EXCERPTS & ABSTRACTS

INSECTICIDAL TREATMENT OF SEEDS AGAINST SOIL-BORNE INSECTS *

By BERNARDO C. AGALOOS

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

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

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

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PROPAGATION OF PAPER MULBERRY BY ROOT SPROUT STUMP AND CUTTINGS *

By BENJAMIN M. BATOON

This paper deals with the possibility of propagating Paper Mulberry by stump planting and cuttings secured from young root sprouts under condition obtaining in the Makiling National Park as well as the right size of cuttings and stumps and the manner of preparation before planting.

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

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

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

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THE FOREST PRODUCTS LABORATORY

By ANASTACIO SISON

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

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

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

Detailed objectives of the Laboratory are:

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

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

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

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

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

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

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

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

HOW TO CONTROL WILD PIGS

Prepared by
The Plant Pest and Disease Control Division
Bureau of Plant Industry

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

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

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

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

Precautions

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

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

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

HENRY ABBEY, *What Do We Plant*