20 MAR. 1924

Soils and Crops

Address communications to Agronomist, 73 Adelaide St. West, Toronto

ACCLIMATIZATION OF VARIETIES OF GRAIN.

It is quite commonly believed that any variety of grain when grown in a given district for a number of years, gradually becomes more and more suited to the conditions of that district. While this may be true in the case of plants which naturally cross-fertilize, such as most of the grasses and clovers, it is not true to the same extent in the case of such plants as wheat, oats and barley, except possibly where mixed varieties containing different strains are grown. In nature, acclimatization takes place as a result of natural selection. The vagaries of soil and climate gradually weed out or weaken those strains which are less suited to survive, whereas the stronger strains increase in proportion.

Since varieties differ greatly in their ability to thrive under different conditions of moisture, temperature, physical condition of the soil, it is highly important from a practical standpoint that the farmer grow the variety which is best suited to his conditions. This variety can be located only through comparative tests of different varieties sown in adjoining plots in his district. After two or three years' careful testing, it should be possible to choose the variety which seems to give the most promise. If this variety is what is known as a *pure line*, by which is meant a variety composed of a single strain, it is not likely that so called acclimatization will take place to any appreciable extent. If, on the other hand, a variety should happen to be a composite one, that is, composed of two or more strains of varying adaptabilities, it is quite possible that acclimatization may take place by the gradual increase in the proportion of plants belonging to the best adapted strain.

It was once thought that acclimatization takes place in a fairly definite manner in the case of practically all plant life and that any variety might, in the course of time, become especially suited to the conditions under which it was grown. That this point of view was incorrect has been clearly demonstrated during recent years, and farmers would be well advised to depend more upon comparative tests of different varieties rather than upon the time-worn theory that sorts grown in a district for many years must inevitably be superior to any new introduction.

Farmers desirous of comparing a few of the best varieties of grain of any kind are invited to communicate with the Cereal Division, Experimental Farm, Ottawa, for advice as to how to proceed. The above institution is anxious to co-operate with farmers in different districts in this work as it realizes that the soil and fertility conditions on a given farm may differ to a very considerable extent from the conditions under which varieties are tested at the Farm at Ottawa. In other words, varieties which do not do particularly well at Ottawa might be most desirable to grow under certain conditions met with on a given farm some distance away.

Where a farmer does not wish to take the time to conduct a comparative test of different sorts on his own farm but would like to have the variety he is growing compared at the Experimental Farm at Ottawa with the varieties grown at that institution, the Cereal Division will be glad to receive from him a one-pound sample of his seed. The sack containing this sample should bear the grower's name, the variety name, and the number of years the seed has been grown on his own farm. A report on the relative performance of the varieties sent in for this test will be sent the farmer in due time.

TUBER UNIT SEED PLOTS FOR POTATOES.

In many sections of the country where seed potatoes are produced, the growers have found the advantage of having their own seed plots. A comparatively new method of planting these is the tuber unit system, i.e., all seed pieces cut from the same tuber are planted consecutively.

The tubers should first be graded for uniformity of type and size, using tubers from 5 ozs. to 8 ozs. in weight free from visible symptoms of disease. The plot of ground to be used should be well isolated from other potato fields. When this is ready to plant the tubers (previously treated if desired) are taken to the field and cut as they are being planted. The seed pieces from each potato are planted consecutively, leaving short gaps between the groups of hills from each tuber. Stakes may be used to separate the units, but the majority of growers who practice the method prefer to leave a gap equivalent to a "miss."

When the plants are about eight inches high they are carefully inspected and where one or more plants in a unit are found affected with mosaic, leaf roll, spindle tuber or other seed-borne disease, the entire tuber unit is rogued—every hill planted from the one potato. Care should be taken in all rogueing to remove the entire plant. The plots are inspected two or three times during the season, and all undesirable plants removed.

The extra amount of time involved in planting tuber unit plots is well worth the trouble when a grower has a good strain of potatoes and wishes to get them as free from disease as possible. The most important advantages of this system of planting over the usual method are that all seed pieces from a diseased tuber are together and may be readily rogued and that selections for trueness to type and yield may be made by harvesting each unit separately. Moreover the chances of spread of degeneration diseases are reduced to a minimum on account of removing the entire unit, whether or not each plant from that unit shows disease symptoms at the time it is rogued.

This system is being used by a number of seed potato growers in other parts of the continent. It has been found far superior to the old methods of planting seed plots as mosaic, leaf roll, spindle tuber and other degeneration diseases can be more readily eliminated. There are many strains of high-yielding varieties of potatoes that should be planted for one or two years at least in tuber unit plots in order to eliminate degeneration diseases and bring them into good condition for certified seed.

Any grower desiring assistance in preparing a tuber unit seed plot may obtain such by applying to the nearest Dominion Laboratory of Plant Pathology.

POULTRY

When the chicks are a few days old—from two to five days—they should be given access to a good chick buttermilk starting mash, and when about three weeks old this may be changed to a buttermilk growing mash. There are many excellent commercial rations of this kind on the market. Should you desire to mix your own mash feed, the following formula has given excellent results: Thirty pounds of wheat bran, ten pounds of wheat middlings, ten pounds of ground hulled oats, ten pounds of oil meal, ten pounds of corn meal, ten pounds of gluten feed, ten pounds of meat scrap and ten of dried buttermilk.

The buttermilk mash should be fed in hoppers or feeding troughs so arranged that the chicks will not waste the mash, but so that they can have access to it at all times. Begin to feed the mash sparingly until the chicks get used to it. Keep sour milk or semisolid buttermilk before the chicks throughout their growing life.

Seeds for Sale

Peel County is noted for its high-quality seeds. Peel Seed House, Brampton, Ont., is located in the very centre of this district. It has large quantities of Grimm, Variegated and Special Alfalfas, Red Clovers, Alsike, Sweet Clovers, Timothy, etc., which are sold direct to farmers, any part, in any size lots. Write at once for price list.

PEEL SEED HOUSE,
Brampton, Ontario

5-Room ALADDIN 798
WE Pay the Freight
You can buy all the materials for a complete home direct from the manufacturer at big savings on the lumber, millwork, hardware, labor.

6-Room ALADDIN 898
Living room, dining room, 3 bedrooms, kitchen, bath, 4 other plans, some with pantries, dining alcoves, grade and inside cellar entrances. Get free Aladdin Catalog.

7-Room ALADDIN 1,612
Dutch Colonial with full ceilings first and second floors. 14' x 22' living room, large dining room, kitchen, three bedrooms, bath, linen and clothes closets, grade cellar entrance.

Price includes all lumber cut to fit; highest grade interior woodwork, siding, flooring, windows, doors, glass, paints, hardware, nails, roofing, with complete instructions and drawings. Freight paid to your station. Permanent Homes—NOT PORTABLE. Many styles to choose from. Write today for FREE Money-Saving Aladdin Catalog No. A283

The Canadian Aladdin Co., Limited
Aladdin Building, Toronto, Ont.

ISSUE No. 11—'24.

HORSE

Alfalfa is a splendid horse feed, but must be fed with judgment and care. Because of its palatability, mature horses are likely to eat too much alfalfa if permitted to have free access to it. The average farm horse at work is allowed to eat much more alfalfa and other roughage than he really needs to maintain his weight.

One pound of alfalfa or other hay, and nearly one and one-fourth pounds of grain per day for each 100 pounds of a horse's weight, make a good ration for an average working horse.

Horses like alfalfa stems. Refuse from the cattle racks is very acceptable to horses.

Feed mature horses first and second cutting alfalfa, which is free from mold and dust. Never feed wet alfalfa hay to horses.

A man can have more friends than he needs if he has plenty of money and isn't particular.

BEAUTIFY THE HOME GROUNDS

Have you ever considered the advisability of utilizing fruit trees in your yard, in addition or in preference to what we know as ornamental trees? Fruit trees yield both shelter and shade and impart a cheerful look to the grounds, besides giving a plentiful supply of fruit in the fall, and in spring their lovely blossoms are a delight to the eye.

When planning the small home orchard, the object in view should be to grow various kinds and varieties of fruit, that the ripening period may be distributed over as long a season as possible. For instance, in apples there should be early, midseason, and winter varieties, the winter sorts, of course, predominating.

The question of varieties is all important, certain kinds which are first class in some localities may not be adapted to your condition. It is advisable to get suggestions from experienced local fruit growers or the state experiment station.

With spring planting many losses can be traced to delay in setting out the trees until after the buds have started into growth; so, to avoid such a calamity, which means losing a year, it is most important to have this operation completed while the young trees are perfectly dormant.

GETTING THE SOIL IN SHAPE.

When devoting a piece of land entirely to an orchard, the entire area is usually thoroughly cultivated, either by digging very deeply or using a subsoil plow. The ground should be given a liberal coating of manure, also a dressing of bone meal, and the land turned over for a second time. For two or more years the intervening spaces between the trees can be devoted to vegetables and strawberries.

According to the variety, apples come into bearing in about six years from planting, and the crop will increase annually as the trees increase in size. Proper and careful pruning hastens early bearing, but indiscriminate pruning may have quite the opposite effect. During the first season superfluous shoots are cut out, the aim at this stage being the future shape and form of the mature tree. At the next dormant pruning the previous season's growth is cut back by half, after which the trees will only require thinning out the centre to keep the head open.

THE ROOM THEY NEED.

Apple trees are planted at least twenty-five feet apart. Pear trees rather closer, as their growth is more upright; say about twenty feet. Sour-cherry trees, fifteen feet. Peach trees, fifteen to twenty feet.

Pear trees invariably come into bearing much sooner than apple trees and will stand rather closer pruning. Varieties that are inclined to grow very tall should have the heads cut back hard, to keep the tree within bounds and facilitate gathering the fruit. It is therefore advisable to keep the head low and to encourage an open though free-branching habit.

Plums are most accommodating as to soil and rarely fail to produce abundant crops of fine fruit annually. They require little pruning except that necessary in shaping the tree.

The peach tree does not require much pruning, if we except cutting back the strongest growths and, if necessary, thinning out some of the weakest branches should they become overcrowded. But when first planted the entire head is cut off to within two feet from the ground.

TWO EXCELLENT BERRIES.

Raspberries are one of our most esteemed small fruits. They do best in a deep, well-manured and fairly moist soil, though they are not too fastidious on that account. They should be planted two feet apart, allowing four feet between the rows. When planting in the spring the canes are cut down close to the ground, and, of course, no fruit is expected until the second year. When the canes come into bearing make it a rule to cut away the old canes immediately after the crop has been gathered, retaining the young ones. The young growths springing from the base of the plant are thinned out to four or five, retaining the strongest. The young canes must be tied to the wire trellis, spreading them out evenly that they may all receive their full share of sun and air. Early in spring the tips are pinched out evenly.

Blackberries, equally desirable as the raspberry, are cultivated very similarly, but being more rampant in growth the plants are allowed more space.

SHRUBS THAT DELIGHT THE EYE.

The home grounds are greatly improved by the judicious use of shrubs. Among the early-flowering shrubs one that is not grown as frequently as it deserves is Spiraea thunbergii with its masses of starry bloom in May. Then there is Spiraea prunifolia with its long wreaths of double blossoms. The cercis, or Judas tree, is always welcome in the early spring when laden with its wealth of rosy-purple blossoms which appear before the leaves.

The deutzias are highly ornamental, the variety gracilis being the most popular and best known. Established plants flower profusely every spring, the entire shrub becoming smothered with the graceful white flowers. Forsythia, or golden ball, with its bright yellow flowers, well deserves a place among our best flowering shrubs.

Diervillas, known also as weigelas or bush honeysuckle, are a delightful group of free-growing shrubs with bell-shaped flowers of various colors.

The hydrangeas form a group of hardy shrubs of considerable importance.

Mock oranges are sweet-scented, white-flowered shrubs of the simplest culture. Syringas, or, as they are more commonly called, lilacs, usually find a place in all collections of flowering shrubs. Double and single flowered, all of them are lovely, the distinct and pleasing odor adding greatly to their charm.

Spring Fever and Poultry.

By S. W. Knipe

As spring comes upon us every year there are numerous enquiries made by people who have kept a few hens and wonder if they should go into the poultry business on a large scale. This article is especially intended for such inquirers.

Just a few days ago a friend told me that the 15 pullets he got last August had laid 1,012 eggs during November, December and January, and at same rate of laying, allowing three months for rest and molt they would average 202.4 eggs each in the twelve months. "Don't you think I should give up my job and go into poultry?" he said; to which I replied, "No." He has suitable vacant land, a little money and is interested in the game. What more is needed? That which is needed in every walk of life—experience. Hatching a few chicks under a hen in the cellar or in a wooden box is a vastly different thing than hatching a couple of thousand eggs in an incubator. The hen looks after the heat, turning and cooling of the eggs, shelters her chicks from the storms, protects them from danger. Taking the hen off for a feed at night, putting her back on her eggs again, supplying the chicks with hard boiled eggs and other feed, then seeing they are closed up for the night is vastly different to caring for incubators and brooders. Incubating and brooding one to two thousand, yes, even five hundred chicks in chilly days of March and April is quite a different proposition to leaving it to the old hen in the warm days of June. You may think the difference is so slight that it does not prove a difficulty. If so, just try. But take my advice and don't.

Without the required experience you are apt to meet with sad disaster. You may have your brooder temperature just fine at night. The next morning, your fire in brooder may be almost out. Experience will teach one that machines are not perfect and weather cannot be depended upon. It is possible to have most of your eggs in incubator fertile, and even after the second test the greater majority promise to produce live chicks. Then at the critical moment a little neglect in attending your fire or lamp may mean every chick chilled or cooked. There are dozens of other things which go to making success or failure, even after your chicks are out. Feeding the wrong sort of feed, dampness or drafts, will also play havoc in the sturdiest flock of chicks.

Considering all, it would be wise to continue in a small way for two or three years. Get an incubator and brooder, try them on the little space you have. Then, if you are successful and still interested, take the "plunge."

Artificial incubating and brooding is the only thing possible on a commercial plant. Clucking hens cannot always be secured when they are required, and, in fact, the cost of keeping a hundred or more hens for such a purpose is entirely prohibitive. Therefore it is absolutely necessary to have a thorough practical knowledge along these lines.

Assists Farmers to Purchase Live Stock.

The Minister of Agriculture for Canada, Hon. W. R. Motherwell, by the carrying out of policies administered by the Live Stock Branch of his Department, has, during the past fiscal year, either for breeding or feeding, been able to conserve a large number of live stock consigned to stockyards and abattoirs. Unfinished steers to the number of 80,717, 89,024 heifers, 673 sows and 48,000 sheep were, under the arrangement referred to, returned to the farms for breeding purposes in the case of females and for finishing into good beef in the case of feeder cattle. Two policies are involved in this service, one, the remission of freight charges, brought about by an arrangement between the Live Stock Branch and the railway companies, and the other, the payment of the reasonable travelling expenses of farmers making the purchases. The Minister's report, which supplies this information, makes it clear that the assistance thus given was available for stock purchased for breeding or further feeding by the purchaser and not for speculative purposes.

Big fields are much cheaper to plow and cultivate than small ones.

Chapped Hands or Face

Cured by one application of MEDORA CREAM. Leaves skin smooth and velvety. Used exclusively in Toronto General Hospital for ten years. Ask your druggist for 50c bottle and preserve your youthful complexion, or sent postpaid on receipt of 50c. J. A. MacDonald, Phm.B., 34 Hogarth Ave., Toronto.

RED ROSE TEA "is good tea" and extra good is the ORANGE PEKOE QUALITY

The April Fool Frolic

"I'd like to give a real foolish party," said Eleanor Parker to her best chum, Myra Spencer, over a pan of fudge one March afternoon.

"All right, let's!" agreed Myra. "Where'll we give it?"

"At my house, of course!" said Eleanor.

"Why not at my house?" objected Myra.

"Why not both houses?" laughed Eleanor. Then she stopped suddenly as an idea took hold of her mind. "Myra, why don't we? Give it at both houses. I'll have the games and fun at my house, and you have the refreshments at yours. Don't you see how that will fool them?"

And so the party was planned. All the boys and girls of the young crowd who always had such good times together received a few days later, an envelope containing an apparently blank card, on each side of which was written in the corner the word "Over." Of course they turned them every way, held them to the light and to the heat, but soon discovered that the card was double and was pasted together around the edge, except for one small corner. When they tore it apart they found the invitation written inside, asking them to a surprise party for Myra on April 1. They were to meet at Eleanor's and proceed to Myra's around the corner in a body.

When April 1 arrived they appeared without exception at Myra's house. But the house was dark, no one answered the bell, which they rang insistently. "Well, there's only one thing to do, and that is to come back to my house and have our party there," said Eleanor resignedly. When all had responded with a shout to this suggestion, Myra stuck her head out the window and called, "April fool, folks! Can I come along?"

You can imagine what a sensation that made, and how keyed up the crowd was for the fun prepared for them at Eleanor's. When they had removed their hats and settled down she gave out little slips of paper to each one. On them she had written instructions for a joke that must be played on certain persons before the evening was over. Thus Myra drew, "Make Rus Ryan think his tie is crooked." Every time one of the crowd succeeded in getting his joke over and was able to cry "April fool" he threw his paper into a big hat. Those with papers left had to pay a forfeit.

Everywhere possible Eleanor had arranged the rooms with tricks. Thus magazines were stuck to each other, a cushion was laid over a seatless chair, a picture turned to the wall had April fool written across it when turned. A hidden electric fan blew a sudden blast in a dark corner of the hall. An alarm clock hidden in a candy box went off at a crucial moment.

The rugs were rolled back and the canned music turned on for dancing. Just a little earlier than usual, Myra said she must go home. This started things, and all agreed with her. Would somebody walk home with her? They would all go. When they reached the Spencer house it was ablaze with light, and the door was flung open to the jolly crowd. What was their surprise to see set through the middle of the dining room and living room a long table. It did not take long for them to realize that the party was a real one at last.

In the centre of the table was a huge bouquet of roses, which when one leaned over to smell them proved to be artificial and gave off an odor of onions. For place cards Myra had gotten up conundrums or "jokes" upon each guest. The favors were silk dunce cap pin cushions for the girls and little calendars for the men with April 1 ringed in red.

A delicious supper followed, but it seemed to come on reversed. What looked to be ice cream and cake proved to be brown bread iced with cream cheese and a croquet covered with white sauce served in a sherbet glass. The ice cream was disguised as a salad in a paper cup imbedded in lettuce leaves and sprinkled with chopped nuts and fruit. Crackers were iced with chocolate to look like large mints. White cake was baked in a breadpan and cut in thin slices. Candies looked like nuts.

It was a great "sell," all declared, but they also added that they would be glad to be sold again in the same way.

MAPLE-SUGAR TIME

BY C. O. ORMSBEE.

Maple sap, as it flows from the tree, is as clear as purest water. Were it possible and practicable to concentrate it by congelation as soon as it leaves the tree, without exposure to light or a warm atmosphere, instead of by evaporation over a fire, the syrup would be colorless and transparent, while the sugar would be as white as the best granulated sugar. Both would rank even higher among the most delicious products of the confectioner's art.

Contrary to the impression that is prevalent in many sections of the country, an extremely light color, combined with a deliciously delicate flavor, forms the essential characteristics of a high-grade maple product. On the other hand, a dark color, combined with a strong, rank flavor, is positive indication of a low-grade product, denoting carelessness in manipulation.

As intimated above, exposure to the action of light and warm air, as well as a long storage, has a tendency to darken the product and to detract from its flavor. More than this, the sap seems as susceptible as milk to bacteria influence. These conditions favor the development of several kinds of bacteria, all of which hinder the production of a high grade of sugar. It is the bacteria that darken the product and give it the strong, rank flavor which, among the uninitiated, passes for the maple flavor, and which is tolerated only by reason of the reputation possessed by the true maple flavor.

Methods of evaporation also have a very great influence upon the quality of the product. The correct method is to conduct the evaporation in large, shallow pans or evaporators. This method has been almost universally adopted. But there are good and bad methods even here.

These pans are set upon arches of stone or brick or iron, and heat is applied by means of a fire built beneath. The steam originates in little bubbles, each being held upon the bottom of the pan by means of a thin film—somewhat analogous to the film which incloses a soap bubble—and materially strengthened by the weight of the sap above. While so confined, it forms a vacuum beneath, thus leaving a space upon the bottom of the pan that is bare of liquid and fully exposed to the blazing fire beneath.

SECRET OF QUALITY.

The natural consequence is that, as must be expected, particles of sugar adhering to the metal of the pan become scorched and thus transformed into caramel, a substance of a dark brown color, possessing a bitter and somewhat acrid flavor. As soon as the film bursts and the steam escapes, the surrounding sap rushes in, fills the space, washes away the caramel and disseminates it throughout every part of the boiling sap or syrup, thus imparting, in a measure, both the color and flavor of the caramel to the product.

Now it is obvious that the deeper the sap above the film, the more the film will be re-enforced, and the greater will be the power necessary to burst the film. This being true, it is equally obvious that the deeper the sap the longer time the space inclosed by the film must be exposed to the action of the heat. More caramel will be formed, and darker and more acrid will it be made. Its influence will be greater.

Maple sap evaporated at a uniform depth of four inches in the pan will yield a product many shades darker than if evaporated at half that depth. This point is well established, and the Quebec maple-sugar makers, who aim at the production of the highest grade of product, never allow the sap in the evaporator to reach the depth of even one inch. This, of course, requires a closer attention to detail, and involves a somewhat greater cost for labor. On the other hand, it is economical of fuel, and it is the one great secret of the fine quality of Quebec maple products.

If you would produce the highest grade of maple sugar products, see to it that the sap in your evaporator is maintained at the least possible depth consistent with safety.

Horns are prevented from developing by thoroughly rubbing a stick of caustic potash upon the dampened skin over each horn button when the calf is less than one week old. Apply lard or vaseline freely around the horn button. Wrap one end of the caustic pencil with strong paper to protect the fingers. Keep caustic out of calf's eyes.—Dr. A. S. Alexander.

Roller skates were first patented by Merlin, a Flemish musical-instrument maker, in 1760.