refuges.

Initial surveys ordered by Secretary Araneta of the 33 national parks throughout the country definitely indicate extensive and widespread destruction of Philippine forests in national park areas which cannot now be prevented for lack of personnel for inspection and guard duty in such areas. The chief enemies of the parks and forest reservations are the "kaiñgineros" and the timber thieves who cut indiscriminately and steal logs without permit and without supervision.

Reports already received by the Secretary show that, along the main roads traversing the Bataan National Park, the Aurora National Park in the Bongabong-Baler area and the Mt. Data National Park in Mt. Province, strips of once dense forests on both sides of the highway to often a depth of one kilometer have not only been denuded of valuable timber but burned out altogether by "kaiñgineros". Similar cases of vandalism have been found in the Makiling National Park in Laguna, in the Quezon National Park in Quezon Province, in the Mt. Apo National Park in Davao and in other parks. All these areas include valuable water sheds and forest cover so essential to conservation of soils, exotic landscapes and natural resources.

With a view to meeting the critical situation, Secretary Araneta is seeking as an urgent remedy, approval of legislation of two bills which would amend existing national park and game laws to constitute revenue collected with national parks and wildlife areas into a revolving fund. This would make available the necessary means with which to re-enforce guard personnel and inspection services essential to the conservation mission entrusted to the Parks and Wildlife Commission. The commission is now limited to the expenditure of only a portion of such revenue

and, as a result, it has only a staff of 31, including office and field men, to police 33 national parks with an aggregate area of 200,000 hectares mostly mountain and forest countries, spread throughout the archipelago.

It is estimated that it will require at least 200 field men with experience in forest work to properly equip the commission with supervisory and law enforcement personnel in all the national parks. It is feared that unless immediate remedial action is taken, delay in the adoption of corrective measures such as would be involved in a waiting legislation out of the regular session next year, will bring about disastrous results.

\* \* \*

Modesto Farolan, President of the Philippines Tourist and Travel Association, suggested that our parks development program might profit from experiences in beach development in Waikiki, Hawaii. In Hawaii, he said, Waikiki's narrow beach is constantly eaten up by the surf and its sand washed off. The Federal government, he added, spends money not only to beautify the resort but also to restore the sand and protect the shoreline.

To boost Philippine tourist trade, Farolan submitted to Araneta the following suggestions: (1) Exploration, evaluation, reservation, protection and photographing, if possible, of such wealths of nature as (a) the underground river of Palawan, (b) the marine gardens of Puerto Galera, formerly under the University of the Philippines, (c) Pagsanjan and Montalban gorges, (d) Mts. Apo, Sto. Tomas, Polis, Makiling, Mayon, Banahaw, Mariveles, Arayat and others, (e) the caves of Montalban and Biac-na-bato, (f) the Big Game (tamaraw) area of Mindoro and important game (bird) hunting areas in other parts of the country, (g) fishing (hook and line) grounds, (h) real virgin forests and stands of truly impressive trees and (i) beautiful land and seascapes, rivers, lakes and springs, gorges, volcanoes, etc., (j) oyster pearl and coral beds, among others; (2) delimitation of national park properties with a view to avoiding their spoliation and preventing squatting and unsightly and insanitary constructions as in the case of the Tiwi Hot Springs in Albay; (3) Restoration of historic and scenic spots; and (4) Encouragement of the culture of native ornamental Philippine trees and flower plants.

## REFORESTATION POLICY BARED

Agriculture Secretary Salvador Araneta, in General Circular No. 33 released, directed Forestry Director Felipe Amos to implement the government policy on reforestation intended to improve the distribution and investment of the Reforestation Fund.

The Circular embodies the following government policy on reforestation:

1. While heretofore most, if not all, the reforestation work has been done on denuded areas, more attention should be concentrated in the future on the lumbering areas to replace the cut-over portions with forest cover for the next lumbering cycle.

2. In view of the importance of the present reforestation sites and the large investment already made in them, there should be no sudden stoppage on the present projects. These should be continued to be extended that the available funds permit, until suitable financing is obtained from sources other than the Reforestation Fund.

3. In order to protect the costly investment involved in reforestation work, it is of utmost importance that a clear declaration be made by the government on the Permanent Forest Areas.

4. There is a need of a clearer declaration from the government of the criteria in deciding the final utilization of our public lands for (a) agriculture, (b) forest, or (c) pasture purposes. Once these criteria are accepted, an early investigation and declaration should be made, and these declaration should be final and not subject to frequent re-examinations.

5. For the work of land classification required for the declaration of the Permanent Forest Line, funds from the Reforestation Fund may be utilized. Artificial reforestation should be resorted to only where adequate natural regeneration is not yet possible; and for natural regeneration to succeed, the first prerequisite is to establish the permanent line and steps should be taken to protect it against trespassers, in order to allow nature to replace the forest cover.

6. As an incentive for timber concessionaires to assist in the reforestation work, it is recommended that the system followed before the war of granting license agreement for 25 years, renewable for an equal period, be resumed.

7. To gain the support of the general public, it is recommended that a campaign to make the public forest-conscious be carefully planned and patiently carried out. It is in this respect that a program of establishing woodland parks in Manila and other Philippine cities might be of great assistance.

\* \* \*

## ARBOR DAY COMMITTEE SETS PLAN

The Arbor Day National Committee has adopted the slogan "Plant Trees and Conserve the Nation's Wealth" for 1954 Arbor Day. The committee also

decided that this year's Arbor Day on September 12 will start an intensified campaign against illegal kaiñgin, the Department of Agriculture and Natural Resources announced.

Undersecretary Jaime N. Ferrer said that all Arbor Day Provincial Committees are to be circularized to make the celebration national in scope. These committees will help designate denuded areas where trees could be planted. It was also agreed that civic organizations like the 4-H Clubs, Boy Scouts, and Girl Scouts will be asked to undertake mass planting of trees.

Other plans mapped out for the celebration include radio programs and movies. Leaflets and posters in English and the major dialects will be published by the Office of Agricultural Information.

The Committee formulated eight mortal sins against trees, namely: (1) burning, (2) cutting young trees, (3) illegal kaiñgin, (4) indiscriminate use for decoration, (5) animal destruction, (6) destructive logging; (7) improper planting and care of seedlings, and (8) exposing young trees without fence.

Director Cornelio V. Crucillo of Plant Industry has informed Undersecretary Ferrer that the Bureau of Plant Industry in Manila and suburbs will distribute up to 24 tree seedlings each. The Bureau of Agricultural Extension, will take charge of distribution of seedlings in the provinces.

The Arbor Day National Committee is composed of Agriculture Secretary Salvador Araneta-Chairman; Secretary of Education, Pastor Endencia—Member; Director Felipe R. Amos of Forestry—Executive Officer; Exequiel Villacorta, Chief Scout Executive, Boy Scouts of the Philippines—Member; Miss Helen T. Benitez, Chief Executive, Girl Scouts of the Philippines—Member. The committee agreed to recommend to the President, Mr. Antonio de las Alas, President of the Philippine Loggers Association, as a member of the Committee since its membership is still short by one.

Local Committees will be composed of the Provincial Governor, Chairman, Provincial Committee; City Mayor, Chairman, City Committee; and Municipal Mayor, Chairman, Municipal Committee.

\* \* \*

## LUMBER EXPORTATION TO JAPAN URGED

The continuance of Philippine exportation to Japan stands to benefit the local lumber business, according to Director of Forestry Felipe R. Amos, in his report to Agriculture Secretary Salvador Araneta.

Amos explained that if the Philippines abruptly stops the exportation of logs, many timber licensees without sawmills will be forced to stop operation due to lack of log market. On the other hand, lumbermen who have sawmills will concentrate on the production of lumber resulting in its over-supply in



the market. The decline of prices of lumber and the closing of sawmills will eventually follow, Amos said.

He explained that during the first semester of the last fiscal year when log export to Japan was exceptionally active, lumber commanded higher prices in the local market. But during the second semester, when log export to Japan declined, the local market was over-supplied with lumber and prices declined.

"If we stop log exportation to Japan, many sawmills may be forced to stop operation unless we are able to develop active local market for our lumber," Amos said.

He also observed that if we stop exportation of logs to Japan, that country may be forced to secure logs from other countries like Borneo where timber is similar to ours, in order to keep her sawmills running.

Amos, however, pointed out the problem that due to low cost of labor in Japan and the high utility Japanese sawmills obtain from local logs, the Japanese are now exporting to the United States lumber sawn in Japan at prices lower than those of the same kinds sawn in the Philippines.

This problem may be solved if our producers can reduce their cost of production, reduce the freight rates on lumber shipped to the United States, and increase lumber recovery from logs, according to Amos.

\* \* \*

#### URGE GRADING OF LUMBER FOR LOCAL CONSUMPTION

The passage of a law requiring that lumber for local consumption be properly graded before it is offered for sale to the public, was urged the other day by Director Felipe Amos of Forestry, according to the Agriculture Department.

Director Amos noted that lumber for local consumption is very seldom graded because there is no law requiring it. Local consumers, he said, are not very scrupulous about the quality of lumber they purchase, which fact is taken advantage of by local lumber dealers, most of whom are Chinese, by selling defective and sound lumber at the same price.

On the other hand, Amos observed in lumber export business, in which most of those engaged are Filipinos, there is an existing law requiring that lumber and logs for export be subject to inspection and grading by authorized lumber inspectors of the Bureau of Forestry. This results in the maintenance of the good name of Philippine woods abroad.

"It is ironical that in local lumber business, which is known to be dominated by Chinese, there is no law to impose similar regulative measures. This lop-sided situation calls for curative legislation," Amos said.

#### BUREAU CLASSIFIES LANDS DISPOSABLE

There were 15,453 hectares of land no longer needed for forest purposes that were certified alienable and disposable and 66,201 hectares classified as timberlands last month, according to Forestry Director Felipe R. Amos.

Said lands are located in the following places: Butuan City, 774-928 hectares; Nuevo Sibagat, Agusan, 186-1,141; Dinaig, Cotabato, 320-38,304; Parang, Cotabato, 7,689-16,176; Tubaran, Lanao, 488; Bongabon, Nueva Ecija, 692; Balabac, Palawan, 2,416; Dumaran, Palawan, 1,160; Margosatubig, Zamboanga del Sur, 332-5,020; Pagadian, Zamboanga del Sur, 1,396-4,632. The first figures represent alienable and disposable, the second timberlands.

Amos revealed that of the 18 cases of individual land classification requests acted upon, 4 covering a total area of 347.90 hectares within the unclassified public forests were certified as not needed for forest purposes; 6 were found within areas already certified as alienable and disposable lands; 7 were found within areas certified for forestry; and 1 was cancelled due to lack of interest of the applicant. Of the 8 cases of public land applications acted upon, 4 were found within areas already certified as alienable and disposable; and 4 within areas certified for forestry.

\* \* \*

#### P.I. LOGS COMPETE WITH P.I. LUMBER

Logs imported by Japan from the Philippines are strongly competing with Philippine lumber exports to the United States, a returning Manila businessman reported today.

Miguel Eugenio, a representative of the Mickey Trading company of San Francisco, proposed that local log exports to Japan be curtailed, or else "the local producers will simmer in their own fat."

"The situation is a vicious circle," he said. "We send logs to Japan where they are converted to plywood and lumber. Then they turn up in the United States to undersell our own lumber exports."

Eugenio, who arrived this morning by Pan American Airways from San Francisco, noted that Japanese exporters were able to undersell local exporters because of their advantage in freight charges.

According to him, Japanese dealers could send lumber to the U.S. in their ships, thus minimizing the transportation expense. On the other hand, Filipinos have to export their goods on foreign bottoms at higher transportation rates, he said.

Eugenio, who returned from a one month consultation trip with his company observed that while Japan was able to export 53 million board feet of lumber to the U.S. last month, the Philippines was able to send a mere eight million board feet.

## FOREST FIRE PROTECTION AREA SELECTED

20,000 hectares has been selected in the Mountain Province, according to Director Felipe R. Amos of Forestry in his report to Agriculture Secretary Salvador Araneta.

As Project Director of the FOA-PHILCUSA Forest and Watershed Management, Director Amos revealed that this area forms part of the drainage area of the Agno River. He said that within this area are located three sites for the forestry look-out stations.

Started sometime in February, 1954, the work of the pilot area is under the direct charge of the district forester of Baguio. There are 30 special firewardens employed and are strategically located in order to have a full coverage of the area.

Director Amos also disclosed that so far 23 "pick-up" trucks have been apportioned to the different districts where they could be of much use in forest protection work.

The Forestry director likewise reported to Secretary Araneta that *kaiñgin* or shifting cultivation is mainly responsible for the widespread total destruction of our forest.

He said that "over 5 million hectares of open and grasslands or about 17% of the land area of the Philippines is the result of shifting cultivation.

The area, according to him, is now impoverished and barren and subjected to erosion. He believes, that this forest destruction through *kaiñgin* may be attributed to the desire of the people to own lands regardless of the character of the land itself.

\* \* \*

## LUMBERMEN ASK EXTENSION OF RATE

Continuance of the emergency contract shipping rate for logs, lumber and unfinished lumber was requested by the Philippine Lumber Producers' Association, headed by Antonio de las Alas, in order to enable Philippine exporters of logs and lumber to increase their export to the United States.

The communication of Mr. De las Alas to the Association Steamship Lines in Manila is as follows:

"The Philippine Lumber Producers' Association, Inc. is seriously concerned with the impending termination on June 30, 1954 of the emergency contract rates on logs, lumber and unfinished lumber in packages to the United States. The continuance of the emergency rates is of utmost importance to the lumber industry, particularly because of the necessity of maintaining the flow of exports of this commodity to the United States. There is at present a shortage of supply of Philippine woods to the United States, and American consumers have repeatedly complained that notwithstanding the increased demands for our wood products, the supply has been very inadequate.

"I have consistently taken the view that the American market should be maintained if the lum-

ber industry is to survive. This can be attained if sufficient inducement to exporters from the Philippines can be given such that there would be a desire on the part of exporters to increase their volume of shipments. This is not possible unless our woods enter the United States on a competitive basis. There is need for the present to counteract the inroads of other species coming from other regions of the world which have disastrously affected the preference and demand by consumers of our supply.

"One problem the industry has to face at present is the consequence of the enormous outflow of Philippine logs to Japan, leaving the American market depleted of adequate supply. I would say that this in part can be solved if freight rates on shipments to the United States can be maintained on a level whereby it would be remunerative for exporters to divert their shipments to that country. Undoubtedly, this can only be attained, in no small measure, through the mutual cooperation and understanding of the exporters and the shipping agencies. Your Association can unquestionably play an important role in making possible the solution to this problem.

"I, therefore, request in behalf of the Philippine Lumber Producers' Association, Inc. that the emergency rates as they are enforced at present and scheduled to terminate on June 30, 1954, be indefinitely extended."

\* \* \*

## ARMY AID SOUGHT IN FOREST LAWS ENFORCEMENT

The assistance of the Armed Forces in the enforcement of Anti-*kaiñgin* Laws was sought in a memorandum submitted by Agriculture Secretary Salvador Araneta to President Ramon Magsaysay.

This move was recommended by Forestry Director Felipe R. Amos who reported to the secretary that the country's forest areas are in danger of being depleted due to the practice of *kaiñgin*.

Amos decried the fact that limited funds and personnel do not permit the bureau to cope with the alarming destruction of public forests thru *kaiñgin*. Moreover, he added that forest rangers are technical men whose services are urgently needed in relation to land classification, reforestation and similar specialized duties.

Araneta, in his memorandum, cited the following reasons in support of his proposal.

1. The detection, apprehension and prosecution of *kaiñgineros* is basically a police job. Unsatisfactory peace and order situation in some parts of the country and indiscriminate entry of the people into the public forest require the cooperation of the Armed Forces.

2. The Philippine Air Force, in the course of routine and training flights, can readily detect *kaiñgins* and promptly radio positions to the ground forces

for prompt action. Leaflets and posters would also be dropped in *kaiñgins*, warning the violators to cease or face arrest.

3. Cooperation between the Bureau of Forestry and the Armed Forces can best be effected thru the District Foresters and Provincial or Unit Commanders of the Armed Forces. They can easily get together to thresh out the details involved in the detection, apprehension and prosecution of *kaiñgineros* best fitted for their particular jurisdiction.

\* \* \*

Agriculture Secretary Araneta also appealed to the local constabulary to assist in preventing and stopping the illegal destruction of public forests. This was contained in a communication sent to the Chief of Staff of the Philippine Army at Camp Murphy.

The wide-spread destruction of public forests throughout the Philippines by squatters and "*kaiñgineros*," which have lately posed a big problem to the Bureau of Forestry, found confirmation in a telegram received recently by the Agriculture Secretary from Dr. Romulo Ramona, forest concessionaire at Dansalan, Davao.

According to Dr. Ramona, squatters and "*kaiñgineros*" have destroyed about 2,000,000 board feet of commercial timber in his concession. He also disclosed that the local forester is desperately trying to ward off the encroachment but is powerless due to lack of personnel.

\* \* \*

#### PC AID FORESTERS IN DRIVE VS. *KAIÑGIN*

The drive against illegal *kaiñgineros* by the personnel of the bureau of forestry is expected to gain momentum with the assistance to be extended by PC units throughout the country.

The cooperation of the Armed Forces in the campaign against illegal *kaiñgin*-making was pledged in a recent indorsement of Gen. Eulogio Balao, Vice Chief of Staff, to the secretary of agriculture and natural resources.

The AFP headquarters is issuing a directive to all PC units to extend assistance to local officials of the bureau of forestry in preventing or stopping illegal activities of squatters and *kaiñgineros*, Gen. Balao stated in his memorandum.

Under the present set-up, it was understood that local forest officers may request the help of PC authorities in the apprehension of squatters and illegal *kaiñgineros*, who are found arrogant and defiant to forest officers in their duties in stopping them from the wanton destruction of public forests.

\* \* \*

#### "OF TREES AND MEN"

H. B. MARCELO

"The forest is not a mine that eventually will be depleted, but a cropland. Provided trees are har-

vested as a crop and the forest is sustained by proper management, wood will forever yield all the material the human race can conceivably require".—Glesinger. And here is how we have been implementing same in Basilan City.

#### *Continuous Harvest from the Basilan Forest*

In our last issue, it was shown with figures that the biggest single item of business is on timber and thus—constitute the biggest sinews of Basilan economy. With this fact, the timber supply is a great concern of the city which Ex-Congressman Alano expressed last year by posing the question to Basileños, "What will happen to Basilan City if the timber in the Basilan forest will be exhausted, in eight years?" But the timber supply in Basilan will not be exhausted, provided the forest is treated as a crop land, as they do in most European countries, in Canada, U.S.A. and in Australia, and not as a mine.

Continuous harvests of timber from the Basilan forest is possible by proper management. And this is the real work of the forester which brings into play all his technical knowledge and skill and his field studies and observation. (Measuring logs for revenue, inspection of lumber, classifying lands and running after *kaiñgineros* which you commonly identify forest officers are largely ranger's work. Forest management and silviculture is the main work of the forester).

The common idea we have of a forest is that it be cut and cleared to be converted to agricultural land regardless of the character of the land, or the needs of the industries. That is what we call, "liquidation cutting" or "timber mining". Regulated cutting such that there are left enough young uninjured trees to grow for the next cut is called "timber harvesting".

We aim at continuous timber harvesting. This means that on the required tract of forest land of 33,800 hectares, timber extraction is systematized and regulated so that the timber supply is constantly replenished by growth, improvement and protection. To give an specific example, the area of 13,862 hectares of one logging company is divided into 30 cutting areas and so much volume is allowed to be cut in one cutting area annually.

It is estimated from growth studies and regulation prescriptions that 30 years time is needed to tend below 50 centimeters diameter trees now to grow to harvestable timber, hence the division into 30 cutting areas. On the 31st year (1984) beginning of the second cycle, the 1st. cutting area (1953 logged-off) will be again ready to be cut, the 1954 logged-off will have its young trees mature in 1985, etc., and the operation continues on indefinitely. This can be simply illustrated in miniature by a hectare of a zacate field divided into 30 compartments. The owner cuts one compartment a day. By the time the 30th compartment is reached, the grass in

the first compartment has grown up to cutting size again, then the second, then the third, etc. The difference is only in time; for forest, by 30 to 100 years and one thousand to hundred thousand hectares, while agricultural crops are grown and harvested yearly and on limited areas of one to a hundred hectares. Our kind of forest, however, has more similarity to an abaca plantation and bamboo grove where the mature stems are taken and the young ones are left to grow to maturity. The tending of those crops are simpler. Because of the longer time in the case of trees and the complexity of composition, various site factors and longer periods of observation and study to get working data, the growing and caring (silviculture) of timber crops is harder and more complicated. It takes 70 to 200 years to grow a tree from seed to maturity. That is why as many of the trees (Philippine Mahogany) not yet of harvestable size 30 to 50 years old are caused to be left by the logging companies so that we wait only about 30 years more, instead of 70 to 100 years, to have another harvest. But once the forest is organized and put under management, lumbering and other forest industries can be assured of continuous operation.

Because of the continuity of timber supply and logging operations, the area under management is called a "working circle" and the period elapsing between cuts in one area is called a cutting cycle.

The regulation of cutting is done in the field by marking trees to be cut out of the mature and over-mature timber. The company is subject to penalty for cutting unmarked trees or carelessly damaging them. A cutting budget is also given the companies to regulate cutting by areas, year, or period of years.

Management has been started late in Basilan, so that difficulties are being met, such as the use of equipments and methods that are not suitable to the most workable plan that should be applied to the forest. (MRR)

\* \* \*

#### FLS COEDS PRAISES BF PUBLIC RELATIONS SECTION

Miss Dolores J. Blancaflor, a comely coed of the Francisco Law School, Manila, sent a warming-up letter dated August 24 praising the personnel of the Public Relations Section of the Bureau of Forestry. "We have visited several bureaus during that day. Believe it or not your place is the best. The people there in your place are very friendly with us, especially you (I. Pacio) and Mr. Samonte (Estanislao) by the entertainment given us by the people in your place. And putting modesty aside, you are the best entertainers I've ever met. This does not mean flattering you. I'm telling you of what I really think of you. I'm writing this letter with frankness and sincerity."

Miss Blancaflor, together with Misses Eugenia Esteban, Flor Arire, Ana Maria Bustamante, Estefania Valbuena and Mr. Salvador Arevalo, all from the Francisco Law School, went to the forestry bureau to request for forestry literature on August 21. They were all given the necessary assistance and courtesy in obtaining those literature.

It has been observed that several visitors of the Public Relations Section, the show-window of the Bureau of Forestry, have been satisfied by the splendid showing of the personnel of the said section.

\* \* \*

#### RELEASE LANDS FOR FISHPOND AND GRAZING PURPOSES URGED

Agriculture Undersecretary Jaime N. Ferrer recently requested the Bureau of Forestry to look into the possibility of releasing considerable areas of public lands in Zamboanga del Norte, Zamboanga del Sur, Occidental and Oriental Misamis, and Lanao for fishpond and grazing purposes. This was made with a view to asking the aid of the Rehabilitation and Finance Corporation in the possible financing of the projects that may be established in those areas.

Undersecretary Ferrer revealed that in his recent trip to the south he had discovered considerable areas of mangrove swamps and pasture lands that are well suited for fishpond and grazing developments. He said that proper exploitation of these areas is very timely considering that presently the Philippines is importing P15 million worth of fish preparations and P43 million worth of dairy meat products yearly.

He reported that mangrove swamps abound along the coastal lines of Zamboanga del Norte and of Occidental and Oriental Misamis, while Zamboanga del Sur has a potential area of 50,000 hectares and Lanao around 1,520 hectares.

The Undersecretary disclosed that Moros should be encouraged to go into cattle ranching and this can be done by releasing a potential area of 5,000 hectares of pasture land in Lanao located in the Moro region for their exploitation with the aid of RFC loans.

---

#### FOA PENSIONADO

Forester Rosales A. Juni, forester in charge of the cinchona plantation of the bureau of forestry, is leaving August 15 for the United States as a pensionado of the Foreign Operations Administration (FOA). He will visit forest stations in the United States and in Puerto Rico for 12 months so as to learn the modern trends in the administration of forest experiment stations.—*Free Press*, Aug. 7, 1954

# • CAMPUS NOTES •

## SBO ELECTIONS

On July 8, the student body held the elections for the officers of the student government for the school year 1953-53, first semester. Elections were conducted at the old college building, now being rehabilitated and expanded. Winning over their respective opponents by wide margins, the following were elected officers:

<i>President</i> .....	Primitivo Galinato
<i>Vice-President</i> .....	Feliberto Pollisco
<i>Secretary</i> .....	Fortunato Arcangel
<i>Treasurer</i> .....	Rosalio Goze
<i>Auditor</i> .....	Artemio Cabanday
<i>Athletic Manager</i> .....	Marciano Antonio
<i>Sgts. at arms</i> .....	Filamor Yadao & Romeo Ulangkaya
<i>Rep. to the Philippine</i>	
<i>Collegian</i> .....	Felipe Abraham Jr.
<i>Senior U. P. Student</i>	
<i>Council Rep.</i> .....	Benjamin Batoon
<i>Junior U.P. Student</i>	
<i>Council Rep.</i> .....	Juan Galo
<i>Adviser</i> .....	Prof. Jose B. Blando

Due to new UCCSOA regulations, no freshman was allowed to vote. The same disqualified an elected student officer because he is only carrying 10 units load so that the loser won by technicality. This made a complete victory for the Dipterocarp Party. Professor Blando is again Adviser, he having had no opponent in the line-ups.

## CLASS OFFICERS

The different classes elected their officers for the first semester, 1954-1955 shortly after classes started. Results of the elections are as follows.

### Senior Class

<i>President</i> .....	Marciano Gulle
<i>Vice President</i> .....	Florencio P. Mauricio
<i>Secretary</i> .....	Eduardo Llapitan
<i>Treasurer</i> .....	Kaspa Aganidad
<i>Auditor</i> .....	Patived Arayasastra
<i>Rep. to the SBO</i> .....	Artemio Cabanday
<i>Reps. to the U.P. Sr.</i>	
<i>Council</i> .....	Pelagio Bautista & Florencio P. Mauricio
<i>PRO</i> .....	Benjamin Batoon
<i>Adviser</i> .....	Prof. Jose B. Blando

### Junior Class

<i>President</i> .....	Jose Malvas
<i>Vice-President</i> .....	Meliton Battad
<i>Secretary</i> .....	Melanio Alconcel
<i>Treasurer</i> .....	George Batoon

<i>Auditor</i> .....	Roberto Espiritu
<i>Rep. to the SBO</i> .....	Modesto Tobias
<i>PRO</i> .....	Francisco Empedrad
<i>Business Manager</i> .....	Generosa Cañeda
<i>Sgts.-at-arms</i> .....	Simplicio Alegre, Jr. & Alfredo Eugenio
<i>Reps. to the U.P. Junior</i>	
<i>Council</i> .....	Rogelio Baggayan & Felipe Abraham Jr.
<i>Adviser</i> .....	Dr. Artemio V. Manza

### Sophomore Class

<i>President</i> .....	Fortunato Arcangel
<i>Vice-President</i> .....	Edmundo Cortes
<i>Secretary</i> .....	Filamor Yadao
<i>Treasurer</i> .....	Rosalio Goze
<i>Athletic Manager</i> .....	Herman Agpawa
<i>Auditor</i> .....	Bienvenido Lomibao
<i>Bus. Mgr. and PRO</i> .....	Marciano Antonio
<i>Rep. to the SBO</i> .....	Mariano Valera
<i>Sgts.-at-arms</i> .....	Tomas Tolentino & Hermites Cuenca
<i>Adviser</i> .....	Dr. Artemio V. Manza

### Freshman Class

<i>President</i> .....	Leonardo Angeles
<i>Vice-President</i> .....	Max Oro (left)
<i>Secretary</i> .....	Remedios Felix
<i>Treasurer</i> .....	Marcelina Espregante
<i>Auditor</i> .....	Policarpo Narciso
<i>Rep. to SBO</i> .....	Leonardo Angeles
<i>Sgts.-at-arms</i> .....	Avelino Rufo & Mario Ebron
<i>Adviser</i> .....	Dr. Artemio V. Manza

\* \* \*

## 1954-1955 PENSIONADO CLUB

On July 16, the CF Pensionado Club was reorganized and the following were elected as officers: President—Lucio Quimbo, Vice-Pres.—Modesto Tobias, Sec.—Fortunato Arcangel, Treas.—Kaspa Aganidad, Auditor—Antonio Lizardo, PRO—Edmundo Cortes, Bus. Mgr.—Rogelio Baggayan, Adviser—Prof. Teodoro Delizo. The Club is composed of BF, Local Government and foreign pensionados. Incumbent members are: Seniors: K. Aganidad — Thailand, P. Arayasastra — Thailand, B. Batoon — Abra, P. Bautista — Tarlac, A. Cabanday — Abra, F. P. Mauricio—Tarlac; Juniors: F. Abraham, Jr.—Tarlac, S. Alegre Jr.—N. Vizcaya, R. Baggayan—Cagayan, L. Quimbo—Samar, M. Tobias—I. Sur; Sophomores: M. Antonio—Baguio, F. Arcangel—I. Norte, T. Binua—Rizal, A. Caronan—Cagayan, R. Chavez—Quezon, E. Cortes—Masbate, J. Gumayagay—N. Vizcaya, M. Licayan—Zamboanga, A. Lizardo—

Zamboanga, A. Mariano—Zamboanga, B. Meimban—Pangasinan, C. Padrones—Iloilo, B. Paragas—Zamboanga, A. Pintor—Panay, G. Principe—Marinduque, A. Sanchez—Mindoro, A. Sison—Pangasinan, V. Soriano—I. Norte, R. Ulangkaya—Cotabato, M. Valera—Masbate, and F. Yadao—Cagayan; Freshman: G. Ortega—I. Norte and F. Llapitan—I. Norte (Sr.)

The club expects to donate a stand for the stage in the amphitheater of the new College building. Can afford.—Baggie

\* \* \*

#### COLLEGE WEEKLY SHOWS

To buy a new public address system to be used in College affairs, the student body under Prof. Jose B. Blando has agreed to sponsor weekly shows. ₱2.00 entitled every student for 10 weekly shows. The shows started on July 31 and shown on Saturday evenings. The present public address system is now worn out and about to pass its usefulness so that a new one is imperative. With the enthusiasm the whole forestry community is welcoming the shows every Saturday, a new public address system is expected with the completion of the new College building.—FPM

\* \* \*

#### TEN RANGER-TRAINEES IN THE FIELD

Because of their unsatisfactory scholastic standing for one year in the College, ten Ranger-trainees were called to serve the Bureau in the field for at least two years. These young men were assigned to the different forest districts. They are: Benjamin Boncato, Wilfredo Espino, Antonio Jusi, Wilfredo Lalog, Florentino Loyola, Victor Gabuco Jr., Apolonio Salanga Jr., Victoriano Tarroza, Ricaredo Monsanto and Santiago Zayas.—R.U.

\* \* \*

#### FOUR NEW PENSIONADOS

Felipe Abraham Jr., and Rogelio Baggayan, members of Ranger Class '54, were selected by the Scholarship Committee of the College of Forestry to continue the B.S.F. course as Belo Boys. Also of the same class is Simplicio Alegre Jr., recipient of the Santa Clara Scholarship. To take the Ranger Certificate is Guillermo Ortega, a freshman, a pensionado of the Office of the President. Awardees of the Belo Fund of the Bureau last year were: Pelagio D. Bautista and Florencio P. Mauricio, both of Ranger Class '53. Now enjoying the pensionadoship of the Office of the President are: Benjamin Batoon, Artemio Cabanday and Romeo Ulangkaya.—R.U.

\* \* \*

#### THREE NEW FACULTY MEMBERS

Three fresh graduates are now with our faculty. They are: Napoleon Vergara, Lucio Quimbo and Modesto Tobias. Mr. Vergara, of Class '54 and holder of the Sta. Clara Scholarship for the B.S.F.

Course, was recommended by Prof. Zamuco as instructor in lumbering and is now assisting in that subject after serving the Sta. Clara Lumber Co. for four months. Mr. Quimbo and Mr. Tobias, both of Ranger Class '54 were assigned by our Forestry Director to be members of the teaching staff. Mr. Quimbo is assisting in Dendrology and Mr. Tobias in Spanish.—FPM

\* \* \*

#### SMOKERS RALLY

On July 31, the faculty and student body held the traditional Smokers Rally, the purpose of which was to admit formally the freshmen into the College. Dean Felipe R. Amos took time out from his multitudinous duties in the Central Office in Manila to advise his "sons". Introduced by Forester-in-Charge Calixto Mabesa, he admonished the enrollees to plow deep and straight in the difficult field of the course towards their chosen goal despite the hardships they are bound to meet. He informed the assemblage of the kind of men needed in the field — honest, alert and sturdy technical men to manage our vast forests to insure their perpetuation by wise use. He gave them valuable words of encouragement and wished them Godspeed.

The evening was highlighted by the identification of the freshmen contest wherein Miss Herminia Jundos, lone Forestry lady instructor, won. Skits from each of the classes and regional singing contests were also shown. Siamese dances were done by 5 Siamese U.P. students.—A. Mariano

\* \* \*

#### WORLD HEALTH DAY CONVOCATION

The Forest Administration 1a Class under Prof. Valentin Sajor, Chief of the Division of Forest Investigation, held a convocation on the evening of July 23 in connection with the celebration of World Health Day. The guest speaker of the evening was Miss Jesusa Bagan, a charming nurse in the U.P. Los Baños Infirmary. She emphasized that health is the wealth and life of the world. So let us be healthy so that the world will live. Professor Sajor said the convocation was an experiment on public relations. The convocation was a success—which means a forester can PR a nurse to bring health to the forest in order to be a wealth.—A. Mariano

\* \* \*

#### EIGHTEEN NEW BETA SIGMANS

The Beta Sigma Fraternity, Forestry Chapter, accepted this year as new members the following: Manuel Barlicos, Jose Baniqued, Tomas Binua, Avelino Caronan, Edmundo Cortes, Ruben Cubero, Adolfo Galam, Antonio Lizardo, Conrado Padrones, Gregorio Principe, Bienvenido Paragas, Alfredo Sanchez, Cleto Sapiera, Pelagio Sumabat, Isabelo Tobias Jr., Patrocinio Ragus, Mariano Valera and Car-

*(Continued on page 57)*

# • FORESTRY IN THE NEWS •

## NEW FORESTRY POLICY BARED

A new forestry policy was recommended yesterday by Agriculture Secretary Salvador Araneta to President Magsaysay.

Araneta said this new forestry policy involves the implementation of a 12-point program, as follows:

1. Free distribution of forest seedlings to farmers to encourage them to plant forest trees, especially around the boundaries of their farms.

2. Require applicants of public lands to plant a certain percentage of the area applied for to tree farms.

3. Hilly lands within forest areas that are bare will be given under 50-year leases for the establishment of tree farms.

4. To supply freely all seedlings needed by the public under these tree programs and to this end to increase the number of nurseries of the Bureau of Forestry.

5. Cutover areas have enough seedlings for natural reforestation and do not need to be reforested if they can be protected against "kaiñgineros." For this reason, the number of forest guards should be increased.

6. During summer when kaiñgineros are active in destroying the forest, the cooperation of the air force will be requested to detect the activities of kaiñgineros.

7. Existing forest concessions will be required to conduct their logging operations in a way that will make possible the natural regeneration of the forest.

8. New forest concessions to be granted will be obliged to do selective logging to provide for the continuous development of the forest.

9. In provinces or areas where the forest has already been reduced to an amount less than the required minimum, no new forest concession will be granted until the area of forest has again reached the required minimum. This is the situation in the island of Negros.

10. Exportation of logs to Japan will be discouraged by requiring that exporters will have to export in the form of lumber at least 10 per cent of their exports.

11. Present kaiñgineros and squatters will be taken care of by giving them long term leases in the forest area, provided they agree to plant them with trees. If they can not develop a tree farm, they will be provided with agricultural lands in the same way the Huks are provided with agricultural lands.

12. An intensified educational campaign in the vernacular will be conducted.

*Manila Daily Bulletin*, July 22, 1954

## DIVERSION OF LOGS TO JAPAN THREATENS MARKET IN U.S., PRESIDENT'S COMMITTEE FINDS

The Philippines is now on the brink of losing her million dollar United States lumber market which will adversely affect her total economic set-up.

This warning was sounded yesterday by the four-man committee created recently by President Magsaysay to study the problems of the local lumber industry.

This is due to the fact, the committee said, that Filipino lumber producers now find it more profitable to export logs to Japan than lumber to the United States.

The result, the committee added, is that at present the United States market is inadequately supplied, causing a well-founded fear among American consumers that the situation will eventually lead to a total loss of the United States markets for Philippine lumber.

"Our loss of the U.S. market will be a regrettable consequence, considering that this is the only stable outlet for Philippine production that will bolster our dollar exchange reserves," the group said.

The committee also deplored the fact that some of the logs exported to Japan are processed into sawn lumber and plywood and re-exported to the United States where they undersell lumber coming directly from the Philippines.

This anomalous situation, the committee said, has likewise resulted in confusion and in undermining the reputation and quality of prestige of PI woods in the United States as Japanese exporters have been lax insofar as standards and grades of lumber exported to the United States are concerned.

The committee recommended that the country study how best to meet the enormous demand for Philippine lumber in the United States.

The committee is composed of Rep. Guillermo R. Sanchez, Public Works Acting Secretary Vicente Orsa, Central Bank Gov. Miguel Cuaderno, and Antonio de las Alas.

*Manila Times*, Aug. 7, 1954

\* \* \*

I wanted to secure from the director of forestry a permit to gather an additional 9,132 kilos of almaciga, but it was too late to send the request by mail. So, on July 5, which was a holiday, I wired my son in Manila to go to the forestry office to file my request and to pay the required fees. On July 6, my request was approved. On July 7, I received by plane the corresponding papers. That's an indication that the new director of forestry is on

the job. If only all government officials would do their work as promptly and efficiently as he!—A resident of Puerto Princesa, Palawan—FP, July 31, 1954

\* \* \*

#### PROPOSE MORE PLYWOOD EXPORT

Japanese plywood manufactured from Philippine logs is offering "stiff competition" to exports from this country in the American market, a returning lumber executive reported last night.

"And rightly so, because there is a big market for Japanese plywood in the United States," said Renato Arevalo, director of the Sta. Clara Lumber Company.

Back from a two-month business and pleasure trip abroad, Arevalo observed that Philippine lumber exporters were not manufacturing enough plywood for export to other countries.

"Our plywood products are also acceptable in the United States," he said. "The trouble is we have not been able to produce enough to create a demand abroad."

He said that although a number of local firms have branched out from lumber production to engage in plywood-making, these companies have produced just enough for local consumption.

"We need to step up our production in order to edge out our competitors who are depending on us for their raw materials. That way we would be able to survive competition abroad," he said.

Arevalo noted that there is a continued demand for Philippine hardwoods in the U.S. He observed that although hardwoods from other countries were also competing with it, American consumers have continued patronizing P.I. exports because of its superior quality.—*The Manila Times*, Aug. 11

\* \* \*

#### TIMBER SMUGGLING EXPOSED

Large scale illegal cutting of trees and timber smuggling reportedly going on inside the Mariveles Military Reservation in the province of Bataan was disclosed yesterday by Agriculture Secretary Salvador Araneta.

This information was embodied in a communication relayed to Vice-President Carlos P. Garcia, in his capacity as secretary of foreign affairs, asking for the status of the said reservation and the result of the delimitation undertaken by the joint committee of the United States and Philippine Governments.

Disturbed at the rate forest areas in Bataan are being denuded of cover, Secretary Araneta warned that this sad state will expose the province to soil erosion, floods and eventually, the death of irrigation water in dry seasons.

Secretary Araneta requested the Secretary of Foreign Affairs to make the necessary representations with the United States Government so that "appro-

priate measures" can be taken to arrest illegal cutting of timber in the province.—*The Manila Times*, Aug. 11

\* \* \*

#### FERRER REASSIGNS ECIJA FORESTER

Agriculture Undersecretary Jaime N. Ferrer recently ordered the reassignment to another province of the assistant district forester of Nueva Ecija upon learning that he has a brother in the province who is engaged in the lumber business and is a member of the Nueva Ecija Producers Association.

An investigating committee of the Bureau of Forestry was assigned to look into the charge that Regalado Benavidez, Nueva Ecija assistant forester is also engaging in the lumber business.—*The Sunday Chronicle*, Aug. 8

\* \* \*

#### BUREAU CERTIFIES ALIENABLE LANDS

Forestry Director Felipe R. Amos revealed that there were 11,970 hectares of land that are no longer needed for forest purposes that were certified as alienable and disposable lands, and 10,866 hectares that were classified as timberlands last month (July). The said lands are located in the following places:

Davao City, Davao: 1,972 hectares as alienable and disposable lands, and 1,288 as timberlands; Guianga, Davao: 308-82; Sablayan, Mindoro Occidental: 3,368-99,400; Carranglan, Nueva Ecija: 1,260-96; Pantabangan, Nueva Ecija: 12-0; Rizal, Nueva Ecija: 121-0; and Ipil, Zamboanga del Sur: 4,929-0.

Of the 28 cases of individual land classification requests acted upon, 7 cases covering a total area of 193.56 hectares within the unclassified public forests were certified as alienable and disposable lands, 13 cases were found within areas already certified as alienable and disposable lands, and 8 cases were found within areas certified for forestry.

No individual public land application was acted during the month of July, 1954.—*Sunday Times*, Aug. 15, 1954

\* \* \*

#### TIMBER INDUSTRY FEATURED IN DOCUMENTARY FILM

The timber industry in Mt. Province, with emphasis on logging and utilization, was featured recently in a documentary film, "The Heritage", which was taken for the bureau of forestry.

The movie feature was taken by the Smith Sound System Laboratories, which was represented by Prudencio Mariano. A representative of the local forestry office was assigned upon instruction of forestry director Felipe R. Amos to accompany Mariano and his staff of cameramen and technicians to Km. 44, in a typical logging camp along the Halsema Mountain Road.

((Continued on page 58))



## CAMPUS NOTES . . .

*(Continued from page 52)*

los Wandisan. Both Agriculture and Forestry neophytes had their final initiation at the Agriculture Library building last July 25, 1954. In the evening, a supper was tendered in their honor at the Molawin Mess Hall.—R.U.

\* \* \*

### NEW UPSILONIANS

Nine forestry students who had had no red marks for one or two semesters or with an average of at least 2.5 prior to the initiation rites, were admitted into the Upsilon Sigma Phi (Los Baños Chapter) on July 18. They are: Fortunato Arcangel, Ruben Chavez, Wilfredo Chavez, Gregorio Francia Jr., Julian Gumayagay, Angel Mariano, Victoriano Soriano, Romeo Ulangkaya and Filamor Yadao. They were honored with a supper at the Molawin Mess Hall after the final initiation rites.—R.U.

\* \* \*

### FIRST ZETA BETA RHO SWEETHEART

The Zeta Beta Rho Fraternity, a fraternity exclusively of this College, unanimously elected Miss Remedios Felix, a freshman co-ed, as their fraternity sweetheart this year. This is the first time that the Zeta Beta Rho has a fraternity sweetheart. Congratulations!—R.U.

\* \* \*

### ZETA BETA RHOANS

The Zeta Beta Rho Fraternity admitted eleven new regular members and eight new honorary members this year. To be qualified, a student must not have acquired any red mark for two consecutive semesters prior to admittance for regular membership, and only one removal or condition for honorary. The new members are: (Regular)—Fortunato Arcangel, Ruben Chavez, Teodoro Eusebio, Juan Galo, Primitivo Galinato, Julian Gumayagay, Angel Mariano, Isidro Serrantes, Anastacio Sison, Victoriano Soriano and Filamor Yadao; and (Honorary) are: Wilfredo Chavez, Gregorio Francia Jr., Francisco Rendorio, Macario Sana, Josue Tadle, Romeo Ulangkaya and Azuero Vedad. Old members are (Regular)—Felipe Abraham Jr., Simplicio Alegre Jr., Benjamin Batoon, Pelagio Bautista, Artemio Cabanday, Rosalio Goze, Jose Ilagan, Eduardo Llapitan, Florencio P. Mauricio and Feliberto Polisco; while (Honorary) are: Kaspá Aganidad, Patived Arayasastra, Juan Galo and Nester Santos. Elected officers for 1954-1955 are: President—Pelagio Bautista, Vice President—Feliberto Polisco, Exec. Sec.—Felipe Abraham Jr., Recording Sec.—Florencio P. Mauricio, Treasurer—Juan Galo, Auditor—Eduardo Llapitan, PRO—Fortunato Arcangel, Sgts.-at-arms—Teodoro Eusebio and Anastacio Sison, and Adviser—Dr. Artemio V. Manza.—FPM

## THE AID HAS COME

Visitors to the campus today would hear busy construction noises instead of the usual quiet of yesterdays. When they stop at Post No. 1 to pay tolls, they would wonder at the grandeur of the imposing building of the Forest Products Laboratory; following the road to the Rubber Plantation about 150 meters ahead, they would again see the busy construction of the College building; and when they go home they will also pass by the construction of the building to house the Forest Experiment Station about 50 meters before Post No. 1 to the right of the road. They will say: "Why, this place has waken up!" Yes, the aid has come!

Under a contract of ₱391,000 by Engr. Moises Carandang, contractor of Tanauan, Batangas, the Forest Products Laboratory building is nearing completion, the work being begun last November. Of three stories, it is the first of its kind in the Philippines and it will determine the different properties of our Philippine woods as well as their uses. After samples of species left before by lumbermen in the forest has been subjected to tests by the Laboratory's technicians, these species will be potential raw material for our industries. Its sawmill and veneer plant will be supplied with timber and lumber from neighboring forests and all those in the Islands for scientific studies.

The College building, when completed, will be an imposing two-story structure which will accommodate three times its present enrolment, with modern facilities and provided with an amphitheater of 400 capacity. Construction has begun since July 8 and is expected to be finished by this New Year. Being built by the Age Construction Company of Manila for ₱299,850, the new building will be a realization of the dreams of forestry-spirited citizens who have exerted all their efforts for the approval of H.B. No. 324 in Congress which authorized the rehabilitation and expansion of the old, ruined building.

The two-story building to house the Forest Experiment Station is under construction since July 6 and expected to be finished by November by Isabelo Ong, contractor of Siniloan, Laguna. So situated about the middle of the Archipelago, it will enable a more integrated and intensive study of the forests south of Manila and neighboring islands like Catanduanes and Mindoro. Results of different observations and tests by the Station's technical personnel will be compiled and interpreted for practical applications.

We, indeed, could now say that in the future years, we can welcome our visitors with "This is our campus, now it is yours!" and proudly show them around.—FPM

## IN THIS CORNER

To foster a better understanding and promote cooperation, to inject and revitalize the spirit of research and to iron out and enlighten the personnel on the problems and difficulties in administration, our new Chief of the Division of Forest Investigation, Forester Valentin Sajor, had initiated a novel activity barely a month since he assumed his new position. This program consists of weekly conferences followed by open forums among the personnel of the Division, College of Forestry, Forest Products Laboratory and Forest Experiment Station.

The first of these weekly conferences was convened on August 4, 1954 and has continued regularly ever since. During these meetings, pressing administrative questions and difficulties are threshed out and discussed. In addition, one or two technical men from the institutions cited above are invited to speak on a subject or problem relative to forestry and other allied subjects.

Some of the important topics so far presented during these conferences were:

1. Sanitation in the park and in the premises of

## FORESTRY IN THE . . .

*(Continued from page 54)*

Among the phases of the timber industry depicted in the documentary film were the felling of trees by loggers, yarding, and loading to the tramline. From the cutting area, the scene shifted to the gold mining districts, where the utilization of the Benguet pine timber was also depicted.—*Sunday Times*, Aug. 15, 1954

\* \* \*

## PHILIPPINES WILL HONOR TREES

The nation will pay homage to its trees this year on September 11, 1954 as planned by a committee in compliance to Presidential Proclamation No. 30.

It must be remembered that trees are the associates of man since creation time that it is but proper to think of them even once a year in the perpetuation of their species. Trees, like man, live and die with the difference that trees are under man's service all the time, while man himself mercilessly and uselessly kill trees many a time. This fact seems to lead to misunderstanding of the co-existence of man and vegetation in the plan of world creation. But some men realized this difference. They are wise and feel sympathy, admiration and love to trees and decided to do something for them. Hence, Arbor Day is created as a means to pay trees a respectful homage.

When President Magsaysay was a Congressman in the year 1949, he planted a Narra tree (*Pterocarpus indicus*) 1½ meters high during Arbor Day on September 10, 1949, and now, this tree is 14 meters in height with a circumference of 124 centi-

the houses and other establishments.

2. Nepotism and its effects on the laborers.
3. The performance budget.
4. Responsibilities of Student-Rangers and Belo Boys.
5. How to conduct Research Work.
6. A Planting Plan for a Portion of the Maralal-Molawin (Pili) Block.
7. Relationship of the College of Forestry and the Division of Forest Investigation on Research.
8. Working Outline for the Study of the Behavior of some Wild Dipterocarp Seedlings When Transplanted in the Forest.
9. Organization, Functions and Activities of the Forest Products Laboratory.
10. Soil Cover and Necessary Balance of Forest Cover for Multiple Purposes.

Lively discussions and constructive suggestions from those present highlighted the conferences. It is planned that other men outside the Bureau and College of Forestry will be invited to speak in future meetings.

D. V. J.

meters. It bore its first fruits in abundance in 1953. The site of planting is in front of the church in Castillejos, Zambales. If everybody will plant a tree in his own yard, he will have a nice and beautiful one like that planted by the President, after five years.

In the Philippines the responsibility of carrying out the work falls in the National Arbor Day Committee headed by Undersecretary Ferrer who is doing the best to make the occasion a success. The Bureaus of Forestry and Plant Industry are preparing the planting materials in the Central Experiment Station, Manila, of the first and in different nurseries of the second situated in many parts of the Philippines. They may be secured free of charge with the permission of the respective Directors.

According to Secretary Ferrer, this year's Arbor Day is "an intensified anti-kaingin campaign for one solid year" and his Committee approved and passed the slogan "Plant and Protect Our Trees and Conserve the Nation's Wealth." The Committee's work is symbolic of our appreciation to trees.

Last year's accomplishment is a history of some 4,582,055 trees planted in public grounds, plazas, parks, school grounds and roads where they won the love and admiration of the people.—V. Parras, *Sunday Times*, Aug. 29, 1954

*Woodman, spare that tree!  
Touch not a single bough!  
In youth it sheltered me,  
And I'll protect it now.*

G. P. Morris

# EXCERPTS & ABSTRACTS

## INSECTICIDAL TREATMENT OF SEEDS AGAINST SOIL-BORNE INSECTS \*

By BERNARDO C. AGALOO

Soil-borne insects that attack sown seeds are one of the causes of low percentage of germination in nurseries and in plantations. Ants and other insects attack seed plots soon after the seeds are sown.

In this study, the writer attempted to find out the efficiency of 10% each of dichloro-diphenyl-trichloroethane (DDT), benzene hexachloride (BHC with 2% gamma isomer), and methoxychlor—all insecticides—in protecting sown seeds of anabo (*Abroma augusta* L. Sterc.), banuyo (*Wallaceodendron celebicum* Koord. Leg.), supa (*Sindora supa* Merr. Leg.), and mahogany (*Swietenia macrophylla* King Melia.) from insect attack and the effect of the above insecticides both on the germination and on the vigor and vitality of the seedlings. For Lot I, insecticides were mixed with white earth dust, stirred thoroughly and shaken in corked bottles to get 10% dust mixtures of each of the insecticides and for Lot II, solutions made up of 10 grams of insecticide dust in 90 cc. tap water were prepared for each of the insecticides to get 10% water suspensions. Samples of seeds of each species were soaked in each of the 10% suspensions (Lot II) for 3 hours with continual stirring, air dried and then sown. Others were soaked in tap water for 3 hours, then shaken in the 10% dust mixtures (Lot I). It was found that treatment of seeds with DDT, BHC or methoxychlor fairly protect sown seeds against soil-borne insects. Seeds soaked for three hours in tap water and then applied with insecticide dusts were better protected against insect attacks than those soaked in 10% water suspensions of the insecticides. Of the three insecticides, methoxychlor is the most effective in affording protection to the seeds against insect molestation. Except that BHC has an apparent retarding effect on the germination of the seeds while both BHC and methoxychlor causes some supa seeds to germinate into chlorophyll-deficient seedlings, the insecticides used have no adverse effect on the vitality and vigor of the seedlings—F. P. M.

\* An investigation paper presented to the faculty of the U.P. College of Forestry in partial fulfillment of the requirements for the degree of bachelor of science in forestry, 1954.

\* \* \*

## PROPAGATION OF PAPER MULBERRY BY ROOT SPROUT STUMP AND CUTTINGS \*

By BENJAMIN M. BATOON

This paper deals with the possibility of propagating Paper Mulberry by stump planting and cuttings

secured from young root sprouts under condition obtaining in the Makiling National Park as well as the right size of cuttings and stumps and the manner of preparation before planting.

Four hundred cuttings and three hundred fifty root sprout stumps were used. The cuttings, classified into five diameter classes, were taken from stems of root sprouts used as stumps. Lateral roots and tap roots of stumps were pruned to only 1 and 1.5 inches with a sharp knife. Stems were cut 2 inches above the root collar. The first 3 cuttings near the stumps were used. Ends of cuttings were coated with ordinary black wood paint before planting to prevent insect and fungus attack. The stumps were planted one meter apart along one meter wide strips, cleared of grasses 2 days before planting. Cuttings were planted in seedbeds. Weekly observations were made for three months and monthly thereafter.

Sprouts started to appear one week after planting. The appearance of sprouts lasted after four weeks had already elapsed. Out of the 400 cuttings planted, 330 sprouted, but only 49 or 14.6% survived at the end of the experiment. Of the 350 stumps planted, 315 sprouted, but only 47 or 14.8% survived at the end of the experiment.

Based on the observations made, sprouting in cuttings took place before rooting. A higher percentage of survival was obtained from larger cuttings while smaller stumps gave higher percentage of survival. It was found that the mean height increment of the cuttings increased as the diameter class increased and mean height increment decreased as diameter class increased in the stumps. Diameter class 2.0-2.5 cms. and 1.0-1.5 cms. of the cuttings and stumps gave the highest percentage of survival and rate of growth being 26 and 27 per cent, respectively.—P. Bautista

\* \* \*

## THE FOREST PRODUCTS LABORATORY

By ANASTACIO SISON

The half-million Forest Products Laboratory building is near completion. L-shaped and with 44 spacious rooms, it occupies a 1,500 square meters space 100 meters southwest of the Main Park Gate. Provided with a sawmill and veneer plant which will be supplied with timber and lumber from neighboring forests, it will conduct exploratory tests on the potentialities of weed species for pulp and wood flour and find uses of various mill wastes.

Unfortunately, all accumulated data and records of researches on the physical and mechanical proper-

## HOW TO CONTROL WILD PIGS

*Prepared by*

*The Plant Pest and Disease Control Division  
Bureau of Plant Industry*

ties of some of our woods and forest products were burned or lost during the war so that an urgent need for a Forest Products Laboratory was felt. The FOA-PHILCUSA agreed with the Philippine Government to build one and Prof. Eugenio de la Cruz, Professor of Forest Policy & History in the College of Forestry and then Chief of the Division of Forest Investigation, Bureau of Forestry, was sent to observe laboratory techniques and practices in the United States and other countries preparatory to his taking charge of the Philippine Forest Products Laboratory.

Detailed objectives of the Laboratory are:

(1) To ascertain properties of woods and if necessary to condition and improve its quality in order to fit them to the requirements of industry.

(2) To conduct studies of insects and fungi injurious to woods and minor forest products and to find methods of their prevention and control.

(3) To conduct studies on the structure and identification of woods not yet described to avoid confusion in the utilization of different species.

(4) To conduct studies on methods of harvesting and processing gums, resins, rattan, bast fibers and to find uses for them.

(5) To introduce new industries in the Philippines by the application of methods already proven in other countries for the processing of wood residues left in logging, milling and manufacturing conducive to the manufacture of pulp and paper, hard board and insulation board as well as plastics and other wood derivatives; and

(6) To disseminate the results of research by publication so that forest industries can improve the methods of manufacture of their products.

Key personnel will be "specialists" from various institutions. Research personnel will be sent abroad from time to time for further studies on their respective lines. Foreign experts, like Mr. George M. Hunt, the first Director of the Forest Products Laboratory at Madison, Wisconsin, who is now the Laboratory's adviser and consultant, may be sought to guide and advise on the manifold intricacies of the laboratory. As the work progresses, more technical men will be employed on the various phases of the work.

Director de la Cruz, Mr. Hunt and Forester Aguilar at present have their temporary offices at the Division of Forest Investigation. Upon completion of the building and installation of equipment, they will begin their gigantic research that will revolutionize our wood-manufacturing industries. The Forest Products Laboratory will be a living monument of their indefatigable efforts as well as of those who, in one way or another, contributed in its establishment and will contribute in its success.

Wild pigs are destructive to many crops, particularly corn, upland rice, sweet potatoes and other root crops. They are abundant in many parts of the Islands and are specially harmful to crops near forests and mountain areas.

Wild pigs may be controlled by shooting them and hunting them with dogs, by the use of traps and by poisoning them with white arsenic, strychnine or phosphorus compounds, mixed with suitable baits.

In Mindanao, good results have been obtained with a phosphorus paste compound or preparation. For baits, fruits like bananas, and tubers like sweet potatoes and cassava, may be used. White arsenic powder or any of the other poisons mentioned may be placed in holes bored into the tubers. The holes are then closed with some of the pieces bored out to keep the poison in or prevent it from being thrown out. The fruit or tuber baits may also be cut into halves, the cut surfaces smeared with the phosphorus paste compound or dusted with white arsenic powder and then put back together and then placed along the paths of the pigs or in parts of the plantation frequently visited by them. The phosphorus paste compound may be ordered through the Bureau of Plant Industry. The white arsenic can be purchased from local insecticide dealers.

There are certain other more potent poisons that may be used against wild hogs, such as thallium sulphate and 1080, but the phosphorus paste compound is the best to use because it is least dangerous to human beings. Thallium sulphate and 1080 (sodium fluoroacetate) are too dangerous for the layman to handle.

### *Precautions*

It is dangerous to use for food wild pigs killed with poisons. They should be properly disposed of, if found especially near cultivated areas, that is, buried deep enough to prevent dogs and other domestic animals from feeding on the carcasses of the pigs.

All poisons used for wild pigs and other pests should be properly stored and the containers properly labeled and stored to prevent mishap or poisoning to children and careless persons.

---

*What do we plant when we plant the tree?  
We plant the ship that will cross the sea,  
We plant the mast to carry the sails,  
We plant the planks to withstand the gales—  
The keel, and keelson, and beam and knee—  
We plant the ship when we plant the tree.*

HENRY ABBEY, *What Do We Plant*

# • SUNSHINE CORNER •

By RAFAEL MOLINO

## BIG HOUSE

A freshman was bragging to another, one day, that his uncle lives in a big house. So big indeed that it would take one two days to walk to the kitchen and another two days to return from where he came from.

"But that is nothing compared to the house a friend of mine entered", replied the latter.

"How?", the former asked.

"My friend entered 20 years ago but he has not come out yet", the latter boasted.

"How come?" the former amazingly asked "Where?"

"In...Muntinglupa," replied the former with entire satisfaction.

## A TREE SEEDLING

Professor—"Differentiate between a tree and a seedling?"

Student—"A tree is a big seedling, while a seedling is a small tree."

## WHO HAS THE BIGGEST

Preshie—"I bet, my father at home raised the biggest camote."

Sophie—"Hell, that's nothing compared with the biggest pot my father made."

Freshie—"Huh...how so?"

Sophie—"Well, for cooking that camote your father raised."

## PASSED ALL

After an examination, a student passed by his friend who was silently seated on a Teak root with worried eyes directed at the Registrar's office.

"How?", he greeted. "Did you pass the test?"

"Yes, I am very, very sure", the other answered absent-mindedly. "But..."

"So...why worry? Coop na tayo!"

"My notes", murmured the sad-faced fellow.

"What about them?", the inquisitor queried.

"I passed my notes too."

## EVIDENCE

A class in Forest Administration was lengthily deliberating on how a kainginero can be put to trial inasmuch as the kaingin, which was the only evidence, cannot be presented before the court to substantiate the charge. After a long silence, a student's voice was heard from behind.

"All right," the professor said with a nod, "what will you do?"

"In that case, sir", bluntly answered the student, "bring the court to the evidence."

## NO SE ACUERDA

A test in Spanish 10 was in progress when one of the students came across one of the questions that runs this way:

"Que son las partes principales de la cara?"

Confidently, the student wrote: "Las partes principales de la cara son *la frente, la boca, las orejas y los...*"

For some moments he pondered what could be the other parts. Finding that his memory has failed him, he finally wrote: "*Los Baños*" on the last blank space.

## GOOD GRADES

A mother of a forestry student met the principal of the high school where his son graduated from and told him proudly:

"Mr. Valdez, my son got all high grades this semester in the College of Forestry. Imagine that—that is a college of the University of the Philippines!"

"Congratulations, Mrs. We should be proud of your boy. His Alma Mater should be proud of him. Eh...how high?"

"He got all 5's except in ROTC and PE where he got 3's only. According to his letter I received 2 days after the Registrar sent me his grades, 5 is the highest grade. I am really proud. That boy has a head"

## DUAL PURPOSE

"Why did you come to study here in Forestry, Miss...", Johnny asked a chic freshie co-ed who was very interestedly looking at the few picture-frames with very few graduates during registration day.

"Forestry is my ambition. I like the course..." came the ready reply.

"Eh... supposing the course is kind of hard to get," Johnny persisted.

"Well..., in that case, maybe a forester will then be easier to get. I am afraid to go home alone, eh," the beauty countered.

---

PESSIMISM: Blowing out the light to see how dark it is.

IDEALIST: One who tries to keep politics out of politics.

---



UNIVERSITY OF THE PHILIPPINES  
Diliman, Quezon City

February 16, 1954

Dear Congressman Gonzales:

I am happy to learn that you have consented to sponsor a bill appropriating ₱200,000.00 for the reconstruction and expansion of the College of Forestry Building in Los Baños. I wish to thank you for the interest you have shown in our University. Our present budget does not provide any item to meet this expense which would be needed to push through the reconstruction and expansion of the present building. I trust that you will succeed in this undertaking and wish to assure you of the gratitude of your Alma Mater.

Sincerely yours,

(Sgd.) VIDAL A. TAN  
*President*

Congressman Jacobo Z. Gonzales  
House of Representatives  
Manila

\* \* \*

College of Forestry  
Legislation (Passed)  
H. B. No. 324

May 15, 1954

Hon. Jacobo Z. Gonzales  
House of Representatives  
Manila

My dear Congressman Gonzales:

Allow me to thank you for your deep interest in the College of Forestry by sponsoring H. B. No. 324 and working zealously for its passage.

The new building will serve as a monument of your great contribution to the cause of forestry and will always be a source of pride for the Province of Laguna and our Alma Mater, the University of the Philippines.

The College's faculty, alumni and student body will always remember your indefatigable efforts in making the dream of every alumnus a reality.

Please accept our warmest regard, best wishes and thanks.

Very sincerely,

FELIPE R. AMOS  
*Director of Forestry*  
*Dean, College of Forestry*

College of Forestry  
Legislation (Passed)  
H.B. No. 324

May 15, 1954

Hon. Dominador Chipeco  
Sta. Cruz, Laguna

My dear Governor Chipeco:

I have the honor to thank you, on behalf of the Bureau of Forestry and the College of Forestry, for the help you have unselfishly rendered for the cause of forestry education, having been instrumental in securing for us President Magsaysay's certification to the urgency of H.B. No. 324 which seeks the allotment of ₱200,000 for the reconstruction and rehabilitation of the College of Forestry.

Without presidential certification, it would have been difficult for the bill to have been passed by both houses. This thought alone makes us, the faculty, the alumni, the student body and our friends, deeply grateful, indeed, to you for the eloquent plea you have made on our behalf to the President.

Very sincerely yours,

FELIPE R. AMOS  
*Director of Forestry*  
*Dean, College of Forestry*

\* \* \*

University of the Philippines  
COLLEGE OF FORESTRY  
College, Laguna

March 26, 1954

My dear Governor Chipeco:

Allow me on behalf of the faculty, alumni and student body of the College of Forestry, U.P. to thank you ever so much for the appeal you put in on our behalf in your very touching letter to the President. We feel that you have our interest at heart perhaps more than the President of the University of the Philippines. It may be because you share with us our great concern and love for our forest resources. And anything that will contribute to the welfare of the nation, coming as it does from Laguna, will always be a source of pride for all of us, and surely the greater share of the honor will belong to you who had to go out of your way to help us in our hour of need.

While it is true that the bill has already passed the Lower House Committee on Public Works which has promised to report it out soon, without the President's backing and certification that it is a "must" bill, it will, like most bills as expressed in

popular parlance, never "reach first base". With your appeal, we are sure that the President will be touched and, being a man of action, he will do something for our cause.

As you said, your having to see the President personally on a certain matter was a blessing in disguise for it would give you a chance to put in a good word or two for us. This was something which far exceeded our expectations. And it is because of your ever ready help and sympathy with our cause that has touched our hearts. We cannot express to you in words our deep gratitude, but please believe me if I say to you that your solicitude for us has endeared you to the whole College, the Bureau of Forestry, the Alumni and our friends.

Very sincerely yours,  
(Sgd.) CALIXTO MABESA  
*Forester in Charge*

Hon. Dominador E. Chipeco  
Provincial Governor  
Sta. Cruz, Laguna

\* \* \*

College of Forestry  
Legislation (Passed)  
H.B. No. 324

May 15, 1954

Mr. Jose Bautista  
The Manila Times  
Manila

My dear Mr. Bautista:

I wish to convey to you the heartfelt thanks of the Bureau of Forestry, the College of Forestry and the alumni, for the keen interest the Manila Times has shown in forestry.

It cannot be denied that one of the most powerful media in the dissemination of the principles of forest conservation and the importance of forests to the nation is the press. Toward this end, the Manila Times has consistently "betted" for us. Your recent editorial urging congress to approve H. B. 324 has resulted in the swift and smooth passage of the bill in both houses. For this great service to the cause of forestry education, the Bureau, the College and the University of the Philippines are deeply grateful to you.

Sincerely yours,  
FELIPE R. AMOS  
*Director of Forestry  
Dean, College of Forestry*

\* \* \*

Republic of the Philippines  
HOUSE OF REPRESENTATIVES  
Manila

February 24, 1954

My dear Mr. Blando:

I am in receipt of your resolution and letter dated February 11, 1954, asking me to support H. R. Bill No. 324 seeking to appropriate ₱200,000

for the reconstruction and expansion of the College building in Los Baños and for other purposes. In this connection please be informed that I am doing my best, as a good alumnus, to help push through the same.

With assurances of my sincere cooperation, I am  
Sincerely yours,  
(Sgd.) LEONARDO B. PEREZ  
*Congressman, Nueva Vizcaya*

Mr. Jose B. Blando  
College of Forestry  
Los Baños, Laguna

\* \* \*

Republic of the Philippines  
OFFICE OF THE MAJORITY FLOOR LEADER  
House of Representatives  
Manila

February 9, 1954

Mr. Jose M. Ilagan  
College of Forestry  
University of the Philippines  
Diliman, Quezon City

Dear Mr. Ilagan:

This is to acknowledge receipt of your letter dated February 3, 1954, asking for my help with respect to a bill attached thereto, regarding the rehabilitation of the College of Forestry of the University of the Philippines.

I am very glad you took the initiative in crusading for the rehabilitation of the College of Forestry of the University of the Philippines. It shows your interest, not only in a particular college or university, but in a field of learning which is of great importance to our country.

Please rest assured that your proposal shall be given due consideration.

Very truly yours,  
(Sgd.) ARTURO M. TOLENTINO  
\* \* \*

Republic of the Philippines  
HOUSE OF REPRESENTATIVES  
Manila

March 16, 1954

My dear Primo,

I am in receipt of your letter dated February 16. I am indeed very glad to hear from you. Of course I am with you on our belief that the College of Forestry in Los Baños should be given all the aid by the government, especially in the reconstructions and expansions of its buildings.

Up to this writing, the said Bill has been acted upon by the Committee on Public Works and that the College has been required to itemize the projects for which the intended sum should be spent.

I wish to assure you that in my humble capacity as a member of the House of Representatives, I will support the approval of the said measure.

Hoping to hear from you, and with my sincere personal regards to you and family, I remain

Sincerely yours,

(Sgd.) CORNELIO T. VILLAREAL

Mr. Timoteo Quimpo  
Bureau of Forestry  
Malaybalay, Bukidnon

\* \* \*

Republic of the Philippines  
HOUSE OF REPRESENTATIVES  
Manila

April 5, 1954

Dear Mr. Siriban:

I received your letter dated March 26, 1954 concerning H. No. 324 wherein the sum of ₱200,000.00 is proposed for appropriation for the construction and expansion of the College of Forestry.

I am very glad to know your interest in the above legislative measure and I assure you of my full support to this bill.

I wish to convey to you and to the personnel of your office my warmest personal regards.

Very sincerely,

(Sgd.) SAMUEL F. REYES  
*Congressman for Isabela*

Mr. Francisco Siriban  
Ilagan, Isabela

\* \* \*

June 28, 1954

Dear Dean Amos:

It is a source of gratification on our part to report to you that the trees and palms donated to the LVN by the College of Forestry thru your courtesy are now all safely planted and will eventually add to the beauty of our campus; and we take pride to state that our small "forest," that you helped in its realization, will be one of the attractions of the studio. To you, therefore, we wish to convey our sincere gratitude and warm appreciation.

To Prof. Jose Blando, to Mr. Felix Franco and to Mr. Ildefonso Palisoc, we want to express here our debt of gratitude and to thank them, thru your office, for their invaluable services in making our "forest" possible. We wish to commend most enthusiastically the unselfish efforts and extra work that Mr. Palisoc devoted during his personal supervision of the digging, transporting and planting of the trees.

The deep interest of Messrs. Franco, Blando and Palisoc, in the realization project, will always be remembered by LVN as long as those trees that they helped to plant. last

Very sincerely,

(Sgd.) JOSE P. GENEROSO  
*Production Manager*

Republic of the Philippines  
HOUSE OF REPRESENTATIVES  
Manila

February 26, 1954

My dear Mr. San Luis,

It was a pleasant surprise to hear from you and be reminded of our college days.

Please be assured that I shall support the passage of Bill No. 324, regarding the expansion of the U.P. College of Forestry. This is my duty as a loyal alumnus of the University of the Philippines. More especially so, when the call to duty is sounded by a friend.

Regards to you and your family.

Sincerely yours,

(Sgd.) DOMOCAO ALONTO

Mr. Mario F. San Luis  
Administrative Officer  
Bureau of Forestry  
Iligan City

\* \* \*

Republic of the Philippines  
HOUSE OF REPRESENTATIVES  
Manila

March 12, 1954

Mr. Gregorio Labitag, et al  
Forestry Alumni  
Legaspi City

My dear friends:

I have received your letter of the 25th of February last requesting the appropriation by Congress of the Counterpart Fund for the rehabilitation of the College of Forestry in Los Baños. In this connection I wish to inform you that I shall give the matter my whole-hearted support.

With the assurance of my services, I am

Sincerely,

(Sgd.) J. NUYDA  
*Congressman, Albay*

\* \* \*

Republic of the Philippines  
HOUSE OF REPRESENTATIVES  
Manila

March 3, 1954

Messrs.

Gregorio J. Labitag  
Gregorio J. Arizabal  
Edilberto Borja  
Vicente A. Ramirez  
and Segundino Regondola  
c/o Office of the District Forester  
Legaspi, Albay

Dear Sirs:

I am just in receipt of your letter of February 25, urging me to support the bill appropriating the sum of ₱200,000.00 for the reconstruction of the



Forestry building at Los Baños, Laguna. Please be assured of my support without any conditions or strings.

Sincerely yours,  
(Sgd.) PIU DURAN

\* \* \*

Dear Fellow Foresters:

The age limit, for the service to which you and I have devoted and are still devoting the best years of our life, has overtaken me at last, and I am now retired since February 28, 1954. Of course the reality of such severance is poignant indeed minimized only by the thoughts that I always did my best in the interest of our country and the forestry profession.

I cease to be an employee of our bureau, but my love for forestry will always remain, as well as the warm association I had with you. Above all, of course, I wish to thank you and those who have worked with me directly during all these years for their cooperation, and those other co-workers in the Bureau with whom I have come in contact, for all the help, courtesy and understanding extended to me.

This severance is, however, not the parting of my ways from yours. I find my mind and body still responsive to our work and I believe I can still be of service to forest users in a private way. I have

## FSBO Participates U.P. Diliman A & L Day Essay Contest Winners

The Forestry Student Body Organization will participate actively in the Loyalty and Arbor Day Celebration in U.P. Diliman on September 18, 1954. The Forestry students balled the santol seedlings to be planted during the celebrations and two students will be assigned to help supervise the planting of trees by each U.P. organization. In the recent Arbor Day Writing Contest, 3 members of the English 2 class who won 1st, 2nd & 3rd prizes respectively are the following: Feliberto Pollisco, Cl. '56, Generosa Cañeda, Cl. '56, Modesto Tobias Cl. '57.

---

not yet found a convenient, modest place for such a private service, but in the meantime my temporary address is: c/o Bureau of Forestry, Manila.

Thanking you again for your very kind cooperation, I remain

Sincerely yours,  
(Sgd.) AGAPITO L. CENABRE

---

### THE GROWTH OF . . .

(Continued from page 68)

tion aims. More than that, this active participation serves notice that the administration is prepared to provide vigorous leadership in the whole field of renewable natural resources.

(3) A notable advance in the last decade is the fact that former mistrust between public and private forestry is rapidly being dispelled. Consensus was that a true meeting of minds was achieved that will prove to be a historic milestone in forestry progress.

"We can only conclude that the American public is ready to advance a cooperative program for forestry that will further accent accomplishment in the nation's woodlands," executive director-forester Lowell Besley, of the AFA, stated at the conclusion of the Congress. "We believe that on the basis of

the enthusiasm and understanding shown at the Congress that all elements of forestry are ready to move ahead in a great groundswell of progress. We are well aware that the Congress poses a great challenge to the AFA. We accept that challenge. The plan for a new campaign is now being drafted. And it is abundantly clear that the architects of forestry and related management programs are ready to roll up their sleeves and carry that program forward."

---

## IN MEMORIAM

Forester NICANOR P. LALOG  
Died September 9, 1954

Mr. OBIDIO B. BELLO  
Died June 22, 1954

---

# EDITORIALS

## AFTER ARBOR DAY, WHAT NEXT?

*Just once in three hundred and sixty-five days are our friends, the trees, remembered. It is on Arbor Day, that amid speeches and songs, thousands of tree seedlings are planted throughout the nation by young and old alike. But, among these planted seedlings, how many will survive? How many will grow to full maturity to give their invaluable services to mankind? How many will live to stand as living symbols of the significance of the day? Only a few will; perhaps a mere handful of the thousands that had been planted, because just as soon as the celebration of the day is over, the poor seedlings are left uncared for and alone on the ground where they had been planted—at the mercy of the elements until the next Arbor Day, that is if they can live that long.*

*In order to fulfill the purpose of Arbor Day, this present practice should be discontinued. Let us not abandon the seedlings after they are planted. Let us make each day of the year an Arbor Day!*

F.S.A.

## THE FOREST EXPERIMENT STATION

*The building to house the Forest Experiment Station is nearing completion. It is only one of the many PHILCUSA-FOA projects throughout the country aimed to help the Bureau of Forestry in its program of wise utilization of one of the country's valuable natural resources—the forest.*

*Very few may realize the importance of the Forest Experiment Station. Perhaps, some may even consider it as an unnecessary addition to the Bureau.*

*However, it is an answer to the call of the Bureau of Forestry for a more integrated*

### The Staff of the FORESTRY LEAVES

Organ of the Student Body and Alumni of the College of Forestry, College, Laguna

#### Associate Editors

BENJAMIN M. BATOON  
EDMUNDO CORTES  
ANGEL MARIANO  
ROMEO ULANGKAYA

#### Photographers

KASPA AGANIDAD  
JUAN B. GALO

#### Board of Management

RAFAEL T. MOLINO  
ALFREDO EUGENIO  
LEONARDO ANGELES  
TERESITA BAÑAGA  
PELAGIO D. BAUTISTA  
BIENVENIDO PARAGAS  
ANASTACIO SISON

#### FLORENCIO P. MAURICIO

*Editor in Chief*

MODESTO TOBIAS  
*Business Manager*

FELIBERTO POLLISCO  
*Asst. Business Manager*

Prof. JOSE B. BLANDO  
*Adviser*

#### Managing Editor

FORTUNATO S. ARCANGEL

#### Contributing Editors

BERNARDO C. AGALOS  
BENJAMIN D. ALMONTE  
TEOFILO A. SANTOS  
FRANCISCO N. TAMOLANG

#### Circulation Department

HERMAN AGPAWA  
JOSE DE LA ROSA  
MARIANO VALERA  
JUANITO LAMANILAW  
JESSIE AMIHAN  
JOSE TOMAS

*and intensive study of the forest. Without the Forest Experiment Station, the Bureau of Forestry will have nothing to build a dream on.*

*The Forest Experiment Station must be helped in every way in its development. For in it lies the realization of the success of our ever-growing forest industries.*

—B.G.P.

## MORE DORMITORIES

*With an increase in student population, the housing problem on the campus has become acute. The dormitories meant to house from twenty-four to thirty students each are made to accommodate twice that number with the use of a double-deck system. The system while convenient has its handicaps in that no matter how one looks at it, it gives any casual visitor a sensation of "packed sardines" atmosphere in every room.*

*But we cannot afford to be choosy. And it is better to have not very satisfactory accommodations than no accommodations at all.*

*With the increase of girl students, now numbering 17, another angle to the problem has been added.*

*The only solution is to have more dormitories. And the sooner the problem of accommodating the future students is looked into, the better it would be for the College. There is, therefore, an urgent need for more dormitories for its ever increasing student population for a rehabilitated and expanded College building.*

E. CORTEZ

## NOTES OF THANKS

*A more beautiful and bigger College of Forestry building will greet the visitors five months from to-day.*

*It will answer the long felt need of the Bureau of Forestry and the University of the Philippines for a bigger building to keep pace with an evergrowing student population and the demand for more technically trained men in forestry.*

*One notes with satisfaction that there is a growing interest in forestry not only among the young men but also among the young women of the country to-day. Seventeen girls are now enrolled when only three years ago, at faculty meetings it was considered a big joke to mention the possibility of girls enrolling in the College.*

*There is no doubt that every year, there will be a notable increase in enrolment, and every year the College will turn out more graduates to keep a steady supply of men upon whose shoulders will be laid the onerous task of conserving our forest resources.*

*To President Magsaysay and to the Members of the Third Congress of the Philippine Republic who made possible the realization of a concrete answer to a long felt need, the country in general and the University of the Philippines in particular are profoundly grateful.*

*The College building will serve as a monument to their abiding faith in the Bureau's policy that as long as there are foresters in the Bureau of Forestry the valuable forest resources of the country will be conserved.*

## THE GROWTH OF FORESTRY \*

The Fourth American Forest Congress was the logical sequel to AFA's forest resources appraisal and Forest Congress of 1946. The two events must be linked together for they are one and inseparable. Together, they reflect the continuing pattern of forestry thinking and achievement over the greater part of a decade. The 1953 Congress now presents the yardstick whereby that thinking and accomplishment may be measured.

The 1946 Forest Congress—the first national “town meeting” of forestry since 1905—was called to set a source for forestry in post-war America. In an era of great uncertainty, this meeting provided the spark whereby the various elements of forestry endeavor were drawn more closely together. The chief artisans of that program set their sights high in forging a strong, farsighted blueprint for action that gave birth to cooperative actuality in the forestry movement. This program has been out in front of forestry for the last seven years. Strong on fundamentals, it is as basically sound today as it ever was.

The Higgins Lake Conference of last June to bring this program up to date in terms of today's conditions provided substantial evidence that national cooperative effort, in the spirit of the 1946 Congress, has made remarkable progress in the last few years. Even so, no one could have fully predicted the vigor of the cooperative approach to today's problems—the driving initiative that came blazing forth at the Fourth Forest Congress as reflected by the seasoned views of over 100 agencies, groups and individuals.

For the Fourth Forest Congress was no ordinary forestry meeting. It will stand as a monument to the growing stature of the forestry profession and to the maturity of all the various groups working in renewable natural resources. Great unity of purpose

was in evidence at this meeting. Major emphasis was placed on the cooperative approach in solving existing problems. There was a willingness to see the other fellow's problems—a frank spirit of give-and-take—that reflects increased sureness of purpose on the part of the various groups engaged in resources work. In brief, it was a constructive meeting.

A detailed evaluation of a conference that worked on so broad a canvass is not easy so soon after the event. But in the main, three key facts appear to stand out. These are:

(1) The Fourth Forest Congress endorsed in principle the recommendations for forestry as advanced by the Higgins Lake Committee and at the same time reaffirmed its faith in the broad, fundamental concepts as outlined in the Program for Forestry of 1946. Consequently, there is every reason to believe that the Higgins Lake proposals, perfected by the salient ideas brought out in the Congress, can be used as a base for a forestry program that will be acceptable to all groups concerned.

(2) The present administration endorsed, without reservation, the aims and objectives of the American Forestry Association and served notice it is ready to cooperate in helping to achieve desired goals. Seldom, if ever before, have four key men of any administration contributed so generously of their time and talents in helping to make a forestry meeting a success. President Eisenhower, Secretaries Benson and McKay, and Sherman Adams not only appeared at the Congress; all took an extremely active part. Their addresses, enunciating clearly as they did the new policies of the administration, should do much to still fears that have been lurking in the hearts of many sincere people as to administration conserva-

*(Continued on page 65)*

---

\* Editorial from *American Forests*, December, 1953.