

HORTICULTURE



Fertility and Fruit Growing.

At a meeting of horticulturists, Professor John Craig, of Cornell University, said:

"Every modern system of cultivating fruits recognizes as a first principle the right of the fruit tree to be considered a specific and sufficient crop under the soil, or at least to be regarded as a crop quite as exhausting in character as any grown by the farmer. Unless the fruit grower realizes and puts into practice the essential part of this principle he will fail as a cultivator of fruits. Experiments in orcharding conducted some years ago at the Cornell Experiment Station proved conclusively that it cost the soil more to produce twenty average crops of apples than twenty average crops of wheat. In other words, more fertility was extracted from the land in growing an acre of bearing apples for twenty years than in growing twenty consecutive crops of wheat. As a rule, the farmer recognizes the food needs of the wheat plant, but too often does he look upon the apple or fruit tree as a mere tenant of the soil, and one which is not to be regarded as a specific crop. Having recognized the principle, the particular method of orcharding must be worked out by the fruit grower himself. This method will depend upon soil conditions and climate. Nevertheless, it is safe to say that in eight cases out of ten that method which employs clean tillage for at least part of the season will be most successful. It is also safe to say that all secondary crops in orchards are injurious."

Shaping and Heading Trees.

Ideas and traditions with respect to methods of cultivation and management, as well as varieties, were formerly brought from the eastern states, where conditions are very different from our own. The Horticultural Society began agitating the question of adapting methods of shaping fruit trees and of pruning to our own local conditions. Members of the society began experimenting along this line and reporting their results at the meetings. Early copies of the reports of this body show that for a series of years attention was fastened largely upon the question of adopting low heads and a dense branching system for their fruit trees. As a result a new system of shaping the tree, better adapted to our conditions, has been developed. In the eastern states, with a maritime climate, trees were given high heads, so the ground under the trees would warm up and so grasses, or other crops, could be harvested under their branches; the trees were given open tops, and were freely pruned, so as to admit sunlight and air to ripen and to color up the fruit. As opposed to this we have gradually adopted in the west, where our sunlight is intense, low heads, to shade the trunk of the tree and the ground under it; we have adopted a straight, central trunk, with dense lateral limbs as a protection to the tree and its fruit. Earlier fruiting and closer planting have been adopted as better suited to our conditions.—Prof. J. C. Whitten.

Strawberries on Low Land.

Some farmers find it difficult to locate a strawberry bed except on low land and therefore do not locate it at all. Such land is good, provided it is well drained, but very often it is not well drained by natural means. Strawberries like moisture, provided it is only properly proportioned with air and soil, and on a low place the supply of water in a dry time is likely to be better than on a high place.

Minnesota has a little over 800 creameries.

DAIRY NOTES

Sixteen Things in Good Butter.

Some thinker has declared that sixteen ounces in weight is not all there is in a pound of butter. He enumerates sixteen other things needed as follows: (1) An ounce of wisdom in selecting materials; (2) an ounce of precaution in the preparation of the utensils; (3) an ounce of concentration, by which the whole mind shall be put on the work in hand; (4) an ounce of cleanliness, which needs to be exercised in the whole process of buttermaking; (5) an ounce of determination, which will help to overcome all difficulties; (6) an ounce of prevention, by which all deleterious conditions will be prevented from interfering with the process of buttermaking; (7) an ounce of care, which is needed at every stage; (8) an ounce of forethought regarding the market and its demands, which vary as to coloring, salting and flavor; (9) an ounce of discrimination, which is needed in choosing salt, color and packages; (10) an ounce of accuracy, which means the use of the scales to determine weights; (11) an ounce of judgment regarding the temperature at which to churn; (12) an ounce of common sense, which leads the churner to stop the process when the butter is in the granular form; (13) an ounce of patience in using the thermometer, in draining the wash water from the butter and in giving the salt time to dissolve; (14) an ounce of experience, which alone can tell when the working of the butter should stop and thus prevent greasiness; (15) an ounce of neatness, which applies to both person and product, and also applies to the printing and wrapping of the butter; (16) an ounce of honor, which keeps the butter up to standard, both in quality and weight.

Licensing Buttermakers and Cheesemakers.

There is an agitation in some of the states to license the factory buttermakers and cheesemakers. The object of this is to get a better class of manufacturers of dairy products. Factories cannot be inspected without money and money cannot be obtained from most legislatures in sufficient quantities to make the work of inspection effective. This is a problem that is not new. The government of the United States long ago adopted the principle of taxing everything that had to be inspected so that it would pay for the governmental work put upon it. The placing of a license on the makers of butter and cheese in the factory would yield some revenue, which would go far towards doing the very work that needs to be done.

Jersey Island Economies.

Only one kind of cattle is kept on the Island of Jersey, and that kind is of course the cow that has made the island famous. The cows are pastured, but are not allowed to run at will. They are tied in rows, and the whole row of cows is moved forward at once. The land must be carefully handled and highly fertilized to permit it to carry two cows to the acre, as it is said to do. It should be remembered, however, that the cows are somewhat smaller than the Jersey cows in this country, as there has been a decided increase in size of the breed since coming to the United States.

Blights are caused by minute plants called fungi. These are vegetable parasites, which sink their roots into the substance of the plants and draw nourishment therefrom. As long as the plants can supply more food than these parasites can use, the effects of the blight is not apparent. As soon as the parasites begin to use more food than their host plants supply, the die, or such parts of them as are leaves or twigs, as the case may be, are affected by the blight.

AGRICULTURE



All Plants Change.

One of the great truths that is being brought out at the present time is that all plants change their character according to the conditions that surround them. We are but just awakening to the magnitude of this possibility of change. From the largest plant that we know to the smallest that we do not yet know all are subject to most radical changes. This fact was emphasized by Professor Moore of Washington in an address recently delivered. He told of the experiments with bacteria that cause the nodules on the roots of leguminous plants and said that it had been fully proved that such bacteria change their character very quickly. Alfalfa seed may be planted in a field in which clover is growing, and for some time the bacteria there, even though they be from the clovers, will not be able to affect the roots sufficiently to produce the nodules.

But in the course of a few years the bacteria in that soil will adapt themselves to the new plant that has come among them and will ultimately inoculate the soil with the desired species. He expresses the belief that there is but one kind of bacteria but that all varieties are from the one kind. He says the mistake has been in not planting the desired legume on the same soil year after year. If red clover does not do well on a certain soil it should be repeatedly planted there so that the ground may ultimately become infested with the minute germs that are so helpful to the plants.

This is in accord with the testimony of some of the "oldest" inhabitants. They speak of certain localities in which red clover would not grow when the land was new, where now it is very easy to get a catch. It is presumed that the bacteria on the roots of some wild plant, perhaps the wood vetch, developed a character enabling it to become parasitic on the red clover. If red clover grows weakly on one plot one year, do not change it to another field the next year, but keep it in the same place for some years, at the same time treating a part of the field at least to a dressing of manure.

Weights of Seed and Grains.

There should be a national law regulating the weights of seeds and grains. As it is, chaos prevails largely in such matters. Wheat is quite uniform in weight throughout the states, but such is not the case with most of our grains. A move in this direction should meet with success.

Conserving Feed and Opportunity.

In Denmark everything is used to the best of advantage, and the grass in the pastures is carefully fed out systematically by tethering the cows in the fields. The tramping up of the pasture during a wet time is not permitted. Only in this way is it possible for this little country to get so much from the land that she can supply her own needs and ship to other countries millions of dollars' worth of butter, cheese, eggs and bacon yearly.

Whitewash in the Hog House.

Whitewash is cheap, and there is no reason why it should not be used more than it is in the hog house. Whether the boards that compose the hog house are smooth or rough, the whitewash will be found to be a help. It will stop up the hiding places of vermin and will tend to give a sweeter smell to the places where the hogs stay. In addition it adds light as does any light color placed on the walls. It shows the dirt more plainly than the unpainted boards and acts as a reminder to the owner to clean out the hog pen often.

FARM



MISCELLANY

Testing Seed Corn.

I never feel satisfied to plant seed corn without testing it. One year in the press of the work this was postponed from time to time until it was too late. Part of the seed was saved from a field that had fully dried before frost, and part from a field that was largely green when frosted. I thought, however, that what I saved was so solid that it would be all right. That from the first field seemed to send up a strong stalk for every grain planted, but that from the second field gave little more than half a stand, and that did not grow off rightly.

For this year I have seed saved last fall from the field, more than I thought I should need, but afterward found that I would have more ground and saved from the crib and shock at shredding time. I shall test samples from the whole, but from the different lots separately. I take two or three grains from different parts of the ear. Take 100, 200 or more grains, according to size of lot to be tested. Put them in shallow vessels, covering lightly and evenly so that all shall receive a uniform amount of warmth. Keep dirt moist. This is best done by covering with glass. Set it near a stove, but not where it will be too warm.

When the first sprouts appear, turn the whole out and count the grains and make an estimate of the percentage that has germinated. Some others may start later, but I should be afraid that they would make a weak growth. If much less than 90 per cent have germinated, I should not like to plant it if I could do better. Testing the seed is little trouble, as one may save the grains when shelling the corn, which should be done before the first of March to be sure that the good wife will not have to help do it at planting time.

Then the testing may save a lot of work in replanting when the farmer ought to be stirring his ground and save many dollars' loss from delayed cultivation, weak and irregular growth, barren stalks and nubbins and frosted, chaffy corn in the fall. No farmer can afford to take the risk. C., Howard County, Indiana.

Admirers of Fine Stock.

One of the very first things which impresses the visitor to Great Britain is a strong love of good animals, which to all appearances is one of the hereditary traits of the native Briton. Go where you will, the same thing exists. From the very humblest laborer to his gracious majesty the king, there is shown a strong love for real high-class stock. In a recent visit to the home of a famous Scottish Shorthorn breeder, whose name is familiar to lovers of good stock in all parts of the world, the writer was somewhat astonished to learn that the gentleman in question was also one of the most prominent business men of the town. Upon questioning my most worthy host as to how he managed to divide his time between his city business and his stock farms, he replied: "I am in my city offices only when I am compelled to be there, as that line of work is very monotonous. But with my stock farms it is very different. I love to be there all day and to dream of being there by night." These are the words of one of the very greatest of present-day stockbreeders, and are very significant, as a love for any line of work is the very first essential to success.—W. J. Kennedy.

Height of Ears on Cornstalks.

The lower the ear on the corn stalk the less likely is the stalk to be blown down by a high wind. Experiments are being made to breed low ears. Seed from corn with low ears has been replanted enough times to produce a little variation in this regard.