

FARM, FIELD, GARDEN.

NEWS NOTES AND EXPERIENCES IN COUNTRY LIFE.

A Report of Experiments Made with the Use of the Land Roller at the Wisconsin Agricultural Experiment Station in Ordinary Field Culture.

A report from the Wisconsin experiment station gives the results of investigation into the effect of rolling on both land and crops. The work was done in ordinary field culture in different localities with the following results:

First—Rolling land makes the temperature of the soil at 1.5 inches below the surface from 1 to 9 degs. Fahrenheit warmer than similar unrolled ground in the same locality, and at three inches from 1 to 6 degs. warmer.

Second—Rolling land by firming the soil increases its power of drawing water to the surface from below, and this influence has been observed to extend to a depth of three to four feet.

Third—The evaporation of moisture is more rapid from rolled than from unrolled ground, unless the surface soil is very wet, and then the reverse is true, and the drying effect of rolling has been found to extend to a depth of four feet.

Fourth—In cases of broadcast seeding germination is more rapid and more complete on rolled than on unrolled ground, and the following differences in the completeness of germination have been observed: For oats, 4.3, 4.10 and 11.35 per cent.; for peas, 35.7 per cent.; for barley, 10.3, and for clover, 1.2 per cent., and 68.7 per cent. greater on the rolled than on the unrolled ground. These differences are greatest when dry weather, and least when copious rains follow seeding.

Fifth—In the experiment on oats reported in full, the yield per acre stood 61.12 bushels on the rolled ground and 58.99 bushels on the unrolled ground.

Sixth—The size of the kernel was larger on the rolled than on the unrolled ground.

Seventh—The oats from the rolled ground weighed 33.95 pounds per bushel, and those from the unrolled 26.32 pounds per bushel.

Eighth—The oats from the rolled contained at the time of cutting 11.60 per cent of water, and those from the unrolled ground 11.31 per cent.

A Home Made Brooder.

Here is the description of a simple brooder which will accommodate 100 chicks for a period of four to six weeks: Take four boards 12 inches wide and 3 or 3 1/2 feet long. Nail them together so as to form a box without top or bottom. Cover the top with sheet iron nailed down. Over the sheet iron and around the outside nail inch strips one and a half inches wide, leaving a space an inch wide at each of the four corners. Now put on another cover of boards, which will form the floor of your brooder. In the center of this floor bore an inch or an inch and a half hole, and insert a tin tube four inches long.

Make a platform of boards (half inch stuff will do) six or eight inches shorter and narrower than the floor of your brooder, and nail a leg five inches long under each corner; tack a slip of flannel four inches wide around the edge of this platform, and slit it with the shears every three or four inches to allow the young chicks to run through easily. That is all there is of it, except cutting out a V shaped (inverted) hole in one of the sides of the box, nine inches high and wide enough at the bottom to slide a lamp in. The lamp heats the air between the sheet iron top and the floor of the brooder, which, rising through the tube in the center, strikes against the platform above and is diffused over the chicks. With a little experience one can soon tell how high to keep the flame of the lamp so as not to make the floor of the brooder too warm, which is injurious. With this brooder and proper feeding there need be no trouble in raising at least 90 per cent. of all the healthy hatched chicks.—Ohio Farmer.

Differences in Butter Fat in Milk.

In farm and dairy practice the milk of the entire herd is usually mixed, so that individual differences are rarely noticed or receive much consideration. That the milk of some one or more cows is better than that of others is sometimes observed, but not until tried by tests made at the experiment stations has it been demonstrated that these differences are so great as to make cows that are kept for their lifetime as dairy animals wholly unprofitable.

At the Illinois station the results of their trials represent a record of one milking from each of thirty-eight cows from different farms, the animals being from various breeds. In comparing individuals it was found that as between Nos. 2, 3, 23 and 8, No. 2 produced twice as much butter fat as No. 3 and nearly five and one-half times as much butter fat as No. 8, and that No. 23 produced seven and one-half times as much butter fat as No. 8. Comparing No. 13 with No. 14 shows that nearly twice as much milk must be handled by the owners to get the same weight of butter fat from No. 14 as from No. 13. Besides these cases, cows were found all along the line from very profitable to very unprofitable. Tests were also made of the milk brought by 113 patrons to two creameries on the same day, showing striking variations in the fat in the milk of the different herds.

Suitable Grasses for Pastures.

American Cultivator says it is no doubt important in laying down pasture to learn from neighboring meadows what are the most suitable grasses to sow, what flourish best and what are most consumed by the stock. Superficial observers are often misled by the plants which, having been rejected by the stock, have run to seed, and so make the greatest show in the autumn. The practical man does not need to have it pointed out that the grasses and other plants in a pasture which run to seed are the plants to be rejected by him, as they have been rejected by the stock.

PEDIGREE ANIMALS.

Importance of the Selection of Farm Animals for Breeding Stock.

The old saying that blood will tell is equally true and applicable to animals as to men. It is a belief in this theory that lies at the foundation of herd books, cattle registers and all associations for the importation or improvement of animals. When a farmer has stocked his farm with his favorite breed he is too apt to consider that there is little more for him to do than to preserve his herd in its present purity of blood. This too often leads to a neglect in making himself fully acquainted with the excellencies or defects of its individual members. Then a man may have an excellent breed of cattle in which many of the animals, if they could be tried by the pedigree test, would be found to have descended from ancestors in no way remarkable for the better characteristics of the breed to which they belonged.

There are existing differences among the members of a herd of Jerseys or Holsteins as wide as any that separate the breeds. Consequently, in the improvement of a breed by the selection of animals as breeding stock, where it can be shown by pedigree that in addition to their own inherent fitness for certain purposes the selected ones have descended from progenitors possessing more than an average proportion of the dominant quality of the breed, a steady improvement may be confidently expected. In other words, there are individual families in breeds that possess, when compared with the average, either in a high or low degree, the excellencies of the strain. In the selection of the breeders it is also to be remembered that very much depends upon the male as well as upon the female. Hence the progeny of a cow of high milking qualities, and a sire from a family deficient in that respect, although of the same breed, is quite likely to show a falling off from the record of the mother.

These principles, however, although believed to be correct, do not necessarily preclude the idea of improvement from parents not of registered or pedigree stock. There are numerous instances of unusually fine milking qualities to be found in cows of the so called native cattle that cannot be traced back to any ancestral stock. With such a dam and a male from a family of superior milkers, an improvement is not only possible but probable. At the least, it may be expected that the best traits of the mother will reappear in her offspring. Through careful selection and breeding for a series of years, not only is a great improvement in cattle possible, but it is in this way that some distinct and valuable breeds have been formed, says the agricultural editor of The New York World, authority for the foregoing.

Clover Rust.
Of this disease, which differs from two other diseases of the red and white clover of minor importance, it is said that it has not been long known in America, but has prevailed to such an extent during the several wet, cool seasons preceding 1890 in many sections of the northern states that it must be regarded as one liable to affect seriously under conditions favorable to its development this agricultural crop. In the scientific discussion of this parasite, which is found in a bulletin of the botanical division of the Agricultural Experiment Station of Cornell university, while the description of its different forms and stages will no doubt be readily understood by botanists and mycologists, it will not be so easily comprehended by farmers.

As a summary of the matter, so far as it has been investigated, it is assured to be told: First—That the early crop of red clover is not likely to suffer injury from the rust. Second—As the second crop is likely to suffer greatly if the mid-summer is cool, and as clover becomes a valuable fertilizer when plowed in, the fields should be carefully watched in such seasons, and the crop might be plowed under to advantage. Third—Burning the clover-fields in the fall would probably have some effect in checking the spread of the disease during the next season, but the application of fungicides seems impracticable.

Manuring Orchards.

W. Somerville told at the Minnesota Horticultural society that he manured his bearing orchard every year at the rate of forty loads to the acre, mulching thoroughly. He has trees that have stood twenty-eight years that are as healthy as they were twenty years ago. He sold four tons of apples this season from an orchard seven by nine rods in size. With this manuring his trees bear every year. Producing fruit tends to exhaust a tree, and hence the importance of feeding bearing trees, while cultivation only of young ones may be sufficient.

Things Told by Bee Keepers.

Doolittle says: If you wish a large yield of section honey keep prolific queens and let the brood combs alone after they are once filled with brood in the spring.

An English correspondent advises that tea leaves in a pan of water be kept for drinking places for bees.

Dr. C. C. Miller says in Gleanings in Bee Culture: Bees in cellars are always quieter—at least mine are—just after a windy time, whether cold or warm. A still, muggy time is worst. Don't tell me cellars need no ventilation.

Farm, Stock and Home advises in painting hives that dark colors be avoided, for in extreme hot weather the combs in such hives will melt down, while in a hive that is painted white no damage will be done.

Bees serve as active agents in the fertilization of plants, and it is generally conceded that they are not destructive to the same.

In reply to the query, "How do you keep brood combs when not in use?" the editor of The American Bee Journal says: The bees will take care of the empty combs in the summer season better than you can do it. In winter they should be boxed up tightly, after being thoroughly fumigated with sulphur, if they have any moth germs in them.

FARM AND GARDEN.

INFORMATION OF PRACTICAL IMPORTANCE TO RURAL READERS.

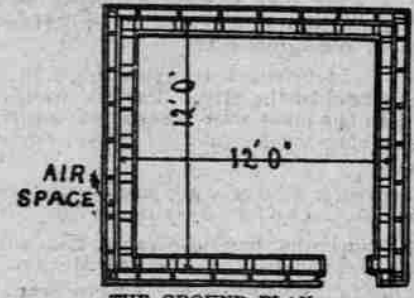
The Ground Plan, Elevation and Side View of an Ice House of Sufficient Capacity for a Large Farm Dairy and Household and Farm Use.

The capacity of the house is 12 by 12 by 12 feet. This will hold over 100 tons of ice, or over half a ton per day for six months in the year. The soil upon which the house stands, if not porous should be well drained by means of a foot of gravel, rock or other suitable material.



A DAIRY ICE HOUSE.

with a drain leading away from it. The specifications are as follows: Sills are to be 2 by 12, bedded level on the ground; the inner studs, 2 by 6, sheathed on both sides with common boards, the outside to be covered with felt paper, the space formed by sheathing to be filled with tan bark or sawdust. The outer studs to be 2 by 4, spiked to outside sheathing and covered with common siding, leaving a space under frieze and above base of three inches. The floor to be constructed by spreading from four to six inches of tan bark or sawdust; level the same and cover with common boards, leaving a three-quarter inch space between each. The plates to be the same as studs, 2 by 12; rafters, 2 by 4; roof shingled. Ventilators in top should be 2 feet 6 inches square. Doors doubled and filled with sawdust. The bill for lumber is as follows: Eight pieces, 2 by 12 by 14, for sills and plates; 30 pieces, 2 by 6 by 12, for inner studs;



THE GROUND PLAN.

5 pieces, 2 by 6 by 12, for hip rafters and collar beams; 38 pieces, 2 by 4 by 12, for outer studs; 20 pieces, 2 by 4 by 12, for rafters and ventilator; 750 feet siding, 14 feet long.

Two thousand feet common boards, for sheathing, floor, roof, etc.; 24 pieces fencing, surfaced, 12 feet long, for corner boards, etc.; 80 yards building paper; 3,000 common shingles.

Our Agricultural Exports.

According to a report of the statistician of the department of agriculture, about one-tenth of our agricultural products is exported. The sum is, however, made up from a very few articles. These are cotton, tobacco, meats, breadstuffs and cheese. Seven-tenths of the cotton product goes to foreign markets. All other articles, except those above stated, when put together are but 3 per cent. of the exports. The exportation of tobacco is not increasing materially or so rapidly as home consumption. More cheese could be sold if its reputation for quality should be kept up and there were more disposition to cater to fastidious or peculiar foreign tastes. Butter exports could be made larger if they were of better quality. Our great American crop—corn—is chiefly consumed on the spot, not more than one-sixth, it is said, going beyond the boundary of the county in which it is grown, and only 2 to 3 per cent. being now exported. Nearly two-thirds of this crop is produced in seven states—Ohio, Indiana, Illinois, Iowa, Missouri, Kansas and Nebraska, few others producing more than is required at home, and the larger portion having a deficiency to be supplied by those seven states.

Are Incubators Profitable?

Are incubators profitable? The answer to this much vexed question remains the same as last year—namely, yes and no. Under favorable conditions—such as a superior machine, good eggs, and an intelligent and above all patient management—incubators have been made profitable; otherwise there is more money in the hen. Mr. George Q. Dow is one of the authorities on poultry matters who think the artificial incubators are not profitable. J. K. Fleck is another stern defender of the hen and skeptical concerning incubators and incubated chicks. An authority in The Fancier's Journal gets at the real issue in the remark that there is really more in the proper rearing of the incubator chicks after they are hatched than in the hatching. He says: "We hatch chickens by both hen and incubator, and reiterate the statement that artificially hatched and reared chickens will lay as well, feel as well and score as well as those raised by nature's methods."

When to Buy Bees.

Professor Cook says on this subject in his book on bee keeping: It is safe to purchase any time in the summer. In April or May (of course you will purchase very strong stocks), if in the latitude of New York or Chicago—it will be earlier further south—you will be able to pay more, as you will secure the increase of both honey and bees. If you desire to purchase in autumn that you may gain the experience of wintering, either demand that the one of whom you purchase insure the safe uniting of the bees, or else that he reduce the selling price at least one-third from his rates the next April. Otherwise the novice had better purchase in the spring. If you are to transfer at once, it is desirable that you buy in the spring, as it is vexatious, especially for the beginners, to transfer when the hives are crowded with brood and honey.

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