

TREES FALL PLANTED

How They Compare With the Spring-Planted Trees

Fears, Plums and Sweet Cherries Do Well - Dug vs. Dynamited Holes for Planting - The Appeal of the Tree - Rainfall and Potato Rot - The Great Oat Crop.

(Contributed by Ontario Department of Agriculture, Toronto.)

Experiments to determine, for the Niagara Peninsula, the relative merits of fall and spring planting of pears, plums and sweet cherries were started at the Horticultural Experiment Station, Vineland, in 1914 and 1915. Complete records of growth and fruitfulness have been kept for each season so that the evidence we now have is fairly conclusive.

Fears, Plums and Sweet Cherries Do Well.

Several seasons for pears, plums and sweet cherries fall planting has resulted in the least number of deaths, and has given a somewhat greater growth of trees, both during the first season and thereafter. At no time, however, have the differences been very great, though they have been sufficiently marked to warrant fall planting, providing well-matured trees can be secured from the nurseries. Trees dug too early and with unripened wood are apt to suffer from winter injury. In some seasons, owing to weather conditions which stimulate late growth, it is practically impossible to secure well-matured nursery stock. After such seasons spring planting would probably be preferable.

A probable reason for the fewer number of deaths in fall planted than in spring planted trees is that the roots of the fall planted trees are not subjected to drying out as are the roots of trees held over until spring.

Dug vs. Dynamited Holes for Planting.

In conjunction with the fall vs. spring planting, experiment trees were also planted in ordinary dug holes and in dynamited holes. This experiment was carried on, of course, in heavy soil. The general size, health and vigor of the trees in the various plantings seemed to indicate that the trees set in holes immediately after dynamiting were for some cause weakened and delayed in growth. This was attributed to the rapid drying out of the soil immediately following dynamiting, which delayed the starting of the trees. To overcome this difficulty the experiment was continued with the addition of trees planted in holes dynamited in the fall and allowed to fill with water and settle over winter. Hort. exp. Station, Vineland Station.

The Appeal of the Tree.

Travellers in Portugal report that in many places where timber trees are to be found—in woods, parks, and gardens—one sees the following inscription, headed "To the Wayfarer":

Ye who pass by and would raise your hand against me, harken ere you harm me. I am the heat of your hearth on the cold winter night, the friendly shade screening you from the summer sun, and my fruits are refreshing draughts, quenching your thirst as you journey on.

I am the beam that holds your house, the board of your table, the bed on which you lie, and the timber that builds your boat.

I am the handle of your hoe, the door of your homestead, the wood of your cradle, and the shell of your coffin.

I am the bread of kindness and the flower of beauty.

Ye who pass by, listen to my prayer; harm me not.

Rainfall Affecting Potato Rot.

Very careful records of the rainfall at the College have been kept by the Department of Agricultural Physics in each of the past sixteen years. In comparing the amount of rainfall during the months of July, August and September with the amount of rot in the potato crop in each of the past sixteen years some interesting information has been obtained. The annual amount of rainfall for the three months referred to for the eight years in which there was no rot was 2.1 inches, for the four years when there was a moderate amount of rot 3.5 inches, and for the four years in which the rot was abundant 11.7 inches. The amount of rainfall, therefore, appears to have a very marked influence in making conditions favorable or unfavorable for the development of rot.—Dept. of Extension, O. A. C., Guelph.

Ontario's Greatest Grain Crop.

In 1923 oats were grown more extensively in Ontario than all other grains combined. It is probably safe to say that three-quarters of the oats which are now grown in this Province are of the O. A. C. No. 72 and the similar varieties. According to extensive experiments and accumulated records at the College at Guelph and in Western, Eastern and Northern Ontario, the O. A. C. No. 72 has sur-

passed the others in own quality of grain and yield of grain per acre. The differences between these two varieties, if applied to the oat lands of Ontario, would mean millions of dollars annually in favor of the O. A. C. No. 72.—Dept. of Extension, O. A. C., Guelph.

The ultimate success of any co-operative marketing effort depends on the will of the farmer to co-operate; on a spirit of mutual confidence and on trust in one another. Uncle Ab says: One of the best ways to get men to work harder for you is to work harder than they do.

RIDDING HENS OF LICE

The Best Poultrymen Now Favor Using Sodium Fluoride

It is Very Effective - The Dusting and Dipping Methods - Other Means Suggested - Hardy Alfalfa in Ontario.

(Contributed by Ontario Department of Agriculture, Toronto.)

In the control of poultry lice one remedy has come very much to the front during the past seven years. It is sodium fluoride, a chemical that is easy to obtain, easy to apply, effective and safe in its application. Sodium fluoride is very effective.

Sodium fluoride may be obtained in fine white powder form or as fine crystals. The powder form, if guaranteed 90 to 98 per cent. pure, is the most desirable form to apply as a dust. Sodium fluoride retains its efficiency, and may be kept if need be in closed tight bottles or cans and used when wanted. One application, if thorough, will destroy all lice on the birds and remain effective long enough to get many of the parasites that hatch later. There are three methods of application in common use; all are effective, but the "pinch method" is the most commonly practiced in small flocks. It consists of the application of the sodium fluoride powder directly to the skin and feathers of the bird, the operator taking up what he can hold between the thumb and forefinger and applying on breast, each thigh, each side of back, on the neck, head, underside of each wing, below the vent. It takes ten pinches of the chemical to cover the bird by this method and skilled operators can handle sixty birds an hour.

The Dusting Method.

The dusting method of applying sodium fluoride is by mixing with a filler material, as flour, talc, or plaster, to make four times the bulk of the insecticide, and then apply by shaker or blower duster to the ruffled feathers of the bird. Greater speed in treating the birds is secured at a greater expenditure of chemical.

The Dipping Plan.

The dipping method of applying sodium fluoride can be practiced during the summer and early autumn season when there is ample warmth and sunlight to dry wet birds. The bath is prepared in a wooden tub and consists of one ounce of commercial sodium fluoride to a gallon of warm water. Sufficient quantity should be mixed to handle the work at hand. Five gallons of the solution will do for 100 birds. The birds to be treated are placed in the dip for twenty seconds and just before removal the head is soured and the bird taken out and allowed to drain. The dip should be body heat for fowl, about 107°, and the work done on a quiet, bright day, when it is warm enough to dry the birds quickly.

Other Means Suggested.

There are a number of other methods that have proved to be highly efficient, among which the carbolic acid, gasoline and plaster of paris mixture is coming into general use. This dusting powder is prepared by mixing three parts gasoline, one part carbolic acid (90 per cent. pure) and stirring in enough plaster of paris to take up all moisture. It is applied as a dusting powder with a shaker or by hand.

A medicated dust wallow beneath the shade in the poultry yard or within the shelter of the building is a great aid in keeping the louse population down. A box partly filled with fine road dust to which tobacco dust has been added at the rate of one to six, is very useful and relieves the old hen of an itch.—L. Stevenson, Dept. of Extension, O. A. C., Guelph.

Hardy Alfalfa in Ontario.

A large number of tests have been conducted in past years on the experimental plots at the Ontario Agricultural College with different varieties and strains of alfalfa. It was discovered more than a decade ago that the Common alfalfa from the Central Western States would not live long in Ontario. Variegated alfalfas, such as the Grimm and the Ontario Variegated, however, proved hardy in this Province. These two varieties are now increasing substantially as the farmers appreciate their superiority over the Common, violet flowered variety.

In one experiment at the College alfalfa has been cut for hay three times a year for seven successive years without re-seeding. The increase in yield, therefore, is the thirty-fourth crop obtained from the one seeding. The average yield of hay per acre per annum from the eleven years of this test was slightly over four tons.

In another experiment of thirty-four plots seeded in the spring of 1922, the highest yield of hay from the first cutting of this year was of the Variegated type.

The Common alfalfa has variegated flowers of different densities and the Variegated alfalfa has violet, green, blue and yellow of various blends which can be seen when the blossoms are fully opened.

Several varieties of seed of high quality of Variegated alfalfa have been produced and sold for seed purposes in each of the past two or three years in Peel County alone. Also in a number of other counties seed of the Variegated type of alfalfa is being produced.—Dept. of Extension, O. A. C., Guelph.

It is not lack of time, but indifference which leaves farm machinery broken and rusty throughout winter. A pig that doesn't make a hog of himself isn't profitable.

CO-OPERATIVE SELLING

What Ontario May Learn From California Fruit Growers

An Immense Range of Business - The Market Still Growing - Organized Effort Pays the Producer - Legume Inoculation - The New O. A. C. No. 144 Oat.

(Contributed by Ontario Department of Agriculture, Toronto.)

The California Fruit Growers' Exchange shipped 17,857,417 boxes of oranges, lemons and grapefruit in 45,258 cars to points outside California; increased its proportion of all citrus fruit grown in the state from 68.7 to 75.8 per cent.; returned \$55,223,450 to its members; lost through failure of customers only \$6,226,700; did all this business at a cost of 1.51 per cent. of the delivered value and, including advertising, 2.48 per cent. Such is the record for its last financial year of the California Fruit Growers' Exchange, whose products are best known to Canadian consumers by the brand "Sunkist."

An Immense Range of Business.

The California Fruit Growers' Exchange is the oldest and largest of the California Co-operatives. In the last twenty years it has returned to its members \$546,000,000 from the sale of their products. It is a federation of 208 local associations with 11,000 members. The locals each have their own packing houses and are fully responsible, financially and otherwise, for their own local activities. They are grouped into 21 district exchanges. Each district exchange has one director on the board of the California Fruit Growers' Exchange, which owns the brand "Sunkist" and acts as the Central Selling Agency for all the fruit. It has business connections with 3,500 wholesalers, who serve 400,000 retailers, who in turn serve 113,000,000 consumers in Canada and the United States.

The Market Is Still Growing.

The market demand for its products is being constantly increased by the Exchange. Twenty-five years ago the orange growers of the State were faced with what they thought was over-production. Since then production has quadrupled and the crop is still consumed. Judicious advertising and merchandising methods have kept demand equal to or ahead of supply. A levy of four cents a box on oranges and 6 1/2 cents a box on lemons pays for it all. Advertising and dealers' service work is directed chiefly to the retailer and consumer. In any cross-road village in Ontario, where you could not buy an Ontario apple, you will find oranges constantly displayed according to directions worked out by those wide-awake growers in Southern California.

Lower Freight Rates Secured.

Last year an arrangement was made with the railways by which, through the use of larger cars and quantity shipments, a lower freight rate was secured on oranges. The reduction will effect a saving of \$3,000,000 a year to the orange growers of the State. This works out to 14 cents a box. The total cost of the organization's services, exclusive of advertising, is 6.86 cents per box or less than half the amount of the reduction.

Organized Effort Pays the Producer.

The oldest and best Co-operative Marketing Association of California, after a quarter of a century of successful experience, is still demonstrating that the farmers' marketing problems can only be solved through organized marketing effort by the farmers themselves.—R. D. Collette, Professor of Marketing, O. A. C., Guelph.

LICE INFESTING FOWLS

Vermin Are a Source of Great Loss to Poultrymen

The Various Species Named and Described - As Affecting Chickens, Turkeys, Ducks, Geese and Pigeons - Stable Ventilation - Carrying Young Pigs Along.

(Contributed by Ontario Department of Agriculture, Toronto.)

Losses due to infestations of the various forty species of lice that infest domestic fowl are in the aggregate many thousands of dollars annually to the poultry-keepers of Ontario. Small insects working out of sight of the human eye, their presence is often unsuspected until the birds show unthriftiness, loss in weight, lower egg production, and reduced vitality, causing the owner to make an examination. If the examination is thorough, lice are generally found in the great majority of flocks. A few may not be serious, but if the little crawlers are permitted to increase to thousands the effect on the poultry-keeping part of the farm business is serious. Infested birds present a droopy and unkempt appearance, the wings lowered, the feathers ruffled, and the birds may suffer from diarrhoea.

Infesting Chickens.

Of the forty species that infest fowl, seven have a decided preference for, and infest chickens. The body louse "Menopon biserialatum" is light yellow in color and sticks pretty close to the skin. It lays its eggs in large clusters on the small feathers below the vent. It takes about three weeks from egg to mature louse. This species sticking close to the skin and feeding thereon is very irritating. The "Menopon pallidum" is similar to the preceding, only somewhat smaller and has the habit of spending its life on the feathers. It is not so irritating and deposits its eggs singly at the base of the feathers. The head louse "Lipeurus heterographus" is commonly found on the head and neck of young chickens. It is dark grey in color, deposits its eggs singly on the down about the head of the chick. It takes about one week to reach the hatching stage and two weeks for the young louse to grow to maturity.

The large hen louse "Gonolocotes abdominalis," sometimes called the "blue louse," is smoky grey in color and one-third larger than the preceding. It sticks close to the body, may be found anywhere and is easily recognized by its size and large round head.

The wing louse "Lipeurus caponis" is a small, long and slender species with a large rounded head. It confines its activities to the wing feathers.

Two other species, the "buff louse" and the "brown louse," are rarely present in numbers. Both inhabit the body feathers.

Infesting Turkeys.

Two species are commonly found on turkeys, the "Gonolocotes stylifer" and the "Lipeurus polytrapezius." The "Gonolocotes stylifer" is the most common. It is a large louse bearing some resemblance to the large hen louse, and may be distinguished from it by having the posterior angles of the head extended backward and terminating in long bristles. Ducks and Geese.

Three species infest ducks and geese to a limited extent, the oily nature of the skin of waterfowl being a good preventive against these external parasites. The species commonly found are "Docophorus leucodes," a very small parasite, and the "Lipeurus squalidus," a long, slender, yellowish colored louse.

Pigeons.

These birds are frequently infested with one or all three species—"Lipeurus bacillus," "Gonolocotes damicornis" and "Gonolocotes compar." Methods of controlling these vermin will be given in a later issue.—L. Stevenson, Dept. of Extension, O. A. C., Guelph.

Stable Ventilation.

When planning the changes to be made in the farm stables next season, give the question of ventilation first consideration. Animal life is dependent upon oxygen. Food that is eaten would never be of service to animals or to humans if it were not oxidized or combined with oxygen in the body. Fire cannot burn without air, and food cannot be "burned" in the body without air. It is strange that so much time and study have been expended on the problems of breeding and feeding, and that so little attention has been given to the most important demand in the life of a domesticated animal—pure air. Plan the stable in such a way that pure air will be available to the animals every hour of the day. So says L. Stevenson of the Ontario Agricultural College.

Eliminate Non-Producer

Probably the greatest hindrance to the profitable keeping of poultry on the ordinary farm is the retention of a lot of fowl that are poor layers, due either to their being too old or of a type to produce meat rather than eggs.

The production of eggs is the end of the poultry business in which the most profit can be made, so that a heavy egg producing type is the type that is best suited to ordinary farm conditions.

Generally speaking, the pullet year is the most profitable time of a hen's life. It is advisable, therefore, either to mark the chicks when hatched, using a different mark for each year, or to band the pullets when they are put into winter quarters, so that at culling time the age of the different birds may be seen at a glance and only those that are required for breeding purposes retained after the first year's production.

For the careful breeder the use of the trap-net is the logical means to cull the flock but the ordinary farmer does not use trap-nets so that reliance must be placed on physical characteristics. The high producer will be found to be of an active disposition, early off the roost, in the morning and late to go to roost at night and always busy. Her head will be clear cut, face smooth and free from wrinkles, with bright prominent eyes, skin soft, pliable and of fine texture and a general appearance of health and vigor.

Call all birds that show a lack of vigour, a sluggish lazy disposition, a coarse rough head with overhanging eyebrows, an inclination to break down behind, or that show heavy deposits of internal fat, as evidenced by a thick skin and an abdomen that is hard and firm to the touch. In contrast to this the heavy layer will have skin that is fine in texture and the abdomen will be soft and pliable. This last feature is one on which great weight should be placed, but in culling reliance should be placed on a combination of features rather than on any one feature.—George Robertson, Ass't. Dom. Poultry Husbandman.

EASY MONEY

Oh could I speak like thunder

Into the hearts of such

That live on public plunder

And does not think it much.

On gains that's badly gotten,

Though some folks are opprest

All, securities are rotten,

I don't care how they're drest.

The meanest of all creatures,

That ever hove in sight

Altho' with brilliant features,

Is a brazen parasite.

Of dudes that feel superior

That swagger, swears, and brags,

That others are inferior!

Give me! clean, honest, rags.

The rings so called defensive

The sweetened jam of self

Oppressive, and offensive,

The clique producing wealth.

Give me the freemans' breezes

Altho' I sweat and toil,

No special favor please

But only heaven's smile.

—W. B. Laws, Watford, Sept. 3.

A Song of Good Feed.

A handful of grain while on pasture

May seem like a terrible waste,

But the cow will return it all later

If given of grain a slight taste.

The stomach of a young calf is very delicate, and changes in feeding must be made slowly. The calf will begin to eat grain and hay when it is about four weeks of age. Shelled corn is about the best grain feed, as it takes the place of cream in the milk.

Poorly-fitting collars are sure to cause sore shoulders. It is a good practice to bathe the shoulders noon and night with cold water. This avoids the chance of cloud congestion and is at once soothing and pleasant to the animals.

Carrying Young Pigs Along.

Nature's tonic for young, growing pigs are exercise, sunshine, plenty of green succulent feed, and clean surroundings. Success with the litter, therefore, will depend on getting the sow and pigs on pasture as soon as possible. It is just as important to the health and thrift of the litter that the mother get exercise as it is for the pigs.

As a result of the depletion of our forests, industries dependent upon wood are already going out of business, with the inevitable depressing influence on their localities. Local exhaustion of the forests is leaving great stretches of land in an unproductive condition, resulting in virtual impoverishment, if not depopulation, of very considerable areas.