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FARMING

AND COOPERATIVES

Official Organ of The Philippine Farmers' Association

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Vol. I Nos. 3-4
Jan. - Feb., 1946



DUPLICATE

Rice planting in the Philippines, a farm operation which machine shall perform in the near future.

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Vol. I—Nos. 3-4

Jan. Feb., 1946

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FARMING and COOPERATIVES

Vol. I No. 3-4 Jan.-Feb., 1946

ARTICLES

	Page
Possibilities of Livestock Farming in the Philippines — Vicente Araneta	2
My Alma Mater — the College of Agriculture — R. R. de Arana	4
Alfredo Montelibano	6
Commercial Possibilities of Ramie Fiber Production in the Cagayan Valley—Julio Jamias	7
National Land Settlement — G. J. Lothar Maetze	8
Saga of the Great Earth—(Poem) —C. M. Vega	9
Those Ideal Lands — F. de la Cruz	10
Agriculture—Most Honorable Vocation—Richard R. Hill	12

DEPARTMENTS

The Cooperative Movement—Hilarion S. Silayan	14
Questions and Answers On Livestock and Poultry Culture — Carlos X. Burgos	16
Progressive Farming	17
The March of Events	18
In Lighter Vein	28

EDITORIAL

An Outline of Measures for the Solution of Agrarian Problems in Central Luzon	1
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INDEX OF ADVERTISERS . . . 36

FARMING AND COOPERATIVES is published monthly by the Philippine Farmers Association. Hilarion S. Silayan, editor; Raul R. de Arana, business manager. Subscription rates: ₱6.00 for six months and ₱10.00 yearly. Editorial and Business Offices: 1001 Oroquieta corner Lope de Vega, Manila, Philippines.

Entered as second class matter at the Manila Post Office on Dec. 14, 1945.

FARMING AND COOPERATIVES

EDITORIAL

AN OUTLINE OF MEASURES FOR THE SOLUTION OF
AGRARIAN PROBLEMS IN CENTRAL LUZON

SUBMITTED BY THE PHILIPPINE FARMERS ASSOCIATION

Guiding Principles:

1. Tenant improvement is a necessary step to attain for the rural population a better standard of living and a greater participation in the advantages of economic progress than now obtaining in the rural districts.
2. Measures for tenant improvement shall be democratic, providing that the farmers, tenants and landowners alike, shall take active participation in the study of farm problems and in the determination of measures for the amelioration of conditions, and shall assume certain responsibility in carrying out the plans decided upon.
3. Measures shall aim to insure fair distribution of the legitimate shares from the farm income, of the tenant labor, management, and capital.
4. Strick enforcement of laws particularly on thefts of crops and farm animals.
2. Increasing the income of tenants through greater production to be achieved principally:
 - .1. By increasing the landholding of tenants to at least two and one half hectares per family on irrigated rice lands.
 - .2. By developing an intensive and diversified cropping system to keep the labor, animal, implements and land profitably engaged throughout the year.
 - .3. By encouraging tenants to adopt as a general practice the raising of poultry and hogs.
 - .4. By creating home industries such as weaving, pottery, toy making, canning, cutlery, etc.
 - .5. By obliging the tenants to plant the homelot, assigned to him as a privilege under the Tenancy Act, to vegetables and fruit trees.
 - .6. By providing through amendment of the Tenancy laws, a fair system of distribution of the farm income, to tenant labor and management and capital.

Objectives:

1. An enlightened and progressive rural population and contented tenants.
2. An adequate labor income for the tenant to permit him a satisfactory standard of living and educate his children, and improve his social and economic status.
3. Extension into general practice among farmers, tenants and operating landowners alike, of up-to-date efficient methods of production.
4. Increased production at economic cost.
5. Greater opportunity for employment, diversification of production, and industrialization through resource development.
6. Conservation of soil fertility.
7. A close and happy relationship between landowners and tenants.
3. Introduction of improved methods of production by the operation of a well organized, sufficiently manned, and adequately financed, government agricultural guidance service for the following:
 - .1. To organize and supervise cooperative Tenant Improvement Societies; providing sane leadership for the rural population.
 - .2. To help and provide information to farmers on:
 - .01. Better business methods on farming enterprise;
 - .02. Use of good seeds of high yielding varieties;
 - .03. Efficient methods of soil preparation;
 - .04. Effective control of pests and diseases;
 - .05. Proper use of fertilizers;
 - .06. Diversification of crops;
 - .07. Labor saving devices;
 - .08. Home lot improvement and profitable home industries.

Measures:

1. Establishment of peace and order as the primary requirement for orderly and economic production through the immediate setting up of the following:
 - .1. Immediate collection of unlicensed firearms.
 - .2. Suppression of all kinds of subversive movements.
 - .3. Organization of a strong and effective law enforcing agency to provide security even in the remote barrio.

(Continued on page 36)

Possibilities of Livestock Farming in the Philippines

Vicente Araneta

NATION'S NEED FOR MILK

It is a common idea that tropical climate has deleterious effect on the health, stature and working energy of the people. This has always been said about us, the Filipino as a whole. If one delves into history, he will notice that there are certain races in the tropics that are more vigorous, better built, and longer lived than are other people in the same zone. We know for example, that Arabia is an inferno, considerably worse with respect to temperature than our Philippines — but the Arabs now and as far as observed have always enjoyed a most excellent physique coupled with an enviable energy. Napoleon's surgeon general, on the great commander's Egyptian campaign described these lean, sinewy hawks of the desert as more perfect in physical structure than most Europeans. The Arabs feel that it is *milk* which contributes to their fortunate health for the fare of their pastoral people is mostly milk, supplemented with only moderate amounts of meat, cereals, and dates. The milk is that of goats, camels and sheep and because of the intense heat is soured at once and eaten in the form of curds.

A British scientist in India, Dr. D. McCay, has found that the pastoral Indians of the few good dairy regions of that country are always vastly superior to the more numerous natives who live only on cereals.

In the early years of this century Prof. Eli Metchnikoff, famed bacteriologist who wrote on the prolongation of life, decided that one of the principal ways to increase longevity was the consumption in quantities of an organism which soured milk, called *Bacillus bulgaricus* as he had ob-

served that longevity was a characteristic in numerous places where soured milk formed the "piece de resistance" of the diet. The particular microbe which is effective in the intestinal tract as known today by science however is not the *bulgaricus* but the *Acidophilus bacillus*, and from the evidence at hand today, the explanation observed by Metchnikoff on the long lives could be attributed not so much to the bacillus which sours milk as to the beneficial effect of milk itself. Scientists have proclaimed *milk* as *the most nearly perfect of human foods* for it is the only single article of diet which contains practically all the elements necessary to sustain and nourish the human system.

That milk is an essential food in the diet of all people is therefore an established fact. That this essential food is not available to most of our city people and particularly to the working class because of the high cost of milk is wellknown to us. In fact it is a problem which the nutrition committee of the National Research Council would like to solve. Because of the absence of a dairy industry in the Islands, the problem of malnutrition sadly extends even to our agricultural districts because whatever small quantity of milk is produced by the milking fauna of the villages is sold to increase the scanty revenue of the poor farmers. The absence of milk in the most economical fare contributes to the high incidence of tuberculosis in the Islands, as well as to the poor constitution of most Filipinos.

Various plans have been suggested for the development of the dairy industry in the Islands. There are those who proposed the development of the industry through selection and propagation of the "caraballa"; others insist on the necessity of developing a cattle breed for the Philippines that will stand the tropical climate and pro-

duce plenty of milk without the necessity of giving the cow the customary care and feed she gets in temperate countries where dairy farming is so highly developed. A third proposition is to expand dairying on the limited merits of the Scindi breed which has already been tried in the Islands.

A number of years before the war, these three plans were often the topic of discussion among experts in animal husbandry of the National Research Council, Bureau of Animal Industry, and the College of Agriculture. If positive steps have not as yet been taken by the different agencies concerned, it is very likely that such hesitation was due to the following hazards:

1. It is so difficult to find good milking carabaos and even if selection is made of the best available females the process of breed improvement will take scores of years.
2. The formation of a new breed will likewise require the same length of time that the carabao proposition will require, if not more.
3. With Red Scindis we will not only have the difficulty in finding sufficient number of cows to develop dairy farming at as good a pace as the nation's need for milk demands, but will also find that with her low production milk will not be produced economically.

The above mentioned drawbacks, without mentioning others related to the three plans are really not trivial; it is now therefore in order for us to discuss a fourth proposition — *the utilization of western breeds of dairy cattle in an up-grading program, in order to speedily develop dairy farming which is so imperatively required by the nation to feed its people sufficiently with milk as early as possible.*

If dairy cattle from temperate countries have not won favor with our animal husbandmen, the reason undoubtedly is the belief that agencies such as climate, parasites, lack of adequate feeds and epidemic diseases, make impossible the acclimatization of these breeds in the Islands. Among all these factors, there is only one which in the opinion of the writer could constitute a serious hazard — epidemic diseases, such as rinderpest, anthrax, and foot and mouth disease. We know however, that our laboratories have developed adequate vaccines to immunize cattle against the first two mentioned diseases; while foot and mouth does not cause a high mortality rate, and can be controlled by suitable measures as adequate fences and care by attendants from going to infected farms.

Though I do not pretend knowledge on the matter, the next chapter "PROPER NUTRITION-THE SOLUTION TO ACCLIMATIZATION" is a strong opinion which I have from years of experience in the care and feeding of Jerseys and Holsteins at the Hacarin farm. In it is discussed where the mistake was, in all previous attempts to acclimatize breeds from temperate climate.

The present time is a particularly interesting one in which to consider a program for developing dairy farming in the Philippines, if it is desired to make the country self-sufficient in dairy products. If it is the program of the government to industrialize for self-sufficiency, the dairy industry should stand paramount among the different industries which should be developed, because an annual drain from the Nation's wealth of P9,000,000.00 caused by the importation of dairy products, should be of great concern to our leaders.

If we in the Philippines should ever consume milk at par with the per capita consumption of leading countries of the world, for a population of eighteen million the dairy industry may mean a total annual output valued at no less than P300,000,000.

In order to get a fair view of the status of the importations of dairy products, a detail is here copied from available statistics for the years 1939 and 1940.

FARMING AND COOPERATIVES



(USIS cut)

Prize-winning Holstein calves raised by a U. S. boy. It requires education and patience to raise livestock but if our ex-servicemen will go into it with heart and soul, they are as competent as this U. S. boy.

	1940		1939	
	Kilos	Value	Kilos	Value
BUTTER		P 636,260		P 649,385
Fresh	566,260	556,487	505,346	518,057
Canned	64,204	79,773	107,587	131,328
CHEESE	372,981	264,530	555,664	384,989
MILK		P8,384,715		P7,667,600
Buttermilk	30,476	6,352	24,150	8,146
Fresh, Nat.	410,768	116,390	994,517	254,066
Evaporated	16,522,041	5,102,239	14,906,890	4,300,490
Condensed	6,377,858	2,626,530	6,448,937	2,610,919
Malted milk	129,418	166,169	139,281	201,699
Compounds, etc.	5,172	3,115	4,687	4,670
Powdered	471,791	363,920	423,764	287,610
TOTAL VAL. OF IMPORTS		P9,285,511		P8,701,974

Some 25,000 dairy cattle will be required to produce the raw milk necessary to have the above listed products in the quantities imported. In developing the industry our goal should not exclusively be, that of curtailing all importation of milk, but should at the very least aim to make possible for every Filipino to consume an average of half pint of milk daily, in which case 900,000 milking cows would be necessary. At this stage, we can understand how extensive our dairy industry would be if we realize that two hectares would have to be dedicated to produce all the concentrates and the roughage

necessary to feed each cow. This indeed would be a blessing to Philippine agriculture for we know that dairy farming will then play an important role in the conservation of the fertility of our soil.

The grain yield of every acre of the agricultural lands of Denmark, England, Germany, the United States and other countries where dairy farming has been followed for a period of years has materially increased during the past fifty years. Dairy farms where legumes are the staple crops, do not suffer as the soil is not depleted of nitrogen even if hay crops or seeds are sold. On the contrary,

(Continued on page 32)

My Alma Mater The College of Agriculture

R. R. de Arana



FARMING AND COOPERATIVES' principal mission is to promote efficient farm management as a basis for a more progressive and stable Agricultural Production. The economic factors and the business principles involved in agricultural production are obviously the main problems of our present day Agriculture. A sound knowledge of agricultural economics is essential to the building up of policies. If Los Baños is to continue as the training ground of leaders in Agriculture as it has been in the past, and maintain itself as an influence in progressive policy determination of the country, its future graduates must be better grounded in rural economics, farm management, mechanized agriculture, and cooperative principles and practices. These are the tools leaders must have to meet modern conditions. Chemists, breeders, pathologists, entomologists, plant physiologists, and other agricultural specialists, are needed in greater numbers than ever before and Los Baños must continue in its mission of producing them in quality as well as quantity. The country needs and urgently, practical progressive farm managers, resourceful rural teachers for extension service, managers of farmer's cooperatives, farm mechanics, inventors of labor saving devices and agricultural economists, to serve the government in policy determination and adjustment program building. Los Baños cannot be indifferent to this demand. The conditions obtaining at present and the economic demands of today are different from those of 1909 when the college was established.

FARMING AND COOPERATIVES advocates as a general principle the adjustment of the curriculum of the Los Baños College to provide greater facilities for practical training in farm management, agriculture machinery, cooperative stores management and general rural economics. Los Baños has numerous alumni in the field whose practical experience can be of inestimable value in formulating a suitable curricula.

No efforts should be spared to make this adjustment quickly and as nearly conforming to the needs of the country as possible.

While we do not subscribe in full to the details proposed in the following article, we commend the whole article to the authorities concerned and suggest that a body be set up at once to formulate the changes. Here is a good example of the earnestness of the Los Baños Alumni for the welfare of the Alma mater and the Nation.

FARMING AND COOPERATIVES welcomes suggestions from other Alumni.—(EDITOR'S NOTE)



Have you heard of Maria Makiling? Even Dr. Rizal could not ignore her charms for he wrote about the legend of the muse and keeper of Mount Makiling, that beautiful mountain that rises about 3,000 feet above Laguna Lake. As they say, Maria Makiling is a beautiful woman, slender, clear complexioned, with beautifully thick deep black hair that floats in the winds as she passes by. Her voice could be heard calling her loved ones, the forest

animals within her forest domain, like a deep moaning sound. Legend has it that she is a very jealous person and even the farmers of the foothills of Mount Makiling are protected by her. She is, as Dr. Rizal described her, the spirit of Mount Makiling.

Nestling at the foot of this beautiful and legendary mountain, about three kilometers from Los Baños and the shores of Laguna Lake, is the College of Agriculture of the University of the

Philippines, claimed as the outstanding Agricultural Educational institution in the Far East. This was where I obtained my education—my Alma Mater. Not only is it my Alma Mater but I consider it also my home, for I practically grew up in this valley of beautiful greens. My youthful days were spent here, the best part of my formative years. It is very close to my heart and I am proud of it.

And like legendary Mount Makiling, the College of Agriculture also has its story and legend. The "Los Baños Spirit" is well known among the colleges of the University and former American Governors General and High Commissioners have talked of it and praised it. Whether on the campus, in the classroom, in the field working, on the athletic field or at dances and parties, this spirit of Los Baños—courage, loyalty, helpfulness and determination to succeed in whatever they do, however small the undertaking maybe, is an integral part of every Aggie. This spirit was demonstrated on Oct. 10, 1917 during the first World War when Aggie boys answered the call of the country by volunteering for service in the armed forces en masse. In remembrance of this occasion the college celebrates on the 10th of October its Loyalty Day.

Perhaps this spirit has been in some way due to the founder and first dean of this College—Dr. Edwin Bingham Copeland — that tall bewhiskered elderly athletic scientist, scholar, and above all, an agricultural philosopher. He was a combination of youthful vigor and enthusiasm mellowed by the wise and trained coordination of his alert brain and experience. He was student, brother, father, counsellor. He was Professor Copeland in the true sense of the word. To old Aggie graduates who knew him, he was and is still, Professor Copeland. For, if his teachings and counsels were sound

to a student in his class then, to those who had gone out in the world of men they were sounder still because one had tried and proved what he taught to be genuinely legitimate and correct.

Because of this spirit, nothing can separate an Aggie graduate from his Alma Mater. Los Baños has always a warm spot in his heart. Often it becomes an inspiration in his work. He is proud to know he is capable of healthy mental and physical work. For this love of his for his Alma Mater, he is sensitive and jealous of any criticism that may be thrown at the college. So, for this very reason, he would rather criticize or suggest anything for the betterment of his Alma Mater before any outsider criticizes it ahead of him. He feels it is his home and would put it to order himself.

In the light of the above premises, is it not felt timely that a change in its curricula be made? Isn't it the order of universities and colleges to revise or make changes in its curriculum every five or ten years to adapt itself to the changes of the times? If this is the normal procedure, then there is no time more appropriate to make the revision than now, when the College of Agriculture is starting again with nothing, after it had been destroyed by the brutal Japanese Army, when practically everything the College had built up all these thirty odd years in the form of findings in Agricultural Science, breeds of animals and poultry and plants have been lost.

As a matter of interest and study, let us glance at the B. S. A. (Bachelor of Science in Agriculture) curriculum. According to this program (University of the Philippines Catalog of 1940) a student in the first year, of a four-year course, carries 47 units for the whole year divided into 23 ½ units per semester of which Agricultural Chemistry I and Botany I have full 10 units each or 20 units in all. This is practically one-half of all the total units for the whole year. The balance of 27 units are divided into four other basic subjects and two required subjects (Military Science and Physical Education).

Botany I and Agricultural Chemistry I carry weekly each, two hours of lecture and six hours

of laboratory work. Botany I or General Agricultural Botany, is mostly drawings and descriptions of varied number of plants and technical experiments and their descriptions—in form, like technically prepared manuscripts. This is indeed very good and beneficial but also expensive and overburdens the student with too much paper work which consumes a lot of extra time. Could not Botany I be adjusted in such a way so that it carries the object result desired but with only 5 units? The same is true of Agricultural Chemistry I which is General Chemistry. There are too many experiments and paper work. If this too could be reduced to 5 units, then from Botany I and Chemistry I there would be a savings of 10 units. This could be applied to a new subject, "Principles of Farm Management" which may be designated as Farm Management I subject. This will compose both of lectures and farm work. The student will be given from the outset a good practical outlook in his studies. This new subject should take up the social science side of management, namely, ways and methods of handling laborers and tenants or farm employees based on the habits, customs and idiosyncracies of our different groups of farm workers, namely, the Tagalogs, the Ilocanos, the Visayans, the Bicolanos, the Moros. Coupled with these lessons should be the laying out of projects and the use of men in group work, giving the students basic fundamentals in farm division and distribution of work.

Sad to say, our farm problems in the Philippines have always been social. Unwise relationship between tenants and landowners, too many systems employed on farms have been foremost among the ills of agrarian disputes. Physical problems have always been inadequacy of land area cultivated by the tenants so that his income is always inadequate, lack of irrigation facilities, lack of good seeds and fertilizers resulting in poor harvest have been major points of disagreements between tenant and landowner. With this course, there will be evolved a more uniform farming practice thereby solving a lot of the question marks. It will be found also that basically, the answer will be practically the

same in all places and that is the application of more progressive farming methods so that the tenant farmer may be able to live a more decent life.

For those who wish to major in the department or whose aim is to be a technical man, let him take 10 units of Botany I and 10 units of Chemistry I.

In the second year or sophomore year, Plant Pathology or Diseases of Plants carries 5 units for the first semester. Experiments in Plant Pathology not being carried out on farms as a general rule, as farmers or landowners would secure the help of a plant pest man should his crop be attacked by diseases whether the farmer's or landowner's manager is an Aggie graduate or not, and if the disease becomes alarming government aid is sought for anyway, suffice that the student understands the fundamentals of diseases, their methods of propagation and infection and their corresponding cures necessary for their prevention and eradication. Could this subject not be reduced to 3 units and the 2 units saved be added to Animal Husbandry 2 which carries only 2 units? A more intensive and practical work on animal husbandry and poultry raising should be given students as animals and fowls are at present a big need of our country and they constitute during normal times a major Philippine industry and represent a big sum in Philippine imports. Why? Couldn't we raise enough for our needs at least through improved methods of raising animals and fowls? Couldn't we be as economical and advanced in our animal husbandry? More study in this line will help solve the problem.

In the second semester, again Chemistry. This time Chemistry 2 or Analytical Chemistry which carries 5 units. This course being too technical is not of much use to a farmer graduate except for one who would specialize in Chemistry or allied subjects. Wouldn't it be more practical to allow 5 units only to those who will major in the department or as elective or to those who will later take up Sugar Technology course? If 2 units could be clipped off Chemistry 2,

(Continued on page 29)

ALFREDO MONTELIBANO

Secretary of National Defense
and
Acting Secretary of the Interior
Commonwealth of the Philippines

FOR the first time in the political progress of the Philippines an honest to goodness, genuine farmer gets to the high council of the government and, during this tumultuous, most critical time his appointment to two of the highest ranking positions of the Commonwealth government — those of Secretary of National Defense and Acting Secretary of the Interior — has had a most salutary effect on the people. In the same skillful and convincing manner in which he has managed his farms and other business affairs, he is now discharging the functions of the two offices to the satisfaction of the people, thus strengthening their faith in the government and confirming their belief in the traditions, achievements and determination of a democratic way of life.

In the brief time that Secretary Montelibano has held his dual role in the government the common man has realized that humility, competence and vigilance, rather than arrogance and intolerance, are the attributes of a true leader of men, as he patently is. If the record of his past accomplishments is any criterion, the people may rest assured that the administration of the two departments under his care is in safe hands. His success as Mayor of the City of Bacolod and as a progressive sugar planter and businessman is of common knowledge among his political and business colleagues as well as to the hundreds of his employees and laborers who have been the beneficiaries of the efficient management and the introduction of modern methods in the operation of his sugar plantations and other agricultural and business enterprises.

Secretary Montelibano's name appears in Who's Who in the Philippines as a business executive and sugar planter, to which may now be added the appellation of a government executive. He is one of the most progressive citizens of Negros. He opened the Capitol Subdivision which had facilitated the building of the modern section of Bacolod City around the Provincial Capitol. As a farmer he is distinguished and has been eminently successful. He is one of those who pioneered in the use of modern farm implements, selec-

ted seed of high-yielding varieties of sugar cane and the application of fertilizers. He believes in diversification of crops and has established fruit orchards of practically all known commercial species such as avocados, cimitos, bananas, lanzones, pineapples, etc. He also had dairy, hog and poultry farms. He introduced modern business methods in his farming enterprises, thereby obtaining high efficiency in management and good will from his associates and farm laborers. During the labor crisis in Negros a few years ago, he had solved farm labor's difficulties by increasing their wages, providing them with adequate quarters with light and water facilities and free medical attention and medicine, and organizing healthful recreation for them and their families. For the successful operations of his business and farming interests and the concession to labor of its due, and perhaps more, to enhance its welfare, Secretary Montelibano was awarded in 1940 the distinction of being the Commonwealth's Model Employer of the year. He is a liberal and is ever ready to assist in any task for the amelioration of the condition of the masses.

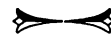
Before the war in the midst of his multifarious business activities, he succumbed to the call of public service and, with his known reputation as defender and protector of the people, has gone into the realm of politics as a duck does to water. Success crowned his political activities to such an extent that since 1938 he has already been a power to reckon with in Occidental Negros. His wing of the Nacionalista Party in that province has succeeded in placing one of their men in the Philippine Senate and another in the House of Representatives.

Secretary Montelibano was literally born with a silver spoon in his mouth and has grown up amid plenty and comfort. Yet during the Japanese occupation of Negros he had chosen to live in the mountains, leaving behind him the comfort of his home in the city, that he might lead the resistance against the invaders. In the mountains he had organized and carried on the functions of the Commonwealth

government. He had been appointed Commonwealth Governor of the Islands of Negros and Siquijor Islands by the late President Quezon. Together with the USAFFE officers who had refused to surrender to the Japanese, they organized and maintained an army of resistance which numbered about 12,000 officers and men. Time and again the Japanese had tried to lure him to come down to the lowlands and to cooperate with them, sending him the choicest of gifts, promising him security and every facility and comfort and even an appointment to a high office, but he had remained adamant; he had stuck to his mountain headquarters until the Island of Negros was liberated. He is a patriot but he has never bragged it. Unlike the uncompromising attitude of some of those who had lived in the hills during the enemy occupation, his is humanely considerate and sympathetic toward those who had chosen the lowland life but who had remained loyal to the United States and Commonwealth governments.

In spite of the tremendous time-consuming tasks of his present positions, he has found time to work for the welfare and promotion of the youth of the land. He is a member of the National Committee of the Boy Scouts of the Philippines and head of the most important Committee on Finance. He had promoted boys scouting in Negros and during his chairmanship of the local council had made the movement so strong that the membership was greater than that of the Manila council. He believes that the proper building up of the youth is the only safe way to insure the future security of our country.

Born on December 20, 1905 at Silay, Occidental Negros, Secretary Montelibano has scaled the heights of his political career at the age of less than forty. His marriage to the former Miss Corazon Locsin has been a most happy one and has been blessed with five children.



Commercial Possibilities of Ramie Fiber Production in the Cagayan Valley

Julio Jamias

Reliable parties and natives of the upland districts of the Cagayan valley bring the information that the ramie plant is one of those fiber producing plants grown in their backyards from which they obtain materials for weaving into waist apparel, bow strings, fish and game nets and harp strings. The utilization of the ramie fiber into such commodities is a good sign that ramie thrives well in the Cagayan valley. This is further verified by the writer during his sojourn in the Apayao regions and in the other regions in the valley. The Kalingas, Ifugaos and the Aetas of Palanan, Isabela know the plant and value it for household necessities and know a crude way of extracting the fiber. Whether the ramie plant is endemic in the Cagayan valley or introduced by the followers of Limahong from Southern China could not be answered for certain by these primitive peoples except that ramie was already growing in their localities from time immemorial, as the habitat of the ramie plant was on the wind protected valleys of the Sierra Madre and Cordillera ranges. The ramie thrives well in the valley, therefore, needs no further trial planting in the valley and this fact opens a new venture for cold cash by small and big investors on this particular crop.

The introduction and extensive use of decorticating machines and big decorticating mills about a decade ago in Mindanao has practically solved the much prejudiced remarks of ramie investors that the preparation of the fiber for market is quite crude and slow, and the finished product is very inferior in quality although the soil and climatic conditions in the archipelago are suitable. It has already been shown that the industry jumps by leaps and bounds since 1937 and there is no reason why the ramie fiber would not be one of the premier export crop in the valley.

The climate and soil of Cagayan valley is suitable for the commercial production of ramie fiber but the topographical condition of the land need some precaution in the selection of sites. There are regions fitted for small and big investors.

There is in the valley a very short period of dry season of about two

months, March and April. The largest rainfall is in October, not because of typhoons and depressions but because of the beginning of the northeasterly wind. The rainfall in June, July, August and September almost comes up to that in October.

The Weather Bureau in Manila according to its pluviometric observations in the valley give an annual mean rainfall (1908-1937) of its most important weather stations as follows:

Aparri, Cagayan: 2,269.8mm or 87.7 inches.

Tuguegarao, Cagayan: 1,801.2mm or 70.9 inches.

Ilagan, Isabela: 1,991.4mm or 78.4 inches.

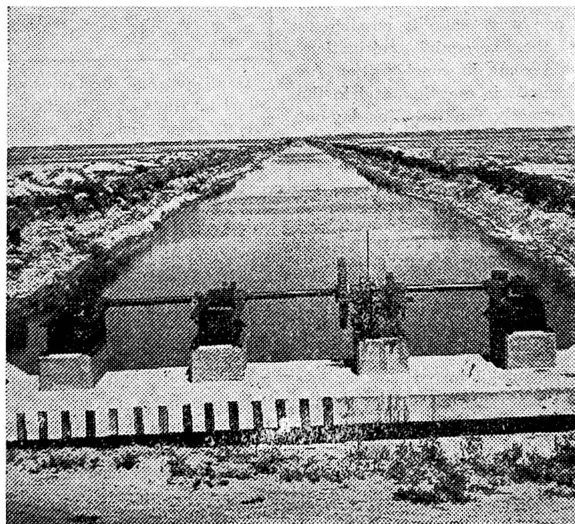
Echague, Isabela: 1,790.5mm or 70.5 inches.

While Davao of Mindanao where the ramie industry had its birthplace has an annual mean rainfall of 2,087.7mm or 78.83 inches, the Cagayan valley has also Ilagan of Isabela comparing favorably to that of Davao.

SUITABLE LOCATIONS FOR RAMIE REGIONS

Frequent hunting trips in the Cagayan Valley during the adventure days of the writer and information gathered from the natives of their respective regions enables him to present the following classification for ramie plantation sites for the small and big investors. Ramie plantation sites for the small investors of the Cagayan province may locate sites in the idle lands of Claveria, Sanchezmira, Pamplona, Abulug, Ballesteros, and Allocapan, and those in the Itawis region comprising of Rizal, Faire, Piat and Tuao. In the province of Isabela small investors may locate sites in the idle lands of Echague and Cawayan. Now for big investors the extensive tract of virgin lands of San Mariano, Cawayan, Jones and Palanan must be given serious considerations.

Small investors as used in this classification means those individual prospectors
(Continued on page 28)



(USIS cut)

Modern irrigation gate that regulates flow of water — urgent in the Cagayan Valley.

NATIONAL LAND SETTLEMENT

G. J. Lothar Maetze

Many countries have resorted to Land Settlements be it in order to release overpopulated areas of its surplus of people or for economic or political reason: for instance control of unemployment.

Applied to the Philippines, the purpose here would be to open up the fertile uninhabited regions of the archipelago through agriculture and husbandry.

As indicated by the word "NATIONAL" it is in the interest of the Nation. As indicated by the word "LAND-SETTLEMENT" it is solely on an agricultural basis.

For such settlements are to choose in the first place locations along existing highways, or such under construction. Secondly such along trails connecting important places from coast to coast. Third: coastal regions with good anchorage (bays well protected.) Fourth: locations out of the way which will have to be first connected with already existing highways by roads.

After this short general introduction I will expose a plan for settlements which could be applicable for the Philippines.

Locations decided on for settlements should be at least roughly geologically and topographically surveyed, so far as no plans of such surveys exist. This would in one way make it possible to determine the perennial cultivations which would come in consideration for these settlements in question, and in the other way greatly facilitate the lay-out of the fields and roads within the settlement.

The Settlement has to consist of a Centre, the "Village", and the Cultivations, the "Fields", lying around the centre. Such a centralized settlement has a great advantage over a settlement where one farm joins the other one, and the houses are far apart, scattered. By the centralized form of settlement the settler is first of all forced more or less to stay at the work, and has not the inducement to run to the house every now and then. Other advantages are in the social life of the settlers, in case of sickness, and in many other respects.

The appropriate size of a settlement is 2000 hectares (Ha.) with 100 settlers, —families, or families and single men, these however not more than 20%. —

These settlers form the nucleus of the future Community, and of the Village respectively the Municipality when the settlement has matured.

This area of 2,000 hectares shall be disposed of in the following way:

One hundred ha. shall form the village. These 100 ha. shall be divided into 50 ha. for community-ground and used generally: i. e. for the administrative buildings to be erected, later the City Hall and offices, for the police station, court, post-office, school, market, recreation halls, playgrounds and an experimental station (nursery, fishponds, husbandry). The rest of 50 ha. shall be parcelled into 100 lots of half a hectare each lot — as residential lots of the settlers. The area of the roads between the residential lots is to be deducted from the 50 ha. of the community-ground.

Author of this article is 56, a Filipino Citizen, married with a Filipina, and residing in the Islands since 1933. He has organized the European and Native Colonization in Angola, West-Africa, for the Portuguese Government, and he also organized the Indonesian Settlement in North New-Guinea—Dutch East-Indies, before he came to the Philippines.—EDITOR'S NOTE.

One thousand hectares will be parcelled into lots of 10 hectares, called the "fields"; one field for each of the 100 settlers.

The remaining 900 hectares are for community-forestland. From this area 10 ha. are to be selected for a churchyard, and 100 ha. will be converted into a Game-Park (game reserve).

The working plan of the settlement in large line: One may compare the settlement with a plantation. There is the official of the National Land Settlement Administration (N.L.S.A.) — the manager —, and the settlers — the labourers—. The success, everything as a matter of fact, depends on the Director of the Settlement, his skill and experience in such a work.

The start is the opening of the 50 ha. of community-land, the setting up of shelters for the settlers, of a magazine

for the provisions, adjoining quarters for the officials, the house of the director and his assistant. These houses should be built with material which can be locally obtained, and they have to be considered only temporary. Strictest economy has to be observed not only for the benefit of the settlement, but rather for an example and for training of the settlers in this branch of knowledge too. The settler must understand that he works for his own good, and to no benefit of the N.L.S.A. whatsoever. The motto for the settler must be:

"ONE FOR ALL, AND ALL FOR ONE."

The principal aim is to make the settlement "self-supporting" in the shortest time possible. In any case this goal must be reached in the first year dated from the day the actual work—the clearing of the forest—started. Therefore the smallest area cleared, has to be brought and kept under cultivation. At first preferably has to be planted: cassava, camote, pumpkins, along creeks: kankong and watercress. Only to name some tubers and vegetables. Smaller plots are recommended for soybeans, black-eye and cowpeas, some sugar-cane and tobacco, etc. — Around the houses small kitchen-gardens are to be arranged: radishes, lettuce, pitchay, tomatoes and so on. Along the roads are best: Papaya trees and bush pepper between them. In some distance from the houses: banana-trees with pineapples are recommended. These plants do not do well close to houses as they are considered breeding places for mosquitoes. This refers also to gabi, arrowroot, ginger, etc.

Crops have to be planted in rotation. After about six months — according to the season — Upland rice has to be planted on such a scale that there is sufficient rice from the harvest for the second work-year. At that time also small experimental plots are to be planted with perennial plants such as coffee, cacao, tea, rubber, oilpalms, coconut trees (preferably the small size abaca, ramie, etc. — those are suggested for cultivation on a commercial scale in this particular settlement — in order to be able to observe the growth of such crops and in order to determine which are the best for plant-

ing in this locality. The aim of the N. L. S. A. must be, that within the first five years everyone of the 100 settlers has 5 ha. with one or more perennial crops under cultivation.

By the end of the first year the village has to be laid out, and each half-hectare lot has to be fenced and a house has to be erected. The house must be uniform and built in such a way that they can be enlarged in one or all directions according to the need and idea of the settler himself.

Within 10 years from the start of the settlement all the 10 ha. must be brought under cultivation. However not more than 8 hectares out of the 10 ha. are to be planted with perennial crops. Status of the Settler: the word "settler" is in this article always included to mean the whole family and also members who are counted to this family, and who are accordingly registered with the N.L.S.A.

The settler joins the N.L.S.A. as a member and binds himself by doing so to the rules of the settlement which he has chosen. He receives free transportation to the settlement he has chosen, free food-supply for the first year, shelter will be provided till individual houses can be built, i. e. when the village is laid out. The working plan of the N.L.S.A. under the direction of same is provided for five years. During this time the settler (and his family) have to give their best for the progress and success of the settlement. These five years are the foundation for the well-being of the settler in years to follow. During this time the settler will from time to time—as is necessary—receive clothing. The necessary implements will also be provided by the N.L.S.A. — the experimental station will take care for plant-material. The husbandry rests in the hands of the N. L. S. A. which will dispose of animals for slaughter from time to time to be distributed among the settlers. The settlers are allowed only to raise some chicken, ducks, geese, and rabbits, after the village is built up. These are considered only for the "pot".

Sunday is a restday. Only the most urgent and necessary work has to be done. Each settler and his family-members have to work on one Sunday out of four Sundays, in rotation.

Records will be kept of the work of each settler by the director of the N.L.S.A., and each settler has also to keep a diary of his work on his own.

A settler who breaks willfully the rules of the National Land Settlement Administration which he signed, can lose his rights on the land and can be sent back to the place he came from.

(Continued on page 26)

Selections From

Saga Of The Great Earth

A Trilogy In Verse

C. M. Vega

For we cannot tarry here in our squat
nipa houses,
The green fields are calling...calling...
calling...

Plough the earth.... Harrow the
upturned earth...
Limber up your limbs.... Stretch your
muscles...

We need action and plenty of it
For our immortality!

* * *

Do not falter in your march fastly
progressward,

Idle lands await your fortitude, your
willing hands;

All these are the meanings of
rehabilitation—

Hardy men of vision, this is our
reconstruction:

From the flowering fields
Are our immortality!

* * *

Ours is a glorious history: of farmers
of the earth—

Pioneers that were of a virile and proud,
brave race;

Bearers of a great tradition—Mactan,
Corregidor, Bataan:

They are our proud inspirations for us
to go on and on

In enriching this legacy
For our immortality!

They were not found wanting—our
great grandsires,
They had conquered tracts of timber-
lands and forests

Into blooming ricefields and cornfields
and gardens,

They left us a priceless heirloom—
swaying, plentiful harvests:

The monument of their industry
For our immortality!

* * *

They were not of the wandering hordes
—our ancestors;

They were with unconquerable visions
and spirits of steel;

Pliant but unbending and look at our
glorious past—

Building us a kingdom—the Pearl of the
Orient Seas;

All for us to love and honor
For our immortality!

* * *

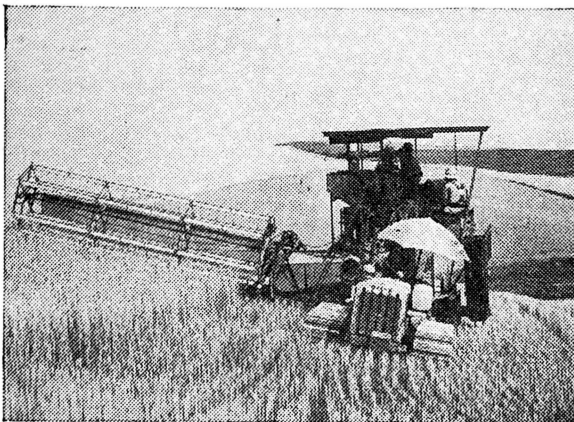
All through the ages and ages it has
always been

A nation proud and strong, unselfish,
sturdy, great;

It has withered revolution and
starvation and wars

But remained indivisible and whole and
proud and strong

Ever in stories of blood and fire,
For our immortality!



Mechanized farming vital in new land settlements. (USTIS cut)

The conspicuous disability of mankind in its own economic affair is having enough domain with fertility and needed wants but do not produce the things essential to its existence — principally food. The Filipinos for this matter excel, for all it goes, we continue to import and continue to depend upon the produce of other nations to live and yet there is land aplenty around us which is here and there "rotting." Let us face the politics of life with a diversified procedure — go to the farm and make it produce.

There is a nation-wide clamor for food production and a nation-wide need for agricultural rehabilitation. It calls for the power-that-be, the government and the people to go together, sail smoothly and land on the safer beach. There should be self-sufficiency in agricultural products. Everybody says that the salvation of the country from the chaos and ravages of war lies in our ability to raise enough food. It is argued likewise, that we are still illfed and weak as a people resulting

the necessity for food among Filipinos. These lands are easily on the way from the Cagayan Valley down to Mindanao and offer brighter perspectives for an agricultural pioneering activity. They are on the inclined ridges of mountains and hills. They are found from the north to the south and from the west to the east. They are found immediately behind our homes.

But then let us limit our outlook on the small lot found in every home. One lot together with the million homelots existing here and there which are not used properly, if planted to food crops certainly will be a great source of food. And then take the Koronadal Valley and other land settlements in the Philippines which if developed to the fullest extent may feed a population three times that of ours.

Poor system of farming

After having gone thru generations of actual farming our common method is still poor and backward. The people have not progressed in the science of it. The farming now is still the vestige

farmers do farming now because their forefathers were farmers. Farmers plant rice today in a way similar to the method he happened to know when he was young. There is certainly little progress achieved today in the way of distancing, proper soil tillage, fertilization, proper irrigation, crop rotation and crop diversification.

When we do not use the right method to obtain the highest efficiency from the business of farming then our civilization is at a loss. A conscientious move toward the high spirit of farming comparable to any lien practice, if not better, should to the guiding principle of every farmer and the government. It is the concern of every one that we prosper in our farming ability because of the rapid increase in the number of our people. The work is meant to be difficult but something somewhere must be done.

More Irrigation systems Needed

What we lack in the country today with vital importance are more irriga-

THOSE IDEAL LANDS

F. de la Cruz

from the process of war. This in fact is stupendously lamentable.

The fragments of a loosed ambition in agriculture among Filipino farmers, our country being basically agricultural, is a clear cut road to a lower standard of living. The respect and estimate of society to a worker behind the plow is a disgrace conducive to less effort and to throwing out the best talents. Live and let live with the soil that we possess with the skill that we should improve so that our land will not be idle.

Our soil plentiful

The Philippines is endowed with vast tract of land from Aparri to Jolo — fertile, tillable. A part of it has been superficially used and it may always be used under similar practice with the perpetuity of civilization. By chance crops have been planted on these lands but with inferior touches.

Yet so many of our agricultural lands today are still untillied in spite of

of farming thousand years ago. It is still the inherited farming from the earliest ancestors. No, there is not much distance gone so far.

What is really lacking is the education of farmers today. The fundamental knowledge of the business should be known by them. Why don't the government establish adult schools for farmers? In the same way a very effective instrumentality to agricultural upliftment in our country will be traveling agricultural lecturers before community assemblies. Qualified agricultural teachers in our farm and vocational schools can contribute along this direction. Agricultural extension agents of the government may be made to handle the reorganization and supervision of this work. There should be a consciousness on the part of the farmers the idea of improving our agriculture through the scientific way.

Why don't the government move to educate the common farmers? Most

tion systems to irrigate every parcel of agricultural lands. We find a few irrigation systems today especially in some provinces in Central Luzon but they are not sufficient to water the lands of the country that may give the food enough for the people. Private and government irrigation systems are often neglected and when they are needed no effort has been directed to establish them so far. Pampanga and other few provinces for this matter be given attention as to funds. What they have today are small streams, creeks and rivers to irrigate the wide agricultural lands. These systems however dry up during some periods of the year so that agriculture in these places can not be expected to prosper satisfactorily. What if the needed irrigation systems be established through the country and increase the production of our crops thirty per cent or more hence stop depending on the produce of the neighboring countries?

Not so many men can view the benefit of adequate irrigation systems in an agricultural country like the Philippines without going deep into the science of it and the practicability of such an establishment. Only experts of this line can fully determine the good color of the enterprise. With enough irrigation systems available in the country farmers can plant their crops during the proper time, plants can be propagated and cared in the way they need it and in accordance with the desire of scientific agriculture, crop diversification and crop rotation can easily be performed and ultimately the best way of farming can be achieved any period and any place in our country.

Connoisseurs of Philippine agricultural improvement have long clamored for increased irrigation systems, for all they know, it will adjust the country's farming system. There is a perfect start out right by having established in Bulacan, Nueva Ecija and other few provinces but it all stopped there. The government should be tampered and develop additional vigor toward this—the necessity of it will justify.

Agricultural Laws with "Teeth"

The fundamental set up of agriculture in the country is meticulously unherded varieties of customs and men destined by ancestry and fate. There is propagated within this system diversified practices and knowledge which is totally lacking of intelligent foundation and leadership from the people themselves and from the government partly. There has been acts and laws that tended to interfere with the major objective to improve farming which are in existence even now. Their effects can only be gauged by the color of the changes in agriculture that we see, by the stride made and by the degree of satisfaction and sufficiency that the people enjoy from the fruits of the farming business.

Demonstrational system of guiding the farmers in the Philippines may pair well but not sufficiently idealistic. If any knowledge in agriculture in the country is proven thru the process of experimentation in field laboratories to be just proper in any specific place or province why don't the farmers as instructed by the government apply the principle in their respective farms? If elon-elon rice is the highest producing palay in Pampanga as experimented why don't the law provide that that variety be planted and no changes be made without first getting the approv-

al of the authority? Similar cases naturally require proportionate and corresponding treatment by the government.

And then the government should not content itself with the supposition that the present agricultural laws are by their own workings satisfactory. Provide each and every one of them a tooth.

Agricultural Extension Service Justified

The Philippine agricultural extension service is a well thought out procedure in giving impetus along agricultural work to interested farmers of the country. The little force under this service administered by the Director of the Bureau of Plant Industry forms the nucleus of the great work in agricultural promotional service. Something wonderful can be attained by these men in the field of agriculture if only the right guidance and the right proper spirit can be injected into them together with the necessary fund and facilities.

However, when the government reduced the agricultural fund from five to three percent from provincial and municipal fund or income under Commonwealth Act No. 85 something wrong was made and the present legislators should chin up and immediately correct the error. For the logical theory of uplifting the cause of the common farmers emanates from this tiny branch of the government service. Thru the instrumentality of agricultural extension service the farmers will certainly advance rapidly and efficiently and be modern in its toil.

The vital need so that the service will improve fast is the government and the people's moral support. Any enterprise of this nature if it were to succeed, certainly calls for strength and power of leadership and a master of technically planned procedure. The core principle of agricultural extension service in the Philippines is the improvement of the common farming through the correction of the old system with something modern comparable to any foreign system.

The dignitaries in the officialdom should realize that agriculture, if we are to prosper and advance as a nation proud of its place in the modern world, should be given its due attention and protection above any other project of the government.

Research Institution plus Agricultural Extension

The eyes of the Philippine farmers today are turned toward the research institutions of the country for scientific guidance and technical solution of vital agricultural problems. They are looking forward on the possibility of a new world of farming perfected and revolutionized with the principles of science. With scientific formulas to be adapted in the field even farmers are now convinced that important changes in the method of raising farm crops are forthcoming.

However, our research institutions even if prolific and efficient can not safeguard the interest of the farmers or their efforts absurd not until these institutions will have in their department an agricultural extension service that will bring their product immediately at the disposal of the farmers. In this way the agricultural extension workers under the Bureau of Plant Industry may be of used by the research institutions of the country. The farmers and the scientists in a way should bind themselves together as closed collaborators along the improvement of farming.

Plant to Live

For the logic of existence today as it were in the days of yore is plant to live. Now that the second world war has ended the government should work hard to rehabilitate the farm, the people should gather their strength to utilize every parcel of land to its highest efficiency and make every unit of farming come to the expectation of a prospective independent nationhood. Bring back the happy relation of the tenant and the landlord, destroy the evil influences brought about by war on the farm and ultimately make every farm an arsenal of food. The great and costly contribution of the Filipinos in the battle of Bataan toward the victory of democracy over facism may not be worth the credit it carries unless the Philippine farmers, the government agencies and the statesmen of the country work hard and proficiently equal to the method and system of other people of other countries. Let us not depend always on the produce of other nations to live. #

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AGRICULTURE-

Most Honorable Vocation

Richard R. Hill

NOTE: *Mr. Richard Hill is the son of the late Percy Hill, the grand "Old Man" of Muñoz, Nueva Ecija. Mr. Richard Hill paid us a visit recently and congratulated us for "Farming and Cooperatives" for which we thanked him sincerely. He did us a favor by doing something novel. He bought twenty-five copies of our first issue and distributed them among his tenants. We asked him, "But can they read English?"*

"No," he said, "but their children go to school and I told the kids to read the magazine and interpret the contents to their parents."

"Good work, Mr. Hill, you are carrying on your 'Old Man's' work."

—THE EDITORS

The most important man in the Philippine Islands today is the farmer. Why? Because he produces from the soil not only his own and his family's subsistence, but also helps to feed others. Furthermore, he is economically independent.

The farmer can boast that his vocation is both ancient and honorable, and it is the only profession in existence without which all others must come to a standstill. The man behind the plow is the man that feeds the world. The following of Agriculture is a natural vocation; all others are more or less artificial.

All callings or trades that call for work with the hands are equally honorable, as there is true dignity in labor well performed. In the past the world has been inclined to accept a totally wrong attitude toward work, and the average school graduate has imbibed

his share of this attitude. Once his book education is finished many a young man is prone to seek some gentle occupation that does not require manual labor. This is certainly an unfortunate state of affairs, for nobody can do satisfactory work, if he believes that his education is a loss unless he is assigned to "desk-work." The right attitude looks upon honest toil as honorable, and considers an education as useful on the farm and in the shop as in the office.

The choice of a career is the most important thing in a man's life. He should choose not so much with a view to present benefits, as with an eye to future possibilities. Most of the so-called learned professions in these Islands are crowded, and as a consequence many engaged in them are poorly paid. Many of the best citizens and best patriots in any country are to be found among those who have chosen to cultivate the soil; they have an important share in laying, through honest manual labor, industry, and thrift, the firm foundations of nationality.

One chooses a career primarily with the object of supporting oneself and one's family. In comparing Agriculture or one of the trades with the professions such as law or medicine, the chance of profitable employment is greatly in favor of the former; for in the vocations requiring manual labor there is little that one can succeed in making a good living. Greater than if a person studies to be a lawyer or a doctor. The talent which all men have in common is the ability to labor, the patrimony of man lies in strength and dexterity of his hands.

A nation is not made up only of subtle lawyers, of clever doctors, or of shrewd merchants; who do not produce wealth but merely use it. A nation includes also all those who work

with their hands—the farmers, the mechanics, and the followers of all trades and industries. These men are the producers of wealth and the founders of National prosperity. It is a good thing to remember that both those who work with their brains and those who toil with their hands, together form the nation to which we belong. The soil of our country is the basis of its wealth; is the source of both individual property and national prosperity. The first stable thing a man ever possessed was piece of land cultivated to support himself and his family.

Where would the lawyers, doctors, and policemen get their subsistence if it were not for the farmers? They might earn money, but with it they could buy nothing to eat. When a country wishes to find out how rich it is, the value of its cultivation or cultivated lands is found first; secondly, the value of its manufactures, and industries; and finally, that of its commerce. The farmer and his lands are the foundations of national wealth.

The man who employs his capital in agriculture has it more under his supervision and command and his fortune is less liable to accident than is that of a man who invests his money in industries or in trade. No equal capital puts into motion a greater quantity of productive labor than the investment of the farmer. Of all ways in which capital can be employed, its use in agriculture is by far the most advantageous to society and to the nation, as both individual wealth and Government revenues are increased thereby. Every country that has become great has its wealth based upon Agriculture, and the incomes of its inhabitants have been largely determined by the annual products of its fields.

Education is a means and not an end; it is the start and not the finish in the struggle of life. It is a means of improving the farmers, and is just as important to them as to those engaged in any other trade, occupation, or profession. It is time in the Philippines that the graduates of schools should avoid the professions that are now overcrowded. Far too many young men, once they finish their schooling, look to any other trade or profession rather than that of agriculture. This attitude should be changed; they should not despise the profession of their forefathers—that of honorably tilling the soil.

Modern education should not be a means of escaping work with the hands, but rather a means of increasing the

earning capacity of the individual. A man who seeks education on the theory that the day of manual labor is over, is building on a foundation of sand. His education based on this idea becomes detrimental rather than helpful. This notion is only a prejudice of former times and should disappear forever. More theories will never produce sugar or rice, neither can education produce them except in cooperation with men who work with the hands. It is the union of labor and education that creates agricultural wealth and develops the individual as a social and economic unit.

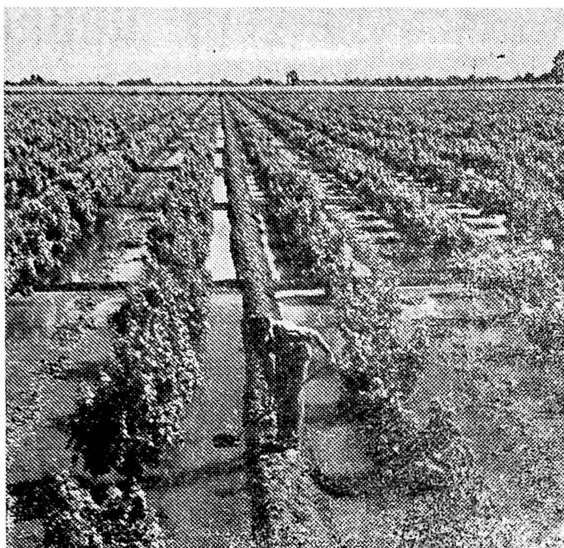
The soil offers subsistence in the present and holds out for the future a bright and profitable means of acquiring a home and moderate wealth. A firm foundation for a successful national future can be built only on the basis of progressive farming.

In the distant past the land was cultivated by slaves and serfs, private ownership of land was rare, and the profits of production went to a few persons only. Now all this is changed; principally by universal education. In most countries, the man who is most contented, who is raised above immediate wants and who is gradually acquiring property is the man who is successful in agriculture. The good farmers are the educated men who are not afraid to work with both their hands and heads. Such men can always produce better results than those who, having only brain education, do not care for hard work—the theoretical farmers. Those pursuing the arts, trades and professions need study and hard work combined, just as much as do the cultivators of the soil. All men must work hard for success.

A nation to be truly independent in the modern sense of the word, must produce from its soil at least enough to sustain its own population. The farmer, therefore, is as good a patriot as the soldier who is defending his country.

The master of a trade has an income just as long as he has health and strength to labor for the support of his family. If his health gives out, his family often has to struggle to make ends meet. He who devotes his life to agriculture, by his labor, generally implants an investment in the soil thus assuring both his own and his family's future and supplying insurance, as it were, against absolute wants. He is a property owner and the responsibilities of property go far to teach self reliance, order and thrift.

In these Islands of ours, agriculture offers a particularly good investment



(USIS cut)
The beauty and usefulness that comes from scientific farming.

to the young men seeking an occupation, requiring but a small outlay. The industrious trained man can be assured of success, while the untrained man can grow up with the business, learning everyday. Both should center their activities upon the crops which have proved to be successful in a given locality. Too many men have failed because they have catered to alien crops, forgetting the staple ones which have been successful and which have an assured market.

The Philippine Islands possess two important essentials — large areas of good tillable soil, most of it still free for homesteading, and the rising generation which is being educated to take its place in the economic struggle. It remains for this rising generation to supply the third factor — that of intelligent industry.

In the future, civilization will not wage its struggle in the forum, nor at the desk, but in the fields, in the factories, and in the workshop. The vital things in any community are not only faith and belief; they are also industry and thrift.

Farming is a healthful occupation. The man devoted to agriculture pursues usually lives longer than one engaged in other vocations. His work in the open strengthens his body and improves his general health. This of itself is a valuable asset that no money can buy. "Back to the farm"

is as good a slogan here as it is in other countries. Many who have tried urban professions have found that individual independence for all, does not lie within the city limits. They realized that their lives become circumscribed and they long to return to the fields and farms of their youth. They envy the man with clear mind and strong body who by honorable toil produces his subsistence from mother earth. They want their children to be brought up among healthier surroundings than those that obtain in the crowded cities and towns. At the same time their ambition is to find a permanent investment in the soil for their future and that of their families.

Even at the present time there are ample tracts of free arable land in the Philippines easily obtained under the present laws. There are good markets for such staples as rice, tobacco, sugar and other crops. A young man, once his education is finished, is making a sad mistake if he does not take into account these facts. Now is the time for every man to aid himself, his family, and his country by seizing the opportunity afforded him.

The pleasure of an agricultural life and the health of mind and body which such an existence promises have a charm that attracts nearly everyone to this long established and honorable employment. #

In the Philippines, before the enactment of specific laws, cooperative associations established their legal status under the Corporation Law (Act No. 1459 as amended). Since 1915, however, there have been enacted laws specifically affecting cooperative associations in this country.

TYPES OF LAWS AFFECTING CO-OPERATIVES: There are generally two types of laws affecting cooperative associations. These are: (1) those that are basic in the formation and operation of cooperative associations; and (2) those that introduce either certain advantages or restrictions upon cooperative associations. Examples of Philippine Laws of the first type are the following (laws that are basic in the formation and operation of cooperative associations):

1. The Agricultural Credit Cooperative (Rural Credit) Law or Act No. 2508. This law was enacted by the Philippine Legislature in 1915.

2. The Cooperative Marketing Law or Act No. 3425. This law was enacted by the Philippine Legislature in 1927.

3. The Cooperatives Law or Commonwealth Act No. 565. This law was enacted by the National Assembly in 1940.

The Agricultural Credit Cooperative Law (Act No. 2508) authorized the organization of agricultural credit Cooperative associations throughout the Philippines. This law also defined the activities of said associations. The Cooperative Marketing Law (Act No. 3425) authorized the organization of cooperative marketing associations among farmers throughout the country, defined the activities and the manner of operation of such associations. The Cooperatives Law (Commonwealth Act No. 565) authorized the organization of cooperative associations of any type throughout the Islands. This law gave impetus to the establishment of consumers' cooperative stores and encouraged the formation of retailers' cooperative associations. In fact, this law may be considered as the organic law for cooperative associations in the Philippines.

Some of the laws that introduce either certain advantages or restrictions on cooperative associations in the Philippines are the following:

1. The Bonded Warehouse Law (Act No. 3893) passed by the Philippine Legislature on November 16, 1931. This law repealed Act No. 3469 passed by the Philippine Legislature in 1928. The

Bonded Warehouse Law took effect on January 1, 1932. It required owners of warehouses to secure licenses and bonds before they could deposit rice or palay in their bodegas, but exempted cooperative marketing associations from these requirements.

2. Act No. 3929, approved on November 28, 1932, provided for the establishment of warehouses by municipal councils. This law was supposed to benefit cooperative marketing associations, because such associations were expected to utilize the municipal warehouses for their products.

3. Act No. 3932, approved November 29, 1932, authorized the expenditure of ₱2,000,000 for the building of warehouses and permanent bridges. This law also was intended to benefit cooperative marketing associations among farmers.

4. Commonwealth Act No. 192, approved November 14, 1936, authorized the creation of a National Produce Exchange. One of the functions of this exchange is "to encourage and promote the establishment of cooperative marketing association preparatory to the establishment of produce exchanges in the locality served by such associations," Sec. 2, Subsection 2 of the Act.

Things included in laws that are basic in the formation and operation of cooperative associations: The most important things that are included in laws that have to do with the organization and operation of cooperative associations are the following:

1. Scope and purpose of the cooperative association.

2. Who and how many may organize.

3. Capital Stock, if a stock association, or membership fee, if a non-stock organization.

4. Ownership of stock by each member.

5. Voting power of each member, which is specifically mentioned as one for

each member regardless of the number of stock he may own.

6. Earnings of capital stock, which is limited to 8 per centum per annum under Philippine Laws.

7. Distribution of earnings—Patronage dividends.

8. Ownership of stock of other associations.

PHILIPPINE CONDITIONS THAT MAY AFFECT THE MOVEMENT

I. Conditions tending to favor the Movement: There are a number of conditions that may favor cooperative associations organized among our farmers. Among these may be mentioned the following:

1. The Economic Status of the Farmers. The average farmer's holding in the Philippines, 3.6 hectares, is very small. The income received from such an area is consequently small. Cooperative marketing of his products and cooperative purchasing of his needs can effect a great deal of savings for the farmer, which in turn may improve his economic status.

2. The social behavior of the Filipinos tends to favor cooperative effort. The Filipinos in rural districts live in groups in barrios. Under this system of settlement cooperation in one form or another has been and still is the rule in the economic and social life of the people. So that under honest leadership and proper guidance, it should not be difficult to convince the farmers of the advantages of the cooperative method of conducting their business.

3. The Government is behind the movement. The government, through its various agencies, is engaged in the promotion, organization and guidance of cooperative associations. The Bureau of Plant Industry is vested with the duty of promoting, organizing and guiding farmers' cooperative associations. The NARIC assists the Bureau of Plant Industry in guiding the cooperative associations among rice growers. The Bureau of Commerce and Industries is

Nature And Importance of Cooperation

Hilarion S. Silayan

charged with the duty of promoting, organizing and supervising commercial and industrial cooperative associations. Other government agencies, such as the NAFCO, NACOCO, etc., also help in organizing and guiding cooperative associations among our farmers.

II. Conditions that tend to obstruct the progress of the cooperative movement: There are a number of conditions that may delay the progress of the cooperative movement among farmers in the Philippines. Among these conditions may be mentioned the following:

1. Unfavorable effect of the failure of cooperative associations in the past.—The failure of cooperative associations in the past is still fresh in the minds of many people. It will take time before people will forget the unpleasant experience which they went through. So that in places where cooperative associations have failed in the past, vigorous and intensive campaign of education will be necessary before efforts at organization will succeed.

2. Lack of sufficient Capital.—One of the handicaps of the cooperative movement is the lack of funds to finance the needs of the farmers. The Filipino farmers do not have sufficient income from their farms. Therefore, they live from "hand to mouth." Consequently, there is need for considerable amount of funds in the hands of their cooperative associations with which to advance these farmers for their needs. This will prevent them from getting into the clutches of unscrupulous money-lenders.

3. Ignorance and indifference of the farmers.—These conditions tend to retard the progress of the cooperative movement. There is need, therefore, of training leaders in cooperation who will go out and preach the principles, practices, and advantages of cooperation among the farmers. The farmers need a constant cooperative education in order to enable them to take the initiative in the cooperative movement. This educational process should go hand in hand

with the organization and operation of cooperative associations in the agricultural regions.

TYPES AND PRINCIPLES OF COOPERATIVES

Types

There are at least four basic types of cooperative organization, based upon the economic activities in which they are primarily engaged. These are: (1) production cooperatives, (2) marketing cooperatives, (3) finance cooperatives, and (4) consumers' cooperatives. Production cooperatives are composed of groups of individuals who pool their labor to produce. As examples of this type of cooperatives maybe mentioned the Buena Vista Farmers Cooperative Association, the National Footwear Corporation, etc. Production cooperatives should not be confused with production efforts of consumers' cooperatives where control is exercised from the consumers' point of view.

Marketing cooperatives or cooperative marketing associations constitute the second type of cooperative organization. These associations are composed of individuals who produce separately and pool their produce for market, but not their labor for production. They are often called "Farmers' cooperatives" because of their prominence in the marketing of farm products.

Cooperative marketing has been defined as the organized sale of farm marketing on a non-profit basis in the interest of the growers. Cooperative marketing therefore, is primarily confined to the organized business of selling farm products by the farmers themselves for their own benefit. Cooperative marketing associations have been erroneously called "producers' cooperatives." Examples of this type of cooperative organization are the cooperative marketing associations organized among tobacco, abaca and rice growers before the outbreak of the Greater East Asia War under the Cooperative Marketing Law (Act No. 3425).

The third type of cooperative organization is exemplified by finance cooperatives. These are associations composed of individuals who pool their surplus capital or their liabilities in order to enable their associations to make available to themselves as members cheap credit, but not easy money. The Agricultural Credit Cooperative Associations in the Philippines, the credit unions in Canada and the United States, the Peoples Banks of Germany and Italy, and the Raiffeisen societies in Germany are various forms of finance cooperatives.

The fourth type of cooperative organization is exemplified by the consumers' cooperative associations. These associations are economic enterprises taking the form of buying clubs or stores, set up by groups of consumers to distribute consumers' goods to themselves and others. Service cooperatives, such as insurance, medical, utilities cooperatives, etc., are also primarily included under the type of consumers' cooperatives.

Farmers' cooperative associations, the promotion, organization, guidance and supervision of which are entrusted to the Bureau of Plant Industry, are different from any of the foregoing basic types of cooperative organization. These cooperative associations are expected to perform eventually all of the economic activities primarily performed by each of the four types of cooperative organization aforementioned. Hence, these farmers' cooperative associations may be classified as "all purpose cooperatives."

Principles

The principles of cooperatives are nowadays associated with the name "Rochdale," because the Rochdale Society of Equitable Pioneers (1844) has successfully put into practice certain fundamental ideas about cooperative business. These have been accepted as the principles upon which successful cooperative associations may be operated. The experience of cooperative marketing organizations and cooperative credit associations, however, shows that there are other ideas that may be added to those contributed by the Rochdale Pioneers to constitute the principles underlying the success of cooperative organizations in general.

The Rochdale Principles.—The Rochdale principles have been tested by the Rochdale Society of Equitable Pioneers through its cooperative store. These principles are as follows:

(Continued on page 25)

QUESTIONS AND ANSWERS On Livestock and Poultry Culture

Carlos X. Burgos

Chief, Livestock Extension Division,
Bureau of Animal Industry

(Continued from last Issue)

7. What should be fed to pigs?

In home units all they will eat of the fresh left-overs from the table and kitchen, as rice, gills and entrails of fish, "sapal", papaya and banana peelings, etc., supplemented with greens like "camote," "kangkong", "petchay", tender green grass, "water lily", etc. They should have access to clean water, wood charcoal and wood ashed. Of course, if "darak", ground corn, "tahup" and copra meal are cheaply available these may be added to advantage in the slop of left-overs. The usual defects noticed in the feeding of swine in home units is the lack of green feed and mineral and the lack of sufficient amount of same. As a rule the food consists largely of left-over rice; and naturally the pig practically only exists and does not add more weight even after one month of such feeding, because such food lacks protein, minerals and vitamins.

8. What else should be recommended on the subject of feeding?

For those who have the time and space, it would be advisable to plant a plot to forage for soilage, as "camote", "tapilan" Guinea grass or others. Corn plants and "ulasiman" are also relished by pigs, but mongo, peanuts, "utao" and other leguminous plants are good sources of protein and mineral which are needed for growth. The younger the growth the higher the protein and mineral content. It keeps them also strong and healthy. Molasses if available is a fattening food and is a good source of mineral. What is needed to remember is to give variety and the correct quantity.

9. What are the usual defects found in the care of pigs?

In towns the pigs are either kept in "ulbo" (stys) or are let loose. If kept in "ulbo" they do not get enough exercise and cannot be expected to breed when the time comes. If let loose, it is not only objectionable in many ways but they easily become infested with intestinal worms and may become contaminated with a contagious disease as hog cholera, swing plague, etc. It is, therefore, preferable to tether them from day to day on different well drained lots where they have access to greens, water and shade. In the farms they may be kept in wide enclosure and soilage fed.

10. If "tahup" (corn bran w/broken grain), "darak" (rice bran) and copra meal are available, what is a good mixture for growing pigs and brood sows?

4 parts, first class darak
1 part copra meal
1 part tahup

For every 100 kilos of this mixture add 1/2 kilo of salt and 2 kilos of finely ground shells or well sifted wood ashes.

11. Describe selection.

Selection is a continuous process of retaining the animals possessing the qualities and characteristics and culling (getting rid) of the inferior stock. For example, in selecting sows for breeding choose those that are active, healthy and with glossy hair. Select those well proportioned with wide, straight to arched back, deep body and with capacity to eat, and strong, with straight legs and well developed hams. Cull those that are small for the breed and age. Cull those that do not look healthy.

12. When is the best age for a gilt (a young sow) to breed?

When she is sufficiently developed or at about 8 to 9 month old. At this age if she comes in heat (in condition to breed) breed her in the best available boar in the community; if a government breeding station is nearby it is better to take advantage of the purebred boars at the station. The

livestock extension officer of the Bureau of Animal Industry, if there is one in the province, would be pleased to be of service, or inquiry could be made direct from the Bureau of Animal Industry, Pandacan, Manila. The gilt or sow may be bred at any day when in heat but the best chances of success are obtained in the third day of heat.

13. What else maybe suggested in connection with breeding sow?

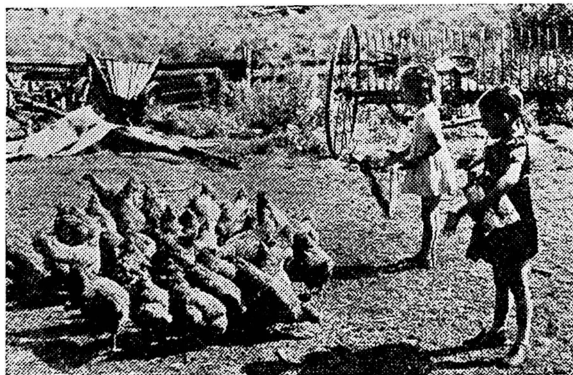
When a sow is bred it is better to note down the date so that the approximate date of farrowing (dropping of young) is known. The gestation period (the time between breeding and farrowing) lasts 112 to 114 days. That is, if bred October 28, 1945, the approximate date of farrowing would be about February 16th, 1946.

14. What should one do when the pregnant sow is due to farrow?

At about the completion of the gestation period, prepare plenty of bedding (dried leaves of trees, of bananas, or rice straw). Put the sow in the farrowing pen (room) that has been previously properly cleaned and well spread with bedding. This allows her to get well acquainted with the place and she may be expected to farrow quietly. If for some reason the date the sow is expected to farrow is forgotten, just notice the udders. If they are well distended and if milk flows when the teats are pressed the sow may farrow in 24 to 48 hours. Sows before farrowing usually become restless may be seen to root (turn) the floor and transfer the bedding to the corner she expects to lie down.

15. How many times can a sow farrow in a year?

As many as two times a year when properly cared and fed so that the pigs may develop properly and can be weaned (separated from the dam (mother) when they are eight to ten weeks old. On the average you may estimate three farrowings every two years.



(USIS cut)
Backyard poultry in the United States. Children take care of the flock as in the Philippines.

16. Give general instructions on what to do after farrowing.

After farrowing the sow will not eat for 12 to 24 hours. As soon as it is noticed that she wants to eat give a thin slop of the same feed she used to be fed before farrowing. The consistency of the slop feed and the amount should be gradually increased from day to day so that in about a week she can be given the regular amount which is all she will eat in two or preferably three feedings. Frequent visits and judicious surveillance are necessary during farrowing and for several days after in order to see to it that the sucklings are not crushed by the dam.

In the fourth day after farrowing and even on the third, if the pigs are strong and healthy, allow the dam to roam in a fenced yard or tether her in an open field for sunning and exercise. The pigs at this time begin to root and are able to obtain some minerals from the ground. In the soil there may be traces of copper necessary to prevent anemia. Every precaution should be taken to let them roam in clean ground where pigs have not been kept for sometime. They should have no access to muddy places. Such steps will greatly reduce intestinal worm infestation. It is desirable that three feedings be given two weeks after farrowing because the suckling pigs begin then to nibble. At three weeks they join the dam more regularly. When it is noticed that the sucklings try to crowd the dam it is better to let them eat in a separate feeding trough, preparatory to the day when they will have to be weaned. Some people in fact build creepers, which are contraptions so built that the young may go in and out to eat peacefully without being bothered by the dam. This is not necessary when the dam is tethered, as the feed trough for the sucklings can be placed at a distance far from the dam's reach.

It is better to keep the dam and young in-doors during heavy or continuous rain but clean clods of earth should be thrown in for the pigs to root.

17. When is the best time to wean?

When the pigs are eight to ten weeks old. At this stage the important thing to observe is whether they are eating heartily of the slop feed fed to the dam and if the pigs look strong and healthy. Weaning at this age helps the dam to recuperate quickly and enable her to breed and produce pigs earlier.

18. How is weaning done?

In weaning it is the dam that is taken away from the sucklings and placed where the young can not hear her grunts. In this way the young do not fret so much, as they are used to their surroundings. They will only miss their dam.

(Continued on page 22)

PROGRESSIVE FARMING

USE HYBRID CORN FOR SEEDS

JOSE CRISANTO

*(Acting Supervisor on Special Detail
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Department of Instruction)*

The practical development of varieties that are inherently more productive than those now used is of great importance to Philippine agriculture. The improvement of corn through breeding and better cultural practices has occupied the attention of growers, especially of government agencies who have the technical men and the resources to conduct such experiments on crop development. In the United States, the Department of Agriculture has discovered that the utilization of two breeding methods, mass selection and breeding within inbred lines, produce hybrid corn. This latest development in corn breeding technique has produced hybrids which have established their superiority in productiveness and in resistance to wind, diseases, and other unfavorable conditions.

Upon this basic knowledge, the Filipino farmer is offered an opportunity to augment his income through the use of hybrid corn seeds suitable to his locality. The question arises, from what sources will farmers obtain their seeds? Knowing the peculiarity of behavior of hybrid seeds, it is of paramount importance that centers of distribution be established, wherein a particular hybrid corn seed has been developed, adapted to the local conditions. Only the first filial generation may be used to produce the desired results in productiveness, and other desirable features.

Methods Used to Control Pollination

The following technique of corn hybridization is being described:

"The development of inbred lines and their later use in the production of hybrid corn necessitates controlled pollination. During the inbreeding period and the period of experimental crossing, pollination usually is controlled by hand-bagging of the ears and tassels.

In the large-scale production of hybrids, the pollination is controlled by isolation and detasseling.

Self-pollination or "selfing" consists in pollinating the silks of selected plants with pollen from the tassels of the same plants. Two quite different methods of accomplishing self-pollination are in common use. Both methods require that the young ear shoot be covered to exclude foreign pollen before the silks emerge. Shall glassine bags are very convenient for this purpose. Later operations differ widely for the two methods and will be described separately.

In one procedure, (which for convenience may be called the "tassel-bagging method,") when the silks appear, the glassine bag is removed, the young shoot is cut back by trimming off the silks to three quarters of an inch of the tips of the husks, and the glassine bag is replaced. The tassel is enclosed in a large bag at this time. In 24 to 48 hours an even brush of fresh silks 1-1/2 to 2 inches long will have grown out. The pollen is collected in the tassel bag and dusted on the silks, then the shoot is again covered with the large tassel bag, which remains over the ear until harvest.

A second method, usually designated as the "bottle method" was developed. When the silks appear under the protecting glassine bag, the bag is removed and the shoot is trimmed back as in the previous method. A 2-ounce bottle of water is hung from the stalk at the ear-bearing node. The tassel is cut from the stalk, its shank is inserted in the bottle of water, and tassel and shoot are enclosed in large paper bag. The tassel should be arranged directly above the ear shoot. The bottle of water serves to keep the tassel alive while new silks appear, and as fresh silks

(Continued on page 24)

The MARCH OF EVENTS

Re-Draft of Bell Trade Bill

Mr. E. D. Hester, Economic Adviser to U.S. High Commissioner Paul V. McNutt, and in charge of the Manila office during his absence in Washington, announced that the full text of the January 21st re-draft of the Bell Trade Relations Bill (H.R. 5185) has been received in Manila and copies transmitted to Malacañan.

Commenting on the differences between the re-draft and the older version (H.R. 4676), Mr. Hester said, "The basic provisions are the same. They provide for 8 years of free trade followed by 25 years of progressively increasing tariffs for most commodities, and declining quotas for others. In justice to the Islands which, for so many years have been tied to the economy of the United States, it is deemed necessary to provide for a gradual, rather than abrupt adjustment of Philippine economy to an independent position in keeping with its coming sovereignty."

The new elements in H.R. 5185, Mr. Hester said, may be summarized as follows: (1) Differences in the provisions made for ratifying the terms of the Act after independence; (2) Increase of the time required for notification of termination from two years to five; (3) While the former text sets absolute quotas for all quota commodities, the revision permits limited over-quota quantities of all but sugar and cordage to enter the United States on payment of full duties; (4) the addition of a provision in which the Philippine government is authorized to adopt necessary laws and regulations to put quota allocations into effect; and (5) Provision that any change in the present parity between the peso and dollar must be by agreement with the President of the United States.

The provision that after independence the content of the Bell Bill is to be offered the Philippines in the form of an executive trade agreement is contained in Sec. 19 of the revision, Mr. Hester said. However, the revision also provides that the President of the United States shall proclaim a reasonable time after independence within which (a) the Philippine Congress shall ratify the agreement and (b) the Philippine Congress and people shall amend their constitu-

tion to accommodate the provisions of Section 16 of the Bill, Mr. Hester said.

Section 16, a member of the staff explained, is the section which relieves American citizens and corporations of certain disabilities which would otherwise fall on them by reason of ART XIII Sec. 1 and ART XIV Sec. 8 of the Philippine Constitution. These articles, as they now stand, he said, limit rights to acquire public domain and mineral land holdings and to operate public utilities

NLSA To Buy Ramie Machines

MANILA — The National Land Settlement Administration will concentrate on the production of ramie in its settlement in Koronadal, Cotabato, according to Acting Secretary of Interior Alfredo Montelibano, chairman of the NLSA board.

Montelibano said that in a recent meeting of the board, it was decided to purchase stripping machines for ramie fiber from the United States. These machines would cost the NLSA from ₱10,000 to ₱12,000 each.

The present plan to produce ramie on a large-scale basis was inspired by reports of the rich market in the United States for this product.

The NLSA will shortly undertake the rehabilitation of the Koronadal settlement. Montelibano said this agency is negotiating for the purchase of tractors from the Foreign Liquidation Commission to replace tractors commandeered by the United States Army at the outbreak of the war and by the Japanese during the enemy occupation.

to Filipino citizens and their corporations.

"It is important for the long range rehabilitation of the Philippines," the staff member remarked, "that it be realized that conditions which would render the Philippines unattractive to American capital would react to the mutual detriment of both the Philippines and the United States."

Mr. Hester pointed out that the formulas for allocation of quotas remain unchanged from those of the Tydings-McDuffie Act as amended. The Philip-

pine Government would be authorized by this draft to adopt the necessary laws and regulations for putting the allocations into effect, a provision, M. Hester said, which was implied before, but never specifically stated.

In commenting on the provision that all coconut oil exported to the United States must be denatured as to render it unfit for use as food, Mr. Hester pointed out that the coconut oil industry would find a firm basis for its rehabilitation because no United States processing tax is to be collected on denatured coconut oil. In effect, the Philippines would thus be assured of practically the entire U.S. market for coconut oil for soap-making and other industrial purposes. Normally 85% of coconut oil was utilized by such industries. He added that the denaturing provision constituted the only feasible solution for enabling the rebuilding of the coconut oil mills in Manila and Cebu.

"The re-draft of the Bell Trade Relations Bill," Mr. Hester concluded, "has not changed its purposes. It contemplates a gradual adjustment of Philippine trade economy from a condition of almost complete dependence on U.S. markets to normal competitive trade between sovereign nations. The effects of the war have added to what would have been the normal difficulties and complexities in separating the economics of the two countries. The Bill, if enacted, promises to assure stability over a period of years sufficiently long to restore and improve the domestic economy of the Philippines."

Sugar Shortage Thru 1947

Hope for quick relief in the world's critical sugar situation was dismissed in a speech by U.S. Secretary of Agriculture Clinton P. Anderson before the National Canner's Association in Atlantic City.

"Sugar will be a problem throughout 1946," Mr. Anderson declared, adding: "The facts do not warrant optimism. However, gradual improvement does seem to be in sight. The crop estimates for some of the major sources of sugar are encouraging. Right now, that means Cuba and Puerto Rico principally."

The MARCH OF EVENTS

The secretary also explained that it is still too early for dependable estimates of sugar which may be produced in the United States.

Continuing, Mr. Anderson said:

"Reserves have sunk to an all-time low level, and we are not going to continue the mistake of using more sugar than we are receiving. On the other hand, we are not going to be over-cautious, and as supplies warrant, there will be loosening in sugar controls. The increases will not be sensational, because we must live within our sugar budget."

Anderson's statement before the canners was in line with the Department of Agriculture's report on the world sugar supply, which noted among other things that there would be slight recovery in the sugar industries of Java and the Philippines.

Very little progress has been made in rehabilitating the industry in either area up to January this year," the Department's report said. "The latest reports from the Philippines holds little hope for substantial relief. Paul V. McNutt, High Commissioner to the Philippines, has told newsmen in Washington that much of the agricultural rehabilitation in the Philippines is dependent on legislative measures which have been held in congressional committees for nearly two months."

FEATI Christens "City of Iloilo"

On Friday, February 1st, at a simple ceremony at the Manila terminal of the Far Eastern Air Transport, Inc. on Neilson Air field, Manila, P. I., Mrs. Esperanza L. de Osmeña, wife of the president of the Philippines, christened FEATI's flagship, "City of Iloilo." Mrs. Osmeña broke a bottle of Champagne on the ship's landing wheel. Following the christening, the blessing of the plane took place with Reverend Father Gerald officiating.

Mrs. Osmeña was accompanied by Mr. Eugenio Lopez, president of FEATI and by Mrs. Salvador Araneta. Also among those present at the ceremony were Mr. Eric T. Bradley, Chief of the Aircraft Division of the Foreign Liquidation Commission, Major Henry W. Meider,

chief pilot and operations officers of FEATI and Lt. Roland M. Stanley.

After the short ceremony, Mr. Bradley handed the contract of sale to Major Meider, officially turning over to FEATI the fleet of air transports it had purchased from the Commission. FEATI is at present daily serving the public through 14 direct routes, ranging from the North to the South of the Philippine Archipelago. They have 14 C-47s in regular operation all purchased from the Foreign Liquidation Commission and in a very short time, they expect to have 11 more in service.

The Far Eastern Air Transport, Inc., was started in 1932 as the Iloilo-Negros Air Express Company by members of the well-known Lopez family of the Visayas. The INAEC, as it was then called, operated the largest air franchise in the Philippines. Using Iloilo as their main terminal, their American pilots flew Sikorsky S-41s, Stinson Trimotored, Stinson Juniors, and Bellanca's in inter-island air traffic. However, operations were cut short on the 18th of December 1941, when the company's main airfield at Iloilo was bombed by the Japanese.

After the liberation of the islands, FEATI became the 1st customer of the Aircraft Division of the Foreign Liquidation Commission in Manila. On November 1st, the opening day of this office, they arranged to purchase 4 C-47s. Their post-war operations started 15 days later on November 16th with a flight from Manila to Iloilo, Bacolod, and Cebu. Ever since then, they have been maintaining regular inter-island air traffic.

Major Meider has been getting equipment together for 2 schools and an airplane repair shop which have already started to enroll students. One school will train airline pilots in 2 years; the second, aeronautical engineers and master mechanics in 4 years. Students of both schools will be able to observe at close range the work being done in the repair shop by the air-line.

The members of the Lopez family still own and direct the FEATI. Mr. Eugenio Lopez is the president and the General Manager; Mr. Salvador Araneta is the Vice-president; Mrs. Victoria L. De Araneta is the Treasurer; and Major Henry W. Meider, the operations officer. FEATI has its head office at 3332 Taft Avenue, Manila.

P. I. Needs Stressed

By McNutt

The Office of the High Commissioner released the text of the statement made by Commissioner Paul V. McNutt in Washington on February 5th. It follows in full:

"I have come to Washington on what I consider business of tremendous urgency. I have come to call for redemption by our Congress of the pledged words of the United States. Unless our pledges to the Philippines are redeemed, we might as well shut up shop in the Far East.

"We are pledged, by act of Congress, by the written and spoken words of the President of the United States, and by our national conscience, to bind up the wounds inflicted on the Philippines through our war with Japan. We are pledged to grant the Islands their independence on July 4. *That* pledge will be kept. But we are also pledged to prepare the Islands for independence and to insure establishment there of a free and democratic republic, which also means a prosperous, going nation. Toward that pledge we have shown strange indifference.

"The Philippines today exist in an economic blind alley. Goods are pouring in. Nothing to speak of is moving out. Filipinos are living on madework, on service charges to our swiftly-disappearing GI's and on expectations. They are not living on economically work. That we have denied them by our inaction here.

"We are not asking, on behalf of the Philippines, for a huge money grant to compensate for the damage of war. In a real sense, I cannot estimate what such a bill would be. It would be several billions of dollars, perhaps ten. But that would be uneconomic. It would not accomplish our purpose, which is rehabilitation of the Philippines. Money is not the answer. The answer is trade, the answer is production, the answer is resumption of private enterprise, of building and growing. The Philippines grow products we need; most of their products are not competitive with ours. What we must do is to provide conditions under which production can go forward. We must restore to the Philippines their pre-war economic status. I think our obligations extend beyond that, but I won't go into that matter for the moment.

(Continued next page)

"Free trade is the answer, an opportunity for the Philippines to market their produce in the United States, without tariff charges for as long as it is absolutely necessary to help the Islands get back on their feet economically. Then we can begin to require that their economy be adjusted along independent lines. That is the Philosophy of the Bell Bill, now in the House Ways and Means Committee, where it has been for two months. No real rehabilitation can be begun in the Philippines until that bill is passed. Its passage is now overdue. To delay further in its enactment would be to disregard the fundamental needs of eighteen million people who sacrificed everything to be our allies and faithful wards during the war. It would be to justify everything the real collaborationists and Jan-lovers and racial extremists said about us during the war. It would make our entire policy in the Orient a mockery. And make no mistake, both our friends and our enemies in the Orient, and in Europe, are watching what we do in the Philippines. They are ready to make capital of our failure, if we should fail. While you in the United States hear very little of what is going on in the Philippines other countries hear a great deal. Foreign news agencies are well represented in the Philippines.

"There is another bill in Congress that must be passed. That is the Tydings War Damage Bill, authorizing four hundred and fifty million dollars for payment of physical war damages. The payments are to be on a basis of approximately 70% of the extent of the damage. This is another *must*, although without the Bell Bill as an economic charter, the Tydings Bill cannot succeed in its avowed purpose.

"We have many problems in the Philippines: enemy collaborationists, care of veterans who fought for us, agrarian reform reestablishment of sound financial institutions, guerrilla currency, and the strengthening of the Philippine Government. We cannot proceed with any of these problems unless Congress redeems our basic obligations. It would be fruitless to move for the presentation and the improvement of democratic forms in the Philippines, if we are not going to let the Filipinos have the means of economic survival."

USCC Head Announces

Textiles Received

Mr. Warren G. Libbey, head of the U.S. Commercial Company, announced today that the first large shipment of textiles to be received in the country from the United States since the outbreak of the war, has arrived in Manila in three ships.

The entire shipment consists of green herringbone twill, the same cloth of which GI fatigue clothes are made, Mr. Libbey said, adding that it is good, strong quality and particularly adaptable for work clothes. Mr. Libbey believes that the quantity will substantially aid in providing clothes for workmen not only in the Manila area but also in the provinces.

The USCC has worked out a plan of distribution so that this cloth will be available to the public at reasonable prices, Mr. Libbey said. Each wholesaler will file with the company a list of his retailers with their addresses. These will be furnished to the Commonwealth Government Price Control Administration. Mr. Libbey anticipates receiving accurate names and addresses of the retailers because high quality textiles will be received in the future by the USCC. and Mr. Libbey remarked that the dealers involved would be anxious to maintain their standing with the company.

"The public must assist in price-control enforcement," a staff-member of the High Commissioner commented, "by refusing to buy at prices higher than ceiling, plus a reasonable transportation charge in the provinces. It takes two to make a black market," he added, "and unless the individual purchaser realizes his responsibility, refuses to buy at black market prices, and reports all violations to the proper authorities, no plan of distribution, no matter how carefully guarded and set up, will be effective."

The prices per yard in Manila, according to width, are as follows:

27"	.....	P1.30½
28"	.....	P1.36
29"	.....	P1.40½
31"	.....	P1.48½
32"	.....	P1.53
33"	.....	P1.57
34"	.....	P1.63
35"	.....	P1.67
36"	.....	P1.70
37"	.....	P1.75½
38"	.....	P1.81
39"	.....	P1.86
48"	.....	P2.29½

There is an old adage that with a nail only may another be unnailed. Also there is the modern fact that with a stronger force may all scattered wicked forces flagrantly assail peace and order everywhere be suppressed. The war that just passed over is the proof of this assertion.

Perhaps this is easy to say but hard to realize so that in this tangled question of peace and order in which so many efforts have failed and never succeeded to minimize the general impression of fear unless radical measures are taken, it will never come to an end. Under the present circumstances the following steps are recommended:

1. While the government is re-collecting all unlicensed firearms, expansion and impetus be given in licensing more firearms in favor of responsible and law abiding citizens for their personal protection.
 2. Establishment of up-to-date Gun Clubs in every municipality, organized by civic citizens who are eager to defend and protect their lives, properties and happiness against marauding assailants, hold-up men and the bunch of malefactors.
 3. Creation of well trained, truly honest and real brave Rural Mounted Police as they used to have in Canada and other countries. In the enlistment of officers we should be unmindful of those who say that a "dead police receives no salary" and other alibis fearing to face danger.
- With this organization working at night will eradicate all desperado assailants, hold-up-men, etc.
- Our peasants in the field shall remain happy again, unmolested, with their farm products in the barns and pet animals resting in the corrals, and sure to wake up the next day under the same helping sun that warmed the day before.

Mr. Libbey announced that the foregoing prices will be slightly higher in the provinces, due to transportation and re-handling charges.

The goods were brought in by the USCC, which procured the textiles from Army stocks in the United States, for the Philippines, when importers found it impossible to place orders because of an acute shortage. Besides releasing the material through importers with established outlets, who will work on a small commission paid by the USCC, a substantial quantity of the material will be distributed through the National Trading Corporation, a Commonwealth entity, Mr. Libbey said.

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(Continued from page 17)

19. What precautions should be taken when weaning?

To avoid inflammation (swelling) of the udder of the dam, feed her only once in 24 hours, before weaning, and only one half of the daily ration one to two days previous to weaning and one to two days after weaning. These measures dry the brood sow without ill-effects.

20. What is the food for the weanings?

For the first few days they may be fed the same slop feed and some of the greens fed the dam. This can be improved from day to day by the addition of other feeds higher in protein as the mixture of feed given in the answer to question No. 10. The important thing is to be sure that there is enough trough space for every pig; that they are fully satisfied; that the food fed is fresh and palatable; and that the slop is rich in protein and mineral feed needed for proper growth.

21. Are camote, "kamoteng-kahoy" and banana trunks good food for pigs?

They are; however, the first two are more for fattening than for growth; the last one is not only high in water content but high in fiber. This require some study. Another common mistake in swine feeding is feeding of bulky feeds. If a pig is expected to grow well, the food should be highly nutritious; high in protein, high in minerals and vitamins; and should be well balanced as regard car-

bonaceous and protein feeds and the mineral content in the same way we balanced "kanin" (rice) and "ulam" (viand).

22. What are starchy foods?

Starchy foods generally refer to foods rich in starch as corn, rice, "tatad," "adlay," "camote," "kamoteng-kahoy," etc.

23. What are protein feeds?

Protein feeds are those high in protein as mango, peanuts, "tapilan," copra meal, soybean oil meal, meat meal, fish meal, shrimp meal, "suso," etc.

24. What are soiling crops?

These refer largely to cultivated forage that are out from time to time in the green, fresh stage to feed to animals. "Tapilan," "mongo," "utao," soybeans, peanuts, cowpeas, are leguminous crops rich in protein and minerals. Napier grass, Guinea grass, Para grass, "bungalon," Uba cane, corn, Sudan grass, Sorghum and also camote are crops rich in starch, sugars and other carbohydrates and also rich in minerals. In the young succulent stage all these plants are higher in protein, minerals and vitamins than in older stage. For the same purpose advantage may be taken also of "ipil-ipil," "manimanian," "kulape" (carubac grass), "ulasiman," or ("kulasiman"), "kangkong" and the present Pasig river aquatic plant known locally "water-lily."

25. Compare the composition of some of these foods and plants.

The following table of analysis largely taken from Morrison's feeds and feeding may be helpful. (See table next page).

26. What are the interesting points noticeable in the table?

The grain by-products with the exception of rice bran are low in mineral content and there is a wide difference between protein and starch. (The rice bran contains the embryo and rice chaff. To the first is due the higher content of protein upset by the high fat content and to the last is due the higher fiber content.) Another important fact is that calcium is very much lower than phosphorous. The animal and the vegetable protein foods are comparatively the reverse to the cereal food as regards protein and starches. This is also true as regards the ratio of calcium and phosphorous. The green roughages are low in nutrients but comparatively higher in fiber and mineral content. The relation of calcium and phosphorous in greens is more in accordance to the right proportion needed by the animals. Comparing the grasses and legumes there is also a wider difference between calcium and phosphorous in legumes than in grasses the reverse is true as regards protein and starches.

27. How much green forage may be fed to swine?

A pregnant sow may be fed all the tender green feed she will eat besides the concentrate feed it is fed. It is understood that in feeding such amount a gradual change had been allowed to reach it. Such food serves not only as a mild laxative but it distends the alimentary tract and develops roomier barrels in the brood sows. "Camote" and "tapilan" cut into short pieces or young corn plants and "tapilan" make good green feed mixtures. Sucklings, newly weaned and growing pigs should not be fed much green roughage or other food high in fiber. Their digestive apparatus are small and can not handle advantageously such feed. If forced to eat such feed they become pot-bellied or runted (among the Tagalogs the term is "bansut"). They, like a nursing dam should be fed mostly very nourishing, well balanced concentrates, rich in proteins, minerals and vitamins needed for normal growth.

28. Is excessive fatness advisable in a gilt?

It must be guarded against by proper exercise, sufficient protein and more but not too much bulky feeds rather than feeding mostly rice or mostly corn. Variety in the foods fed is important.

29. Is the construction of a pen or a pen and yard necessary?

No; but it is a most convenient system. At least the owner will feel more at ease against attacks of dogs and the animal is more comfortable.

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CONCENTRATES (Grains & by-products)	Protein	Fat	Fiber	N-free extract (starches, sugars)	Calcium	Phosphorus
Corn	9.8	4.3	1.9	70.1	--	0.30
Corn feed meal ("tahup")	10.0	4.4	3.0	71.0	0.03	0.27
Sorghum (kafir)	11.2	3.0	2.3	70.3	0.04	0.30
Rice (brown)	6.9	2.0	1.0	77.2	--	--
Rice bran	12.8	13.4	13.0	41.1	.08	1.36
"Binlid"	6.42	1.26	5.83	67.83		
Cassava meal	0.2	0.7	6.1	76.8	--	.03
Copra meal	20.8	8.2	10.4	45.0	0.21	0.62
Fish meal	58.7	7.9	0.9	4.1	5.37	2.98
Meat scraps	55.0	10.7	2.2	1.2	8.70	4.30
Soybean oil meal	44.3	8.7	8.6	30.3	0.28	0.66
Molasses (cane)	2.8	--	--	61.9	0.56	0.06
Garbage	3.0	7.2	1.1	22.2	--	--
Peanuts seeds	30.5	47.7	2.5	11.7	0.06	0.38
GREEN ROUGHAGE (Grasses)						
Bermuda grass	3.5	1.0	8.7	18.3	--	.07
Corn pant	2.0	0.6	4.9	13.6	--	.04
Guinea grass	2.2	0.7	--	10.9	--	--
Napier grass	2.5	0.3	9.1	10.0	.12	.10
Para grass	1.7	0.5	9.2	13.4	.13	.05
Sudan grass (all stages)	2.0	0.6	8.5	12.8	.14	.06
Sudan grass, in bloom	2.2	0.6	7.8	11.2		
"Culape" grass	1.84	1.04	7.47	12.23		
Barit grass	2.96	0.90	4.68	6.71		
L E G U M E S						
Cowpeas	3.0	0.5	3.8	7.0	.20	.06
Soybeans	4.2	1.1	6.7	10.1		
O T H E R S						
Cabbage (outer leaves)	2.6	0.4	2.7	7.1		

30. What is the best way of tying a pig that is being tethered?

Use medium sized rope tied twice around the body over the shoulder so that an X forms between the front legs and there is a loop over the shoulder to which a dog chain may be snaped. If not long enough another piece of rope may be tied at the end of the chain. This rope is best tied to a low branch of a tree. The purpose of the dog chain is to prevent it becoming entangled. If a chain is not available the rope may be arranged under the same principle followed in tethering fighting cocks.

31. What is the simplest mineral mixture to have for pigs?

Mix equal parts by weight of sifted hardwood ashes and salt.

32. When may a sow be rebred?

A sow will take a boar (male pig) three days after farrowing but it is not advisable to breed at that time. Sows kept up in good flesh may be bred on the next heat that comes on the fourth to sixth week after farrowing. Heat may be induced at this time by shutting the pigs away from the dam a few nights and feeding more concentrate feed high in protein.

33. Is it a good practice to wean the big pigs first to permit the small ones to grow well?

Such practice should not be followed as some of the udders may not be nursed and become caked and even ruined.

34. When should pigs be castrated?

Pigs may be castrated after they are ten days old. There is very little set back noticeable in their growth if done while suckling. In fact castration, ear-marking or ear notching, and vaccination should be done by spreading the various operations from ten days after being farrowed to a week before weaning.

35. What is ear-notching?

Ear-notching in pigs is the cutting of small portions of their ears for identification and recording purposes preparatory to a more extensive development of the project into a semi-commercial or commercial venture.

36. What are the most common diseases of pigs?

Hog cholera, swine plague and intestinal parasites.

37. What should be done about these diseases?

Prevention through continuous cleanliness, proper sanitation and the least contact direct or indirect with animals suspected to come from areas where there may be disease or the use of utensils from such animals. When any disease is suspected or is known to exist in the neighborhood, a civic spirited person should report some to the nearest disease control Veterinary Office or employee or write direct to the Director of Animal Industry, Manila.

38. What other sources of help may the government extend to home or farm units?

The Livestock Extension Service Officer of the province may be called upon concerning care, feeds, feeding, management, selection of sites, con-
(Continued on next page)

M. JOSUE

WATCH REPAIRER

- MALIGTAS JOSUE
Master Repairer
- HENRY LEWIS
- FORTUNATO SANTOS PULPULAAN
Assistants

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struction of houses, sheds, fencing, purchase of breeding stock, appliances, selection and culling of stock, castration, caponization and other topics on animal culture that may be of interest to the public.

39. Can swine be raised in the Philippines in large groups by private enterprises?

Yes. Before this war there were already quite a number of persons in many provinces who raised pigs in large groups of not less than fifty head, mostly grade or purebred stock. These were raised largely under conditions favorable to the cheap acquisition of the bulk of feed fed.

40. Where were some of these located?

In Rizal, Nueva Ecija, Pampanga, Pangasinan, Occidental Negros, and Davao. However, as far as the condition of the land was concerned, many were not satisfactorily located but the promises could be greatly improved by draining pools or filling up the mud holes. They were either near rice mills, corn mills or coconut plantations or coconut oil factories where copra cake, or copra meal were cheaply available. Some were near and took advantage of the garbage from restaurants, hotels or army barracks; some were able to obtain brewer's grain practically free; and some had a combination of these feed facilities.

41. What is a satisfactory condition of land in the raising of pigs?

In the raising of pigs, especially in larger numbers where the home left-overs do not suffice to feed them, it is necessary to have land that drains easily and, if possible, of sufficient size so that forage and even pasture plants may be grown to reduce expenses.

42. What kind of land drains easily?

High or rolling land easily drains, or may be easily drained; and land with sandy, loam, or sandy-loam soils that permit water to filter through in a short time.

43. Why is that necessary?

Because it is important to prevent mud pools to form so easily as they become sources of infection especially of intestinal parasites.

44. How is the best way to start a swine project larger in size than a home unit?

There are really many ways to start such projects. But the more ordinary ways are as follows:

(a) By buying from a reliable party the desired number of selected gilts or sows and a boar. The chances of starting with selected stock that are not sick of a contagious disease can be easily ascertained. It may be mentioned here that buying from different sources expose the project to more chances of disease, especially if the stock is bought from sources that are not properly attended or organized.

Progressive Farming . . .

(Continued from page 17)

grow they are pollinated by pollen from the enclosed tassel. It has been found advantageous to use a mild disinfectant in the water to retard the growth of micro-organisms and thus lengthen the life of the tassel. A solution of sodium bisulphite 1:2,000, which must be fresh, has proven very satisfactory for this purpose. After 48 to 72 hours the tassels may be removed and the bottles collected. These may be used again for other pollinations."¹

Several satisfactory methods of hand crossing are in common use. The young shoots must be protected from stray pollen as in selfing. When the silks appear the plants may be crossed in a manner similar to either the tassel-bagging method or the bottle method described above. Where larger quantities of seeds are required, it is usual to mix the pollen collected from several plants of one line and apply it to the silks

¹The Year Book of Agriculture, 1936 of the Dept. of Agriculture, U. S.

of the desired number of plants in other lines.

The larger scale or commercial production of crossed seed is accomplished by planting alternate blocks of the two parents in a field isolated from other corn and removing the tassels from all of one kind before pollen has been shed. The seed picked from these detasseled rows is hybrid seed. The ratio of pollen rows to detasseled rows varies from 1:2 to 1:4 depending on the vigor and pollen-producing ability of the pollen rows. Where inbred lines are being crossed, the more usual ratio is 1:2 and where single crosses are being crossed to produce double crosses the proportion of pollen rows, under favorable circumstances, may be reduced to 1:4.

This description of hybridizing corn may well be followed in agricultural schools thus enabling the different localities to produce the hybrid seeds adapted to the locality. It is evident that work along this line necessitates a considerable time before satisfactory results may be obtained. However, this work can be conducted in cooperation with the Bureau of Plant Industry Experiment Stations in order to hasten results and avoid duplication of work.

This is the right time to start experiments on corn hybridization with the objective of discovering a hybrid that will greatly redound to the benefit of our farmers. The corn production of this country is undeniably very low mainly due to the fact that our farmers do very little seed selection and in several instances they just resort to buying their seeds from the market because whatever they have produced and saved for seeds for the next planting had been consumed for food or fed to animals.

With the production of hybrid corn for seeds in the different localities where experiment stations and agricultural schools are established the use of hybrid corn for seeds would be then an established practice of progressive farming in this country.

★ ★ ★

HOME GADGETS

Mechanizing of farming in the Philippines often gives the wrong conception to many people. Many have the belief that when we say "mechanize our agriculture" it means the revolutionizing of our farming by big capitalists by the use of big motors, tractors, machineries be-

(b) By buying selected sows and distributing to dependable tenants or friends who have none to raise, but have the facilities. Usually the arrangement is that the original stock always belong to the owner and the young is partitioned equally by the partners. In this way if there is disease in any among the ones purchased from different sources, the sick animal is almost in quarantine and the disease does not easily spread. In case the tenant after a year wishes to discontinue the arrangement he has a means to start his own project and the owner, without extra expense has more animals than at start. In this case it is understood that a well selected or a purebred boar is supplied by the owner to breed the sows or he makes the arrangements to have the sows bred to a boar in a government breeding station or center.

(c) A system followed by a number is to buy a good boar, usually a purebred boar, and advertise among his neighbors that a successful breeding is payable at the rate of one selected newly weaned gilt resulting from the breeding. In a year, from 50 to as high as 100 gilts may be collected. In this connection it is well to warn that it is not advisable for new swine raisers or those without sufficient experience to go at once into the production of a large number of pigs.

(To Be Continued)

yond the reach of the income of the small farmers and eventually eliminating him. This is a mistaken belief because if this did happen there would certainly be revolution.

Mechanizing our agriculture means the application of machines or mechanically advantageous implements practical to the small farmer in application to his farm work. Labor saving devices, like home gadgets that will grind and shell his corn, grind his coffee, cacao, etc., in less time and with less number of working hands to do the work. Gadgets like the use of a few pipes to furnish his "kubo" with running water from the nearby well with a small mechanical pump. A few more pipes and he has water in his backyard poultry for his chickens and hog. A small heating apparatus and if the farmer in his extra time, desires to improve his poultry project, he can have a small brooding place where he can incubate eggs and have more chickens. A few garden tools like the *seeder* that will plant more per given time, a *cultivator* that will cultivate with less man-labor, a *fertilizer drill* that will make his garden crops grow more luxuriantly to afford him and his family not only enough for his home use but also as a source of extra income, etc. Gadget like the *sprayer* for insecticide to assure him that he does not lose his small garden crop should they be attacked by pests.

With a certain amount of horse sense coupled with a little ingenuity, artistry, and principally industry, the five hundred square meters that a small farmer or tenant has for his home lot can yield quite an income. Aside from what he could get from the "good earth" he must have gadgets to engage himself in home industries like making of salted eggs, bottling preserves of fruits, vegetables, pickles; weaving buri, jusi, buntal; making bacon, homemade ham, cheese, butter; gadgets to curve wood; gadgets to make bamboo fancies and furnitures; gadgets to utilize the thousand and one coconut by-products; gadgets to make coconut wine, vinegar, alcohol, the same with nipa wine and vinegar.

These things mean machanization, although in a small way. Because of the war which wiped out what we had of these gadgets and tools, we need more now of these things and better ones, to cope with our present necessities and necessities that will arise in the future to produce more and better crops, commodities and food for the early rehabilitation to normal status of the farmer-tenant, landowner, consumer, and the people in general.—R. R. de Arana

FARMING AND COOPERATIVES

The Cooperative Movement . . .

(Continued from page 15)

1. Open membership, with shares of low denomination so as to be within the reach of all.
2. Limitation of the number of shares to be held by any one member, to prevent wide inequality in the financial status of members.
3. Democratic control, each member to have but one vote regardless of the number of shares that he or she may hold.
4. Sale of pure goods and fair measures at prevailing market prices to avoid arousing needlessly the destructive hostility of local merchants.
5. Cash sales to avoid loss through delayed payments and uncollectible accounts, to reduce bookkeeping costs, and to insure purchase of goods on most advantageous terms.
6. Payment of not more than 5 per cent interest on shares, the rest of the profits, after deducting for depreciation and reserves, to go partly to an educational fund, partly to charity, and the remainder to be distributed to producers in proportion to their trade at the store.

APPLICATION OF PRINCIPLES

Open membership.—This has long been an ideal of cooperative organizations, but it has sometimes been modified in practice. Among the modifications which have been adopted in practice are the following:

1. Statutory restrictions which allow a cooperative organization to choose its members. The provisions of the Cooperative Marketing Law (Act No. 3425) that "an association shall admit as members... only products to be handled by or through the association..." is one ap-

plication of this restriction. (Section 7 of the Law)

2. A second type of modification of the open-membership principle is restriction on religion, politics or race. In certain European countries, notably Belgium and Holland, religion and politics have established dual groups. In the Philippines this restriction is not being practiced. There is, however, a tendency in certain cases toward political affiliation (in the past) to obstruct the smooth progress of the cooperative movement. Leaders of the cooperative movement, therefore, should endeavor to convince the farmers (and the people) that politics has no place in cooperation, that politics had been one of the causes of the failure of many cooperative societies in the Philippines in the past.

3. The limitation of dividends paid to inactive members; or membership is withdrawn as a result of inactivity; or the right to vote is recalled when a member becomes inactive. This restriction should be applied in the case of many of the farmers cooperative associations in the Philippines in order to arouse the interest of the members in their organizations.

One-man-one-vote.—One of the fundamental aims of cooperation has been that of "union of men, not a union of capital." As a result the old common law rule of one-member-one-vote has become a part of laws on cooperatives. There are, however, two devices that have been adapted in the application of this one-member-one-vote principle into practice, namely: (1) voting by proxy and (2) voting by mail. Statutes have allowed the application of these modifications of these principles. Proxy voting has been made possible in certain cases by providing for voting by delegates. But even in this instance laws have restricted delegates to voting for no more than 10 per cent of the total membership. Statutes have been more lenient in the case of voting by mail than in the case of voting by proxy, because this would still be true to the principle of one-member-one-vote.

In the Philippines, the laws on cooperatives allow only one vote for each member of a cooperative association regardless of the amount of capital invested in the organization.

Limitation of the number of shares to be held by any one member.—Statutes are generally silent in this regard. One of the laws on cooperatives in the Philippines, the Agricultural Credit Cooperative Law (Act No. 2508), however, limits the value of shares to be owned by any one member belonging to any of the Agricultural Credit Cooperative Associations (Continued next page)

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Limited interest on capital. — This is called the "living wage to capital" principle. It is followed closely by cooperatives. Membership share should be distinguished from capital share in a cooperative organization. There is usually no return on membership share or membership fee. It provides only for the rights that go with membership. Usually, the membership share is not returned to members and is not transferable.

Capital share receives returns ranging from 1-1/2 to 8 per cent per annum. In fact, Philippine laws limit the return on capital share to a maximum of 8 per cent per annum. Many believe that the rate of return on capital shares is too low, resulting in capital starvation. Some believe that the high mortality rate of consumers' cooperatives is due to a certain extent to this very low rate of return on capital shares.

Sales for cash at market price.—This principle appears to be the most commonly modified in practice, especially in the case of consumers' cooperative stores, and all the modifications lead to credit sales. The modifications of the sale-for-cash principle are as follows:

1. Credit is limited to the extent of the capital invested by a member in the society, or some stated proportion of this investment. This is generally practiced by cooperative stores in the field of groceries and general merchandise.

2. Sometimes a secured note of the member will be accepted in lieu of cash. In this way losses due to bad debts are substantially lessened.

The sale-at-market-price principle has been generally closely practiced by consumers' cooperative stores. Some modifications of this principle, however, have been introduced, among which are the following:

1. Sale at cost plus a reasonable profit plan.

2. Sale at cost.

The difficulties encountered in applying the sale-at-market-price principle are found in the fact that: (1) it is difficult to determine what constitutes market price, and (2) cooperatives, in determining price policies, have to serve their members and the general public. There is the difficulty of determining whether the wholesale price or the retail price is the market price. Members may be satisfied with the prices based on current retail figures with consequent higher patronage dividends if prices are too high. But the general public will not be benefited by this system. Because cooperatives recognize their public responsibility, they often reduce prices with, possibly, some effect on competitive price structures. The danger in this practice, however, is that it encourages price warfare.

Dividends paid on the basis of patronage.—There are a number of methods used in the payment of patronage dividends. These are as follows:

1. The regular Rochdale method of a certain per cent in proportion to total purchases.

2. The "stock company" method of percentage patronage payment on the value of shares.

3. A graduated dividend on the extent of patronage wherein a half share is given the small patron and a full share to those that exceed a certain minimum amount of business.

It is interesting to note that in certain countries, as in Belgium, no patronage dividend is paid, net earnings being retained to finance some purpose, generally of a political or religious nature.

The methods used in paying patronage dividends may result from several systems adopted in the conduct of the business of cooperatives. It is, therefore, necessary to devise records and procedures for accumulating information re-

garding the amount of each member's participation in order to compute the proper share in the distribution of earnings. Some of these are as follows:

1. The preparation, in the case of a cooperative store, of sales slip for every purchase, or delivery receipt for every sale of products, in the case of a marketing association, and accumulation of these by the cooperative for the members.

2. Providing each member with a passbook in which the clerk enter the purchase or sale at the time it is made. When a dividend is declared the members turn in their books and their dividend is computed.

3. The use of cash register receipts. These receipts are signed on the back by the member and deposited in a box or kept by the member until such time as a declaration of dividend is made.

4. Providing each member with a card like a meal ticket. The sales are punched on the card. The card is retained for dividend purposes.

Any system of patronage dividend payment has the following advantages: (1) It stimulates business by tying trade to the cooperative, and (2) it places capital in its proper position of a facilitating agent of business.

The distribution of patronage dividends to members of the farmers' cooperative associations now established in the Philippines may be seen from the following illustration. Let us quote that portion of the cooperative law (Sec. 29 of the Cooperative Marketing Law or Act 3425) which has to do with patronage dividend. It says: "The net profits of the association, over and above expenses and dividends of membership capital, or capital stock actually subscribed and paid, shall be distributed as patronage dividend among the members or owners of common stock thereof, in proportion to the value or volume of agricultural products sold to or through the association during the period for which such apportionment is made..."

The by-laws of the farmers' cooperative associations also say this in this regard:

"All savings and earnings of operations shall be divided as follows:

- (a) 50% shall be set aside to amortize the indebtedness of the association, if any;

- (b) 10% for reserves;

- (c) 5% is to be set aside for educational and information fund;

- (d) 35% to be distributed to members as patronage dividends."

If the association is not in any way indebted or if its indebtedness is such as would require no amortization, the balance of the savings or earnings of operations in any year, after setting aside the reserves and that amount for educa-

National Land Settlement . . .

(Continued from page 9)

In legal matters are the standing courts. However a "council" of ten settlers under the chairmanship of the director of the N.L.S.A. will hear first the complaint and has to try his best to settle the matter of dispute between the two parties amicably before it can go further to the authority.

After the fifth year the settlers will be sufficiently trained and the settlement will be so organized that the settlers will be able to carry on by themselves, and the N.L.S.A. will only supervise the settlement in an advisory capacity. At the end of the fifth year the settler will receive a statement giving

him the rights on his residential lot of half a hectare and on the field of ten hectares. With accord of the N.L.S.A. the settler may exchange his lots with those of one of the other settlers. The lots are to be distributed under the settlers by "draws". After the tenth year the settlers will receive the title for his lots. They are then his own without any obligation to the National Land Settlement Administration.

For each settler the N.L.S.A. shall have at its disposal the sum of ₱1,500, which is to be used for covering the expenses during the first five years — Total amount ₱150,000.

The expenditure for the officials of the N. L. S. A., for building, etc. have to be made up in a separate budget. #

tional and information purposes,... shall be made available as patronage dividends.

Illustration:

Capital Stock . . ₱1,000 to earn, say, ₱5%
Gross income on sales ₱2,000
Cost of Goods 1,500

Gross profit on operation . . ₱ 500
Less overhead 200

Net Profit on operation . . ₱ 300
50% for amortization ₱150
10% for reserves 30
5% for education 15

Total ₱195
₱300 — ₱195 = ₱105 for dividends
₱105 for dividends
— 50 as 5% dividend on the ₱1,00 capital share

₱ 55 for patronage dividends.
To find rate for patronage dividends:
₱55 divided by —2,000 = ₱0.0275 for every ₱1.00 participation.

Name of member	Purchases	Sales	Total	Patronage dividend (Total X ₱0.0275)
"A"	₱ 30	₱ 80	₱110	₱3.02
"B"	50	70	120	3.30
"C"	100	50	150	4.12

SUFFICIENT VOLUME OF BUSINESS.—No one has worked out, or perhaps no one can work out, the minimum and maximum limits of the volume of any commodity that may be handled by a cooperative organization. Experience is necessary to enable an organization to determine just what these limits are for the commodity that it handles under certain conditions.

A puzzling question is to find out what percentage of the total quantity of a given product is necessary or desirable for the conduct of business. Only the fruit of experience can solve this question. For example, it has been observed that when a country's supply of a given agricultural product is grown entirely in a concentrated area, grading tends to be unsatisfactory, publicity is neglected, and the commercial buyers are few and powerful. The case of tobacco in the Cagayan Valley illustrates this very well. In such cases, cooperatives specify that at least one-half of the output, and often three-fourths, must be controlled. Cooperatives in the United States have found by experience that the most effective basis is 80 per cent of the total production.

On the other hand, some cooperatives have been successful even if the size of their business individually is small. Size, therefore, is no criterion of success taken by itself. Large figures and general magnitude may result in extravagance, easy-come-easy-go procedure, and a departure from the cooperative spirit. Many cooperatives have been wrecked in Germany, in the United States, and in the British Dominions because money has been splashed about like water.

ADEQUATE MANAGEMENT.—The problems of management are personal

and commercial. A manager should not only know his business but he should also know how to deal with the members of the organization.

The commonly accepted test for efficient operation is success. "Nothing succeeds like success" is the common saying. But this test is unsatisfactory taken by itself, since luck, accident, and uncontrollable circumstances are strong factors of success. On this point, Frederick W. Taylor, the pioneer of Scientific Management, proved that there was no direct connection in business between profits and efficiency.

Results are really all that matter. But luck and circumstances are composed of such tangible and intangible elements that no rules for unvarying success can be devised.

The late Justice Oliver Wendell Holmes of the United States Supreme Court remarked that "the art of living consists in making correct guesses upon insufficient information." Cooperatives should secure all possible data affecting policies; but risks can never be wholly eliminated, although they can be minimized. Managers are frequently confronted with proposals from members which involve speculation, too rapid growth, or unsound method. Since managers have a diplomatic role to perform, their decision must sometimes be made upon the shoulders of the convincing party. But if mistakes are committed, they should not be of the heart; they should rather be of the head.

An IMPELLING LEGITIMATE PURPOSE.—There must be a need for cooperation and this need must be both impelling and legitimate. The movement should have a central purpose which should continue to be the overwhelming interest of the rank and file of the membership of the cooperative organization.

It is said that "adversity is the mother of cooperatives." But cooperatives established just because of an attempt to minimize the effects of business depressions are not permanent. What is needed is an association whose membership is well informed about the principles and problems of the organization.

There is no magic in a cooperative association. It has its benefits, but also its decided limitations. These must be well understood by the membership.

LOYALTY.—Loyalty is the tie that binds. Yet loyalty to a common cause is impossible when there is absence of cooperation. Cooperatives lay great stress on loyalty but they often mean the loyal-

ty of the members to the association.

Loyalty in this case should also refer to the employees and officials of the association. There are a number of ways to maintain loyalty in a cooperative organization. Among these are the following:

1. Use of the loyalty pledge.
2. Use of the contract, a legal tie.
3. Constant education of members to promote mutual understanding.
4. Loyalty to loyalty, which is enthusiasm and faithfulness. These are inherently denied to no one and they are the surest guide for the specific performance of duty.

CONSTANT COOPERATIVE EDUCATION.—From the very beginning education has been the bulwark of the cooperative movement. The importance of education in the cooperative movement is expressed in the report of the Committee on Inquiry on Cooperative Enterprises in Europe, appointed by President Franklin D. Roosevelt, in the following words: "To live, a cooperative must have a loyal membership with broad understanding of its purposes and methods. To grow, it must 'sell' the cooperative idea to prospective members."

In a restricted sense cooperative education in part education and part propaganda. Much of the literature of the movement usually advocates the cause of cooperation in the guise of "special pleaders."

Cooperative education may also be divided into external and internal education. External education includes personal and radio addresses, press publicity, pictorial publicity, as well as the "literature" of the movement.

Internal cooperative education includes members' educational forums, various youth educational programs, employees education, women's clubs work of an educational and welfare nature, and cooperative newspapers supported by members of cooperatives.

In regard to employees' education, some cooperative organizations provide a special school for technical training of potential cooperative managers. In such a school, the following, among other things, are taught: training in the theory of cooperation, sales method of cooperatives, and cooperative accounting. The Institute For Practical Training In Cooperatives which is run by the Bureau of Plant Industry, is an example of an institution for training future cooperative leaders and employees. As regards the continuous education of the membership of farmers' cooperatives in the Philippines, the by-laws of such associations provide for the setting aside of 5% of the profits of the associations for educational purposes. #

(To be Continued)

In Lighter Vein

(R. R. A.)

TEACHERS AND PUPILS

So many arguments have been said, published, talked about the great sacrifice of the teacher, the unjust pay they receive for their work, etc. Some teachers are for strike against the existing rate of pay, nowadays being strike boom days, so some teachers believe they are out of fashion by not striking. A few faint voices have reached the newspapers and lately a few teachers, as the papers say, have made formal bid to higher wages but so far no teacher has struck yet.

One teacher the other day in her class, was so enraged by her pupils that she started expounding to them the role of the teacher in moulding the life of the nation's children, the sacrifice they are doing to serve the country and finally the humiliation they get by not being supported and paid decently by the government.

"What would happen to the youth if teachers all over the country started a strike?"

A youngster stood up bravely and answered, "Teacher, if you strike we would all back you up and the longer you strike the more we will cheer for you."

"Sit down," the teacher ordered but she inwardly smiled. "So you could all loaf," the teacher added,—"No, you cannot have fun while we are having no fun."

A faint voice from the rear seat was heard, "Let's strike for the teacher."

DOWNTOWN

I was walking downtown the other day and as I passed by each bar or cafe or any drinking joint, I peeped in to satisfy my curiosity about what people say that business with the G.I.'s is over, bars are going to die a natural death. True enough there are less G.I.'s now who drink but, still they keep drinking. A lot of G.I.'s still think much about coconut wine and many Yankee boys still believe in a scrap as part of the sport of drinking. It may break up the joint or more often, a few chairs, glasses and bottles. To humor these boys bar owners paint the walls of their places with wizzy

girl figures or write jokes on them. In one of them I saw this writing on the wall entitled, "When You Go Drinking."

"If you cannot drink with your stomach and do it with your head, my man—stay home and sleep, my son."

In another joint, I saw this little twisted poem:

"Why fight in Bars, GI Joes?

If you are out for a good time

You are out of the firing line;

Well, Joe, forget fighting

And have some coc'nut wine."

This is the best of the lot I saw, entitled, "A Thought About Americanos."

"Shoulder to shoulder we stand with you

In love and war, business and tar—

If you break-up the joint,

You'll break us to the point!

But surely it'll bounce back at you

'Cause, Americano, you're liberator Joe."

RAMIE FIBER . . .

(Continued from page 7)

tors who can afford to invest a working capital of about 3,500 pesos on a four hectare land. This amount of capital enables the investor to acquire a 3-H.P. gas engine, a decorticating machine of 3/4 piculs of dry fiber capacity per day of 9 working hours and few farm implements and equipments. Such size of a plantation shall also need at least 5 permanent laborers who will do nothing, year in and year out but attend to the care of the plantation, continuous stripping of matured ramie plants and other odd jobs in the plantation.

Big investors are meant those legally organized corporations or trust companies who would go into the venture of mechanized labor and production of fiber in big scales. There shall be a need of a big decorticating central of about 1,000 to 3,000 tons capacity of dry fiber on a 24 hours working time with 3 shifts. Regions for this venture are available in the province of Isabela.

CAGAYAN RAMIE REGIONS

Although the northern coastal towns of Cagayan province like those of Cla-

veria, Sanchezmira, Pamplona, Abulug Ballesteros and Allocapan had been mentioned, the extensive growing of ramie could not be strongly recommended in the open land of those regions because of the strong northwinds which occur during the months of October, November and December. However there are fairly big valleys between ranges shielded from northwinds and are suitable for ramie fiber production, but the problem of port entries and exits and transportation facilities are difficult. These coastal towns take their products by trucks on the national highway or on flat bottom boats by waterways to Aparri and sent to Manila either by ships or big trucks. But countless difficulties are often encountered especially during flood months. Moreover, on excessive flood days the mouth of the Cagayan river is clogged by sandbars and big steamers are forced to wait outside the port until the sandbars is completely dredged. Eventually the farm produce is delayed and freight rates become exorbitantly high. Occasionally accidents occur when the river boats are washed away by strong currents to the sea, shattered to pieces and totally destroyed.

In the Itawis region suitable idle lands are available and are located between ranges shielded from strong winds, but the finished produce will involve heavy expenditures during its transportation to Tuguegarao or Aparri. By waterways the boat travels on the Chico and Cagayan rivers and partly on the national highway on badly damaged macadam roads. Moreover, there are times when the ferry is hardly available. This handicap increases handling charges and thereby reduces net profit.

ISABELA RAMIE REGIONS

As mentioned elsewhere in this report thousands of uncultivated fertile lands abound in Isabela. These lands are suitable for ramie growing and available for big investors. There are however idle lands in Cagayan and Echague where small investors have opportunities to produce ramie fiber. In the virgin lands of San Mariano, Palanan, Angadanan and Jones which are almost limitless, the lands are suitable for ramie fiber production and are awaiting big investors. The exit of finished products is always Manila through the national road. But when shiploads could be produced, Port Bicobian on the Palanan Bay may be resorted to.

The potentialities of Paanan town are never heard nor sung by our Filipino

writers. This is now the time to expose the economic possibilities of Palanan. This silent town is famous for its historical gifts, being the last stronghold of General Emilio Aguinaldo and the spot where the last Japanese soldier ended his military career. Why Palanan is always selected as the last stronghold of Oriental militarists is perhaps due to the peace loving inhabitants who are self sufficient in rice, meat and dairy, poultry, especially cockfighting roosters, fishes, coconuts, nipa and buri products, forest products and guano deposits. What is lacking in Palanan are good roads, steel bridges, ships and tractors.

Palanan is a place where drought is not known because of its numerous springs and waterfalls. In spite of its seclusion from the rest of the world, the inhabitants are satisfied with their economical life. Of course they long for the day to come when Port Bicobian shall be open to the big seaport and airport of the world. Port Bicobian being shielded from tidal waves and storms shall become the exit of ramie fiber produced by big investors direct to San Francisco, New York, London, Marseilles and Hongkong.



FACTS ABOUT RAMIE FIBER PRODUCTION IN OCCIDENTAL NEGROS

Abstracts from the 1941 SUGAR NEWS as written by Mr. Carlos Loecin of Victorias, Occidental Negros gives us the following data:

- 1—A ton of deleafed stalks 5 feet tall can be cut by 4 to 5 laborers
- 2—By contract, a ton of deleafed stalk 5 feet tall costs ₱3.00 yielding 0.79 picul of dry fiber.
- 3—Yields are in the order of 25-30 piculs of dry fiber per hectare per year.
- 4—Harvesting by hand costs around 4 pesos per picul of dry fiber. Stripping, washing and drying costs around 4 pesos per picul when decorticated on a 3/4 picul capacity machine.
- 5—The proportions by percentage from different products in the fresh deleafed stalks decorticated in a 3/4 picul capacity machine are as follows:
 Fresh Stalks 100%;
 Bark and Fibrous Tissue, 30%;
 Wet stripped fiber, 12%;
 Dry fiber, 5%
 Degummed fiber 3.7 (74% yield from dry crude fiber);
 Wood, 70%;
 Machine waste, 18%;
 Moisture, 7%;
 Gums, 1.3%.

FARMING AND COOPERATIVES

My Alma Mater . . .

(Continued from page 5)

it might well be applied to Agronomy 2 (Philippine Field Crops) which carries 5 units to make it 7 units. Because this is a very broad subject and is a direct farm concern, it is justified to carry more units. However, this 2 extra units should be emphasized on truck gardening work. There is emphasis on Chemistry when farm work has very little problem along this field and if Chemistry problems occur, they are seldom if ever analytical in nature and extent. Should it occur, one does not have the facilities on the farm anyway so he takes it to the Bureau of Science or Bureau of Plant Industry. But sad to say, truck gardening is not taken up by Aggie graduates unless one majors in Agronomy. Yes, it is mentioned as a passing work in Agronomy required subjects. But truck gardening alone is an industry and requires special study and should be given more ground preparation in our College Curriculum. It is important now more than ever, to a farmer whose major produce is rice or sugar cane, or any main agricultural crop which require big areas to be profitable. He is in need of carabaos and implements for these major crops to be made as profitable as before. To them and to poultry farms, to hog farms, to fish farms, gardening is indeed a big help as a source of animal as well as human food and a good and quick source of extra income. And for those who have small parcels of land intensive truck gardening is more profitable than most main staple crops of the Philippines, as gardening can earn more per inch of land. It is therefore obvious, that truck gardening be given more attention and study at present.

In the third year, 1st semester,

again is another Chemistry subject. This time Agricultural Industrial Chemistry or Chemistry 15, carrying 5 units. At the same time, Entomology I or Introductory Economic Entomology, study of insects in other words, is taken up carrying 5 units. These two subjects no doubt have their importance but they carry too many detailed chemistry experiments and too many insect breeding experiments and insect field collections necessitating a lot of paper work. The time allotted to these two subjects is not enough to finish the entire requirements. A student has to devote many extra Sunday hours and spare time during regular days to be able to complete breeding and collecting insects. If 2 units could be clipped off Entomology I and 2 units from Chemistry 15 by minimizing experiments and paper work, it is believed that the student will not be less educated on the principal objectives of these two important subjects.

The 4 units saved could be very wisely applied to practical Engineering work which is not taken up in the offered regular engineering subjects. During the third year, the student has opportunity
(Continued next page)

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to take up Engineering work, a general knowledge of which is essential, for farming go hand in hand with Engineering study. Planning, building, repairing buildings and implements, drainage, irrigation, machine use, etc., are all ordinary farm work requiring an understanding of Engineering principles. As a matter of fact, in some countries there are degrees offered in their universities with the title of Farm Engineer, or Agricultural Engineer. But going back to our topic, in the regular Engineering subjects, Engineering I-a or Farm Mechanics and Engineering I-b, Farm Machinery, carrying 3 units each or a total of 6 units, nothing is mentioned about advanced findings on irrigation and drainage for example. The 4 units saved from Chemistry 15 and Entomology I, could be applied to a simplified Engineering subject on Drainage and Irrigation coupled with Farm Motors and Advanced Farm Machinery. This latter topic (Farm Motors and Advanced Farm Machinery) is offered in College as Engineering 103 only for students majoring in that department. The simplified new subject is very necessary at present to be incorporated in the regular course in view of the present tendency and future development of farming operations which is along the mechanization of farming. The application of labor saving devices, mass production methods, use of irrigation pumps and motors, use of mechanized planting, plowing, transplanting, harrowing, harvesting, threshing in case of palay, and other new farm implements and machineries which will be within the reach of small farmers, is not very far off. This is a natural precedence to our rehabilitation and industrialization progress. Our Aggie graduates should be prepared for this development.

In the fourth year or senior year, the student has a big stumbling block, thesis. As a matter of fact, many students are finished with the complete course without diploma because of absence of or disapproved or incomplete thesis. Many may have finished their

actual experiments but have failed in the writing of their manuscript. This is 10 units, the hardest 10 units in the whole course. This is indeed beneficial to the college and especially to professors because the approval of a student's thesis makes him with the adviser-professor a co-author in a scientific work which automatically becomes a reference for the college. The thesis also becomes the basis of future research work of professors. But the brunt of the work and sacrifice in time, energy, and money are born by the student should the thesis not be approved. Many students repeat their whole work entailing a delay of at least one semester and more often a year. Some students who are hard-up or those without source of support or income, forego the thesis and go ahead and work outside without diploma. Later, after they have saved a little money some go back to the college to finish the deficiency in their thesis and get their diploma.

To remedy this pitiable situation of the student, especially should it happen during these trying times, it is suggested that the thesis work be reduced to 5 units except for those who will pursue technical agricultural studies. The 5 units saved should be applied to 6 months farm practice on any Philippine farm or farming district, similar to the mill practice of senior students of the Sugar Technology course. The senior student from the south to be assigned to the north so he learns conditions there and students from the north be assigned to southern farms so that in this way, there is a better understanding of conditions outside ones own farm district.

When the student graduates and finds he could apply some of the beneficial aspects or conditions outside his farm district, he is familiar with them. Also, should a graduate work outside his farm district he is familiar with the people and farming practices in the other districts. Should he employ in his own farm districts men from the other districts, he is familiar in handling them.

The assigning of senior students in opposite regions should be made a general rule unless otherwise

desired by the student to go to his own district for particular special studies.

This farm practice is a further complement of the Farm Management I course in the first year suggested above. A rounded education in theory and practice is undergone by graduates. No old farmer can tell young supervisors they lack experience and knowledge of practical farm practices.

Under present circumstances, the college of Agriculture is in dire need of facilities and material for the need of students in their studies like poultry fowls, animals, seeds, plants, etc. It is suggested that all enrolling students at once organize themselves under the above suggested Farm Management course, into a Farm Management Club or Association and each contribute, let us say, a hen, another some seeds, or animals, and utilize part of the College building and land to operate this Farm Management Association as a paying organization. Under the guidance of the professors a detailed farm plant could be little by little established. The Poultry Building could be used as the Students Poultry Plant. The experiment station land and agronomy buildings could be partially assigned to this organization. In due time, the college would have enough poultry, seeds, plants and animals not from government aid but from their own efforts. "Los Baños College spirit" could come to the fore and build up the college from scratches and the students and professors would have done a patriotic job. Whatever is due the student in the form of invested hen, or seed, plant or animal, be paid him plus a certain amount of interest to be agreed upon by the organization when he graduates or leaves the college. Not only does the student get a first hand information and practical farm training, but he also gets an inside understanding of the economics of farm administration, laws, taxes, expenses, profits, etc.

To further promote a closer relationship among farmers in the immediate vicinity and influence their methods of farming and crops raised, there should be a program arranged like:

1. A monthly plowing and furrowing contest among stud-

ents and outside farmers held in the college fields with prizes to be decided by the students farm management association.

2. Monthly demonstrations of new seeds, plants, planting methods, new suggestions among students and outside farmers so that the college and farmers around the college, may be able to help one another and thereby derive mutual benefits.
3. In this way, the college may be able to influence the farmers around the campus at least to devote their time in more paying crops. All these years of the College of Agriculture, could we say that a Los Baños gabi, camote, cassava, ginger, main root crops of farmers obtaining around the college, are the best in the market because of the influence of the college? Calauan bananas are demanded in Manila markets but is it be-

cause of the influence of the College? Paete Lanzones is well known in Philippine markets but could we say it is because of the influence of the College? What crop could we mention, raised by Los Baños farmers, has acquired a name in the market because of the influence of improved seeds or method of raising it due to the College? The Los Baños cantonese and the college egg laying contest has had some publicity before but has the College interested the people in municipalities around the campus to go into it to help their finances? Are those raising poultry, specializing on this breed because the college has found them to be best adapted to Los Baños conditions?

If the people in the vicinity go to farming work, they look up to the college as a place to study not as a source of help to their farming practices in the small details which the college is in a position to give. There is an indifferent

attitude on both sides probably. Graduates of the college of Agriculture can not all be chemists, or botanists, or Agronomists, or entomologists, or pathologists, soil experts or farm engineers, but if a more even, a better balanced study of agriculture in theory and practice is afforded him, he goes out better equipped with the tools of his profession to work out his farm problems with better confidence and more ease. This is true whether he employs himself as a farmer, farm manager, agricultural teacher or government bureau employee.

The above suggested changes in curriculum would also afford the college professorial staff to work with more coordination in the teaching and presentation of their subjects so that one department becomes the complement of another. The work in the Farm Management Association would afford and prove a testing ground for the combined courses offered in college. It would also serve as a factor to better cement the relationship of teacher and student and the college organization as a whole and its neighbor farmers.

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Possibilities . . .

(Continued from page 3)

due to the accumulation of nitrogen from the air into the roots, this important element is increased in the soil when the crops are grown. And when we consider that with the establishment of permanent pastures not only will erosion be controlled but will also make possible the saving of as much as 70% of the manure voided by dairy cattle, we can realize the important role that dairy farming will play in our agriculture with all the manure returned to the soil.

The cattle population of this country according to the 1939 census was only 1,168,190 head, an increase of only 60,396 head in eleven years. Considering that the per capita consumption of beef in the Philippines is only 1.46 kilo per annum compared with such countries as Argentina, Australia, Canada, United States, and the British Isles where the per capita consumption per year is respectively, 76, 72, 33, 30 and 29 kilos, we can assume that our cattle industry needs a certain impetus to bring about, at least a satisfactory progress. Could it be that the cattle in the markets are so degenerated and underweight that profits of cattle raisers are not encouraging enough? Perhaps it is a question of better blood and better pastures.

Our interest in the beef cattle industry of the Islands lies in the plan to use its cows in the dairy upgrading program for producing the bulk of our future milk producers. Along with this upgrading plan, there must be an extensive development of permanent pastures. These programs properly coordinated will result in a greatly improved steer for the beef market, and a heifer that on an average will easily produce 5 quarts daily in the first cross and as much as 9 quarts in the second generation, (3/4 improved blood).

We now see how vital it is for the Commonwealth, for our people's nutrition, not only because of its milk requirements but also its beef supply that the importation of western breeds of dairy cattle be adopted, so as to speedily develop the dairy and beef industries in the shortest possible time.

In the following chapters, the writer exposes his happy success with imported dairy cattle, in the hope that the Commonwealth will take advantage of his pioneering work, and further suggests ways for developing dairy farming into a nation-wide industry.

"The former assumption that in the practical feeding of people and of farm animals all this can be safely left to chance is not correct... different food materials differ greatly in the absolute and relative abundance of the different elements."
—DR. H. C. SHERMAN, COLUMBIA UNIVERSITY.

"Minerals affect the normal body processes in many ways. It is extremely difficult even for the scientist to predict in just what direction the failure to supply feed with adequate mineral content will first show itself and how extensive the supply may cause stunted growth, damage will be. An inadequate anemia, udder troubles, bloody milk, brittle bones, goitre and any one of a score of body ailments that depend for correction upon restoring the mineral intake."—from "THE NEW WAY TO FEED MINERALS."

PROPER NUTRITION—THE SOLUTION TO ACCLIMATIZATION

The solution to the problem of acclimatization of imported livestock from temperate climate countries lies in *proper and adequate nutrition*. Perhaps, the simplest of all livestock undertakings is beef cattle raising. Unlike dairy cows and poultry, beef cattle do not produce any food during their life-time so we can well say that everything consumed by them is purely for growth, maintenance and the development of the fetus in cases of pregnant cows. It is this fact that has made most of our cattlemen embark in the easy going and awaiting enterprise of stock ranching or shall I say "cogon digging?" Contrary to this "cogon digging" enterprise, the progressive practice in beef cattle raising in the United States, Argentina, Australia, and other agriculturally advanced countries presupposes the planning and development of pastures that will supply roughage even in the dry months of the year. It is not, as practiced in this country, of letting the cattle eat up all the cogon during the rainy months while they are left to starve after all the grass is consumed during the dry months.

In the rural economy of the largely agricultural countries, the development of pastures is an essential tool to profitable livestock farming. The variety of grasses sown makes possible a grazing season which extends even to the end of the dry season. Alfalfa's wonderful drought resisting properties have attained for it a prominent place in pasture development.

While we know that our pastures have not had the benefits of Alfalfa, now we also have scientific proofs of the following facts about pastures and other crops intended for roughages which were not taken into account when the various attempts to acclimatize cattle from temperate countries were made with discouraging results:

1. Stage of growth determines the protein and mineral contents of the herbage.
2. Matured pastures is less palatable than when cut monthly or bimonthly.
3. Low mineral contents of the feed is traceable from the condition of the soil and deficiency of minerals under range conditions is associated with low protein intake.
4. Carotene attains its maximum value just before the beginning of flowering: it is also found to be high at the beginning of summer and lower during the hottest part of the season; while proper and adequate fertilization of the soil increases the carotene in plants.
5. Grasses in temperate countries are comparatively richer in nitrogen and minerals than those found in the tropics, because the cooler weather causes a slower rate of maturation thus giving more time to secure the necessary substances from the soil.
6. Plants take up less calcium and phosphorus during severe drought; but when mineral matter in the soil is high, pastures remain greener longer during drought.
7. Absorption of minerals is more or less influenced by the amount of rainfall; the increase in moisture as in the case of greater rainfall im-

proves the condition of the growing vegetation but calcium absorption is adversely affected.

8. The phosphorus content of both legumes and non-legumes is dependent on the phosphorus content of the soil upon which they are grown.
9. Regardless of the species or the fertility of the soil, young pastures grass contains more of both calcium and phosphorus than do mature plants.

Without a knowledge of the above mentioned facts, we will easily understand why the Herefords which the government imported in the year 1920 made the poor showing described by Gonzalez:

"As a rule, the Philippine environment presented combined factors which were detrimental to the well being of the Herefords kept on open range. Not one treatment or agency such as food, temperature, humidity, insect bites and the like could be singled out as being responsible for the rapid dying of practically all the Herefords that were found to reduce in flesh gradually even when additional grain feed was supplemented to their pasture allowance. The coat became rough and dull and the skin pale and unhealthy. The animals looked dejected and at midday they panted even under shade and were listless. Apparently much relief was afforded if they could wade in the mud; if possible, they congregated in such places in the daytime. During the fly season, the tender parts of the hoofs became badly punctured by maggots which had hatched from eggs laid therein. If maggots were not removed in due time and the sores properly treated, subsequent infection and lameness of the feet affected would ultimately cause the death of the animal. Reproduction went on fairly well but a number of young were either weak or born dead. Those that survived became stunted thus failing to reach normal size at maturity." (1926 — Proceedings of the Third Pan-Pacific Science Congress, Tokyo: 1142-1150)

These observations were identical to those observed by our writer during the first years of the Hacarín farm and besides, sterility was common in our milking herd. That reproduction in the Herefords went on fairly well is explainable since beef cattle do not have the drain upon their system to the extent that dairy cattle

have, to produce their daily milk. The poor result with the calf crop however, demonstrates deficiency in absorption of the essential minerals such as calcium, phosphorus, iodine, potassium and many others. It should be of interest to livestock men to know that this condition is not peculiar to the tropical countries, as it is not caused by warm and humid weather as is supposed by those who claim, that adapting cattle from temperate climate countries into the Philippines is futile. As evidence there are thousands of cows in the United States and other temperate countries which still show this same condition which is known to be caused by the lack of minerals in the animal's organism.

While it must be admitted here, that the facts now known about the behavior of the different elements in herbage under different conditions were not perfectly known to the writer, continuous observation made evident that mineral deficiency was causing all the trouble in the herd. Inasmuch as facilities were not available to analyze all feeds and our farms' soil to make feeding more scientific, we introduced Man-A-Mar in the ration of our cows. Altho at that time it was the opinion among some livestock authorities that Man-A-Mar was nothing more than a product backed by plenty of advertising, the writer felt that a product which originated from the bottom of the sea would naturally contain a saturation of organic minerals which the cows could easily assimilate. After a few months trial, we doubted that Man-A-Mar would solve our troubles, but luckily, we discovered that not enough was being added. Man-A-Mar was made 10% of the ration for 4 months, and this later reduced to 5% when our cows began improving in health. This experience, also shows the necessity of studying the feeding methods of the herds in which the cattle to be imported from are raised. For a cow raised with deficiency in minerals, may not show signs of this deficiency upon arriving in this country, but will fall an easy prey to the process of acclimatization.

Even in temperate countries, where science is more advanced,

compared to what we know here about livestock raising, there still are cows that "reduce in flesh gradually even when additional grain feed was supplemented to their pasture allowance. The coat became rough and dull and the skin pale and unhealthy." If "the animals looked dejected and at midday panted even under shade and were listless" it was just the effect of the unthrifty condition of the animals which becomes pronounced with the heat of the day. This is why in temperate climate, panting is not so noticeable or not noticed at all. That these cows cannot resist the temperature and humidity of the lowlands is not correct, because the Hacarín farm had a good number of cows which did not show any signs of panting even under the sun at midday while they grazed in a succulent pasture. The reason for this encouraging condition of the cows undoubtedly was *proper and adequate nutrition* in spite of the tropical climate.

The three agencies responsible for the unsuccessful attempts of acclimatization of cattle from temperate zones, according to the skeptics who claim that further experimentation on this matter is unnecessary, are the following: climate (temperature and humidity), diseases and nutrition.

Further proof in favor of our climate being satisfactory, if proper nutrition is being maintained was gathered in my observations on the different importations of cattle which usually were small in number. As was natural, the first importations of Holsteins were from California where the climate is not too cold. The largest number of these cows came from a particular farm which sent cows, that were good producers but which lost condition after a few months of production. These not only decreased in production but also became unthrifty and finally died. Another farm also in California shipped cows whose productions were not as good but maintained condition for a longer time. Later, offers were received of cows from farms in the Northwestern states which were of better breeding. Most of these cows proved to be better producers than those received from California,

and as time went on and more cows were imported, it was noticed that animals of a particular farm maintained better conditions more easily. From this experience, it became apparent that the warmer climate of California was no benefit to acclimatization of the cattle in the Philippines. By this time also, our observations had convinced us of the necessity of supplying minerals which as Mark H. Keeney puts it in his "COW-PHILOSOPHY" are the spark of life—vital and all essential. He continues: "Absence of minerals, or lack of proper amount and character, may prohibit or greatly retard many body functions. Their importance in nutrition extends far beyond their function of building bone. They are the activating property of many of the glands and of the digestive juices, and they are the stabilizers of the body fluids. Their functions are often closely interwoven with those of the vitamins, and while there is much to be learned of both the mineral and vitamin subjects as they relate to the practical feeding of dairy cow, yet the more advanced knowledge of nutrition emphasizes the importance of minerals." This likewise leads us to the conclusion that it was the care given to the feeding of the growing heifer, which would determine the ability of the imported cow to thrive in the Philippines. These imported cows can thrive in this country provided intelligent care is given and the feeds the animals receive contain the necessary constituents of proteins, fats, and carbohydrates with ample amounts of vitamins and all the major as well as minor minerals.

That the acclimatization of cows from temperate countries has been solved, is proven by the number of cows which have been maintained at the Hacarin Farm on the

scanty concentrates available during the three years of war while the cattle pastured all day long in well drained pastures containing only a fair amount of roughage. Here the cows braved both rain and the midday sun without suffering any ill effects. Except for a few cases of Texas fever caused by ticks, which the absence of ingredients to make the dipping solution made control of the ticks impossible, we had very few diseases. Foot rot was not observed and sterility cases became rare. When the cows were unthrifty, the cure of most diseases was difficult if not impossible, but once the problem of nutrition had been solved, diseases were reduced in kind and frequency and cures were effected more easily.

A lone Jersey cow, born and raised at the Hacarin farm which

the writer was able to keep for himself in Manila, after the Japanese forces occupied the farm, never suffered from any ailment from April 1944, when the cow was brought from the farm. In October of the same year she calved a heifer calf, expelling her placenta one hour after freshening. The interesting fact about this calving is that it came only ten months after her previous one. This regularity in breeding only comes when the cows are in perfect health. If one realizes that the production of this particular Jersey with the limited variety of concentrates (rice bran and copra meal) and grass was over eleven liters a day for the first four months of her lactation or until she was burned in the Ateneo, there should be sufficient grounds to assert that dairying in the Phil-

IMPORTED:

Lovely Girl.....	365 days - 13,932 lbs as 1st calver
	365 days - 15,000 lbs as 2nd calver
Happy Girl.....	365 days - 13,631 lbs as 1st calver
	273 days - 11,422 lbs as 2nd calver
Pleasant Girl.....	365 days - 13,087 lbs as 1st calver
	335 days - 12,241 lbs. as 2nd calver
	(Little improvement on second lactation as she was dry only 12 days between lactations)
Lonely Girl.....	300 days 10,287 lbs as 1st calver
	365 days 10,832 lbs as 2nd calver
	(Lower production on second lactation as she was only 7 days dry between lactation)
Glenciff Segis Maid.....	365 days 11,334.5 lbs as 1st calver
	365 days 9,386 lbs as 2nd calver
	(Lower production on second lactation as she was only 15 days dry between lactations)
Carnation Ella Sensation....	365 days 11,275 lbs as 1st calver
	273 days 10,272 lbs as 2nd calver
	(No improvement on the second lactation as she was only 24 days dry between lactations)

GENERATION:

Nellie Entranbelle Carmelita.....	305 days 5,473.5 lbs as 1st calver
	365 days 12,598.5 lbs as 2nd calver
Liberty Export Carmelita.....	365 days 7,109.8 lbs as 1st calver
	365 days 12,419 lbs as 2nd calver
Evelyn Carmelita.....	365 days 10,648 lbs as 1st calver
Miriam Carmelita.....	265 days 7,906 lbs as 1st calver

SECOND GENERATION

Hacarin Estate Vina.....	365 days 8,479.5 lbs as 1st calver
	365 days 9,664 lbs as 2nd calver
Liwayway Hacarin Export.....	305 days 7,936.5 lbs as 1st calver
Gaynor Hacarin Best.....	335 days 8,362 lbs as 1st calver
White Hacarin Beauty.....	365 days 7,122.5 lbs as 1st calver

ippines can be made a profitable industry for all the farmers in the nation.

Records still available, show that in 1938 a herd of 43 cows, (14 Jerseys and 29 Holsteins) in the Hacarin farm had an average production of 7,227.96 lbs. per cow in 365 days or over 9 quarts of milk daily. The Lugo farm in Cebu reported to have attained an average production of 7,749 lbs.

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for a period of 300 days from a herd of 11 Holstein cows, or over 12 quarts a day. Before the war, a few Holsteins made some outstanding records that these should be mentioned here.

(See table on page 34)

While records of the imported stock from which came the first and second generation heifers reported here are not available, because these have been lost, it should be observed that the group of heifers with the suffix "GIRL" have all come from the same farm in a Northwestern State after we were able to determine among the different shipments, which of the farms sent the best animals. The lower production of our first and second generation heifers should not be compared in anyway to the "GIRL" group. This much can be said, — our first and second generation heifers were producing at least as much as their dams and positively more than any of the imported stock we have received from different farms in the United States and Australia. It should be borne in mind that the production averages were made under conditions that were not as adequate as we now would like their pastures and concentrate feeds to be.

The late Prof. Clarence H. Eccles, when interrogated by the writer in 1932 if he thought that the Holstein breed would thrive in the Philippines, answered "I see no reason why the Holstein breed will not thrive in your country, if properly attended and adequately fed, when in Cuba where the climate is very similar to that of your Philippines, Holsteins are doing wonderfully." We also have the authority of Prof. F. B. Morrison, who in March 1937 stated while visiting the Islands, "that he could not concede it was not possible to adapt some dairy breeds of cattle from America in certain regions of the country." With these authoritative statements and the successful experiences at Lugo Farm in Cebu with Holstein cows and with the Jersey and Holstein breeds at the Hacarín Farm, there is every reason to assure that dairying can be converted into a nationwide industry, if pastures are properly developed, and nutrition given the importance it should occupy in all herds.

In his article "Acclimatization FARMING AND COOPERATIVES

of Foreign Livestock a Problem", Manresa cites Sir Arthur Olver, animal husbandry expert of the Imperial Council of Agricultural Research in India as saying about cattle — "European breeds have proved generally unable, even under the best conditions, to maintain themselves satisfactorily within the tropics. This general principle has been found to apply in the case of milk goats also, but in the case of poultry, imported European breeds thrive well and seem on the whole to be less susceptible to diseases than ordinary village fowl". This statement, well studied undoubtedly implies that once proper care and feeding of imported poultry was solved, acclimatization of imported poultry was also solved. The term "under the best conditions" is very elastic and in this particular case, we know that it is limited to the amount of knowledge on care and feeding of cattle obtainable in India at the time Sir Olver made his observation. In this country too, there was one time when many of our experts in animal husbandry would not concede that the Leghorn and other imported poultry would do better than the Cantonese or the native fowl. But this was during those days when poultrymen insisted on feeding the imported bird with not much more than what the native fowl was consuming. With our success in rearing Leghorns and R. I. Reds as well as various breeds of imported hogs from temperate countries, it is not obvious to the livestockman after the achievement in complete acclimatization of the Jersey and Holstein breeds by the Hacarín farm, that proper nutrition in the solution to the acclimatization of imported cattle. In view of the high production at-

tained in both the Hacarín and Lugo farms in Bulacán and Cebu respectively, it seems logical to conclude that dairy farming can be a profitable and nationwide agricultural industry.

Before closing this chapter, may I refer to a cattle disease, which for years was a problem in different districts in the United States and Australia. Cattle apparently being fed with good quality hay and grains would develop these symptoms — general emaciation, incoordination in gait, and depraved appetite. This condition is termed "salt sick" in Florida, "neck ail" in Massachusetts and "coastal disease" in South Australia. Research has found that cobalt deficiency of the soil in which the hay and grain are grown is the cause of this disease. This is only one of the several diseases attributed to mineral deficiency. In the Philippines, there is a mistaken idea, that osteoporosis for which calcium therapy is indicated, is the only serious disease caused by mineral deficiency. Science however, has shown that there are almost as many diseases caused by mineral deficiency today, as there are kinds of minerals.

It should be natural to understand, that to avoid difficulties in acclimatization, imported cattle must be fed sufficient minerals of the varieties known by science as necessary for development, maintenance and the production of milk. Proteins, fats and carbohydrates with ample amounts of all vitamins must also be supplied. Be sure to attend to this first, and nature will take care of acclimatizing the cattle, if we give them access to good and ample pasture with some shade, plus common sense management.

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— THE MANAGEMENT.

"EVERY WORK DONE HAS A LASTING SATISFACTION"

EDITORIAL

(Continued from page 1)

4. Providing the tenants greater opportunity to own land through:

1. Operation of organized land settlements along the Koronadal land settlement system in all the agricultural public domain. Land classification should be rushed, agricultural land should be released from public Domain and organized land settlements established therein, to accommodate the tenants from congested rice regions.

2. Free transportation facilities should be given to tenant families emigrating to designated land settlement sites.

3. Acquisition of large landed estates for subdivision and resale to tenants on long term amortization payments.

5. Resource development to provide employment, develop power, facilitate industrialization:

1. By undertaking flood and river control and designing the dams, and other structures with due consideration for water power, irrigation and drainage, transportation, and inland fisheries, of the following rivers:
 Agno River in Pangasinan,
 Tarlac River in Tarlac,
 Rio Grande de Pampanga, Pampanga & N.E.
 Angat River in Bulacan.

2. By establishing factories for the utilization of local materials as follows:

- Rice straw for the production of paper pulp;
- Cassava for starch production;
- Dehydration, and canning of vegetables, fruits, poultry and meat products;
- Fertilize production by electric process;
- Forest products utilization;
- Operation of rice mills and warehouses by farmers associations;
- Rice bran for tiki-tiki production;
- Refrigeration of meats and fruits and vegetables and production of ham and other meat products.

6. Providing credit at low interest to tenants and small independent farmers:

1. Providing a liberal appropriation of not less than ten million pesos to the small farmers loan fund now under operation under the Department of Labor.

2. Development of a thrift and saving system in connection with the small farmers loan fund.

7. Maintenance of the price of palay on a favorable ration with prices of other essential commodities and principal export crops.

8. Making the Rural Districts equally attractive as the cities for ambitious young men and women to live in:

1. By undertaking extensive public works projects such as the building of rural roads, bridges, public buildings, waterworks, national parks, and rural recreation centers;

2. By electrification of the rural districts;

3. By improving the rural high schools in order that they may be equally attractive, adequately provided with facilities for excellent vocational training.

4. By organizing home industries on a local or national scale for financing, collection, distribution and improvements.

These measures are submitted in an outline form as it is believed that this is sufficient for policy determination. The Philippine Farmers Association shall be willing to cooperate with the authorities concerned in whatever manner possible and with the service of individual members to work out the complete and detailed plans for the project that the government may adopt in order to avert the dangers that are imminent, if the mounting agrarian difficulties are not met with adequate solution.

INDEX OF ADVERTISERS

(Alphabetical List)

	Page
A. Peña Oteyza	11
El Cairo	Cover III
Excelsior Hat Store	34
Farmacia Balintawak	29
Fred Wilson & Co., Inc. .	Cover II
Luzon Surety Co., Inc.	31
LVN Pictures	Cover IV
Manila Surety & Fidelity Co.	Cover II
M. Josue	23
Philippine Bank of Communication	31
Philippine Farmers Association	21 & 25
Tarifa & Sons	35
United Beverage Manufacturing Co.	22

Read The
 "Farming
 and
 Cooperatives"

TO OUR READERS

"The Farming and Cooperatives" wishes to apologize to its patrons for the delay of this issue. Due to unforeseen circumstances and change in personnel we had to combine the January and February numbers in one issue. However, our subscribers will receive the exact twelve numbers for one year. We shall put out an improved journal in the future.

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