United States Department of Agriculture Special Page

Bulletins and Special Articles Issued by the Government, of Interest to the Northwest; Suggestions Covering a Wide Range of Activities; Results of Federal Investigations, Etc.

Remedies for Keeping White Ant From Timber

THE ravages of the white ant which, because of its insidious work in timber and wood structures, is one of the most destructive insects of North America, can be limited by comparatively simple measures, according to the entomologists of the United States Department of Agriculture. This pest, known scientifically as the termite, attacks bridge timbers, wells, silos, telegraph poles, bean poles, mine props, fence posts and railroad ties, and the sudden crumbling of wharves, caving in of mines, and the settling in of floors are sometimes directly due to its hidden borings.

Some of the recommendations of the Department's entomologist for dealing with this pest are as follows:

Forest products in contact with the ground should be impregnated with coal-tar creosote, which is a permanent preventive against attacks by our native termites. Coal-tar creosote has many properties which would recommend its use in this respect, for it is also a fungicide, and, being insoluble in water, will not leach out in wet locations. These requirements furnish objections to many chemicals that otherwise are very effective insecticides.

The various methods of superficially treating timber, as by charring, by brushing, or by dipping with various chemical preservatives, among which are creosotes, carbolineums, etc., have proven to be temporarily effective, in preventing attack, if the work is thoroughly done. If not thoroughly done, termites enter through the untreated or imperfectly treated portions, especially through weathering checks and knots. Where the bases of poles, mine props, etc., are left untreated, termites enter the timber from below, and, avoiding the treated portions, come up through the interior.

Charred timber is effective against termite attack for a period less than a year, although it is not seriously damaged at the end of one year. It will readily be seen that neither brushing nor spraying the exterior after placement, as is sometimes practiced, is effective in keeping out termites, since the portion that sets in the ground could not be treated, and it is usually at this point that termite attack occurs.

Before treating timber with chemical preservatives, especially where the brush method is employed, it is essential that the timber be thoroughly seasoned, otherwise penetration by the preservative will be retarded.

Many patented wood preservatives, advertised as effective against wood borers, often merely contain simple preservatives, as for instance, linseed oil, to which a slight odor of oil of citronella has been imparted, or contain simple poisons. For timber to be set in the ground, brush coatings with linseed oil are not effective against termites.

Impregnation with chlorinated napthalene may prove effective against termites, as a preservative for woodwork, in interior finish, where it is important that the preservative should not "sweat" out, or stain the wood. Treated wood blocks buried in the ground with termite-infested logs were not attacked after a test of nearly six months. Impregnation with paraffin wax was not effective in the bureau of Entomology's experiments. If the wood is not in contact with the ground, impregnation treatments with bichloride of mercury and zinc chloride are effective. The mercury and zinc in this form are both soluble in water.

Farming in Hawaii.

The Army is a most important factor in the development of diversified farming in Hawaii. This branch of our Government uses large quantities of corn, eggs, potatoes, poultry and other products, and the authorities are desirous of having the territory develop an independent source of food supply, as the possibilities of development along these lines are very great in these islands. Sudan grass, sorghum, legumes and other forage plants have already been planted by the Department's experiment Station in co-operation with the military post in order to furnish green feed for the horses.

Red and white Bermuda onion seed are doing well in Hawaii. Eight acres of onions yielded 32,210 pounds last year, not counting small onions of pickling size.

Co-Operative Marketing for Hawaiian Pineapple

A MARKETING division to assist pineapple growers has been organized by the U. S. Department of Agriculture's experiment station in the Hawaiian Islands. Prices which canners have been offering for pineapples are less than the cost of production. The Hawaiian pineapple grower today has to expend from $12 to $15 per ton to produce his fruit, whereas the price offered by the canners range from $5 to $11 per ton for first-grade pineapples and one-half these prices for second-grade products. As a result the small grower is now seeking a market for his fresh fruit in the United States. However, the business of shipping can hardly be carried on satisfactorily without organization and it is to help out in this connection that the new division has been organized, according to the latest report of the Hawaii experiment station.

It is also suggested in the report that better arrangements could be made if there were a branch of the marketing division in San Francisco, which should act as a central office for fresh pineapple shipments. This office could undoubtedly prevent the succession of bare and flooded markets which has characterized the previous condition of pineapple shipments.

The same office could also do valuable service in handling other Hawaiian products, such as sweet potatoes, onions, bananas, beans, coffee, cocoanuts and kukui nuts. The last mentioned product is particularly valuable on account of its large oil content.

Movement Satisfactory in Cold-Storage Apples

ALTHOUGH dealers generally report that the holiday demand for apples did not prove to be as expected, the result of investigations conducted by the office of markets of the United States Department of Agriculture would indicate, that the movement of cold-storage apples during the month of December was satisfactory under the conditions. Three hundred and six firms reported for January 1, of which number 231 reported for December 1. If the average condition for this number of storages situated in all parts of the country is a criterion, approximately 13 per cent of the total cold-storage holdings December 1 were marketed prior to January 1. The decrease in barrel holdings was much greater than for boxes.

The percentage of movement in December for box apples was small, but it is to be remembered that large quantities of this pack are held in common storage in the box apple producing areas, and that box apples placed in cold storage under conditions existing this year were held largely for the later Winter markets.

The cold-storage holdings of apples are admittedly large, and a regular, vigorous movement throughout the remainder of the season may be necessary to prevent disaster in the Spring. Growers and dealers are urged neither to dump their holdings nor to stand for arbitrarily high prices. Panicky selling usually means grief, but all concerned should seek to move cold-storage apples gradually and with such rapidity as the market allows, so that the deal may be wound up in relatively good shape.

Birds Useful; Destroy Insects and Weed Seeds

HOW birds which destroy harmful insects and weed seeds may be useful to the farmer is described in a new Farmers' Bulletin (No. 630) of the United States Department of Agriculture, entitled "Some Common Birds Useful to the Farmer."

Whether a bird is beneficial or injurious depends almost entirely on what it eats, says the introduction to the new bulletin. In the case of species which are very abundant, or which feed to some extent on the crops of the farmer, the question of their average diet becomes one of supreme importance, and only by stomach examination can it be satisfactorily solved.

Field observations are at best but fragmentary and inconclusive and lead to no final results. Birds are often accused of eating this or that product of cultivation, when an examination of the stomachs shows the accusation to be unfounded. Accordingly, the biological survey has conducted for some years past a systematic investigation of the food of those species which are most common about the farm and garden.

Within certain limits birds eat the kind of food that is most accessible, especially when their natural food is scarce or wanting. Thus they sometimes injure the crops of the farmer who has unintentionally destroyed their natural food in his improvement of swamp or pasture. Most of the damage done by birds and complained of by farmers and fruit growers arises from this very cause. The berry-bearing shrubs and seed-bearing weeds have been cleared away, and the birds have no recourse but to attack the cultivated grain or fruit which have replaced their natural food supply.

The great majority of land birds subsist upon insects during the period of nesting and moulting, and also feed their young upon them during the first few weeks. Many species live almost entirely upon insects, taking vegetable food only when other subsistence fails. It is thus evident that in the course of a year birds destroy an incalculable number of insects, and it is difficult to overestimate the value of their services in restraining the great tide of insect life.

In Winter, in the northern part of the country, insects become scarce or entirely disappear. Many species of birds, however, remain during the cold season and are able to maintain life by eating vegetable food, as the seeds of weeds. Here again is another useful function of birds in destroying these weed seeds and thereby lessening the growth of the next year.

The new publication discusses the food habits of more than 50 birds belonging to 12 families. Many are eastern forms which are represented in the West by slightly different species or subspecies, but unless the food habits differ they are not separately described. Among the popular birds included are the robin, bluebird, wren, brown thrasher, catbird, bobolink, oriole, crow, cuckoo, and the American sparrow.

Prune Peaches in Early Spring

"WHEN is the proper time to prune peach trees?"

This is a question frequently asked of the United States Department of Agriculture's specialists. In general, the answer is: "During the dormant period, preferably late Winter or early Spring, just before growth starts. This is true except in regions where bleeding from wounds is likely to occur, when it should probably be done in early Winter." The subject of pruning peach trees is more fully explained in a new Farmers' Bulletin (No. 632) on "Growing Peaches," which deals also with renewal of tops, thinning, interplanted crops and other special practices.

Sometimes the owner of a peach orchard will find it necessary to prune his trees throughout the Winter whenever the weather is suitable for men to work in the orchard, particularly if the operations are very extensive. But if the fruit buds are endangered during the Winter by adverse temperatures, it may be advisable to delay pruning as much as economic conditions permit until settled Spring weather arrives. This is especially advisable if heavy heading in of the previous season's growth is involved, since the proportion of live buds may determine the extent to which the cutting back should be carried.

Summer Pruning.

A limited amount of Summer pruning can usually be done to advantage. The trees should be observed constantly throughout the season of active growth. Whenever a branch is seen which is so placed that it obviously will need to be removed at the annual pruning for the shaping up of the tree, it is well to take it off at once. In this way the annual pruning can be reduced to a minimum and the removal of large limbs will rarely be necessary.

Then, too, it frequently happens that a single branch in the top of a tree will grow considerably faster than any of the others, thus making the tree unsymmetrical if its growth is not checked. A slight heading in as soon as such a tendency is apparent will usually keep the top well balanced.

There is a wide difference of opinion regarding the practice of pruning trees, but the most successful fruit growers usually prune their trees. The principal objects may be summed up briefly as follows:

1. To modify the vigor of the tree.
2. To keep the tree shapely and within bounds.
3. To make the tree more stocky.
4. To open the tree top to admit air and sunshine.
5. To reduce the struggle for existence in the tree top.
6. To remove dead or interfering branches.
7. To aid in stimulating the development of fruit buds.
8. To thin the fruit.
9. To make thorough spraying possible.
10. To facilitate the harvesting of the fruit.

Pruning and the Future.

Obviously the pruning which a tree receives during the first two or three years after it is planted has much to do with its future. Mistakes in forming the head or the results of neglect during the early years in the life of a tree are practically irreparable. On the other hand, if the tree is well formed and properly pruned during its first years, the foundation for a good tree is established; subseqeunt errors in pruning, if they occur, may admit of correction without permanent harm to the tree.

The new bulletin explains why in certain regions where warm periods of considerable length occur during the Winter, it is well to prolong the growth of trees until late every season. The rest period during which trees generally remain dormant is one which is fairly decided by Nature. Until that period is past, when once the trees have become dormant they do not respond readily to temperatures which later would cause them to resume a more or less active condition.

If the growth of the tree is continued actively until the near approach of cold weather each season by means of late tillage, nitrogenous fertilizers, or in other ways, the period of rest for the tree will not be completed until a later time in the Winter. Then if a spell of warm weather occurs in January, for instance, the tree which would ordinarily respond to it, will remain inactive until many of the dangers of frost have passed.

A great many practical pointers on renewing the tops of peach trees, changing the top by budding and grafting, thinning the fruit, controlling insect pests, and on growing some annual crop in between the trees, are included in the new bulletin. This, along with another Farmers' Bulletin (No. 631) covers the general subject of peach growing and treats of fundamental orchard operations. A third Farmers' Bulletin (No. 633) will deal with the varieties and classification of peaches, any of these publications may be obtained by interested farmers who apply to the editor and chief, Division of Publications, United States Department of Agriculture, Washington, D. C.

Okra Eight Feet High.

An American variety of okra which has attained a height of from 7 to 8 feet has been grown on heavy clay soil in our little possession of Guam, far out on the Pacific. This variety is called White Velvet, and the Department's experiment station in Guam expects much of this variety.

A great number of American vegetables have been found to grow easily in Guam, including cucumbers, lettuce, radishes and beans. Eggplant produces heavy yields of excellent quality. One variety introduced with success has been the New York Improved Spineless. The pepper is also produced with the greatest ease and is much relished by the natives. For five years special attention has been given to growing the tomato in Guam, but until this year all efforts have failed. During the past season, however, a number of tomatoes were produced, which, although very small, were mild and savory and should prove prolific. Insect enemies have so far been very easily controlled in the case of practically all these vegetables.

When we reach our last dollar we earnestly wish that all the others had been as big as it looks.