TOBACCO CULTURE.

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(Continued from last issue)

HARVESTING.

When the leaves approach maturity they gradually lose their deep green color and assume a yellowish hue, which, in some varieties, is mottled with deeper markings of the same color. The veins of the leaves become swollen and the substance of the leaf feels thick and gummy. At this stage the tip of the leaf becomes somewhat brittle, and the midrib will usually break with a clean fracture if the tip is sharply doubled back; the leaves are then ready for harvesting. When the leaf is sufficiently matured, the sooner it is cut the better, as it is liable to injury from frost or other unfavorable weather. The usual method is to cut the plant down nearly to the ground and suspend the stalk with its leaves attached in a suitable drying house, where, when dried, the leaves are stripped and packed. The other method which is sometimes followed by those who cultivate tobacco on a small scale, or where labor is plentiful and cheap, is to strip the leaves from the plants in the field, gathering them as they mature and stringing them on twine or wires attached to laths or strips in such a manner as to allow each strip with its load of leaves to be handled separately. These are then placed in the drying-house to cure. By this process a better quality of leaf is obtained, but at a larger cost for labor.

Some growers split the upright stem of the plant before cutting, with a sharp knife down the middle to within four or five inches of the base, then withdraw the knife and cut the stalk off close to the ground. This plan is said to be convenient for hanging, as the stalks can be placed astride the strips on which they are suspended, and the leaves on stalks thus treated dry more rapidly; they are, however, more apt to slip off the sticks when moving them.

Another method is to pierce through the stalks with a V-shaped spear made of iron or steel, with a socket large enough to admit the end of a stick on which the tobacco is to be hung. The stick is set upright on the ground, fitted with the spear at the end, when the tobacco is lifted, one stalk at a time, and thrust on the spear, which passes through the stalk, about six inches from the base. The sticks are usually made 4½ feet long, and afford space enough to suspend eight plants. When one stick is filled, the spear is taken off and attached to another, and this process is continued until the plants are all hung. Other growers prefer to suspend the plants by tying them to suitable sticks with twine.

Cutting should begin as soon as the dew is off the plants in the morning. Cut with a hatchet or suitable knife, grasp the stock with the left hand and bend it well to the left, so as to expose the lower part of the stalk, and sever with the knife near the surface of the ground, letting the stalk drop over without doubling the leaves under. Lay the plants on the ground to wilt for an hour or two, or until the leaves lose their brittleness and can be handled without breaking. Then load the tobacco on a wagon, keeping the butts out on both sides in loading, and draw to the drying-house. No more plants should be cut than can be taken in and hung up the same day. Never cut tobacco on a rainy day, as the leaves are then sure to get sandy, which will lessen their value, and do not allow the plants to lie long on the wagon or in a pile, as they soon sweat and heat, which quickly injures them.

DRYING.

A house 30 by 24 feet so arranged as to hang the tobacco in four tiers is said to be large enough to give drying accommodation to an acre of tobacco. Most growers prefer to build their drying-houses tight, so that they may be closed up in unfavorable weather. Such buildings are supplied at the base with a number of doors, affording openings large enough to admit air freely, and ventilators are provided above. Drying-houses are most commonly built from 16 to 20 feet wide, 16 feet high, and 40 to 50 feet long, or longer if required. Occasionally buildings are met with which have their sides covered with boards so placed as to leave an inch or more of space between each to provide for free access of air. This, however, does not afford sufficient protection in case of unfavourable weather. Whatever method may be used for hanging the stocks, they are placed on the sticks about five inches apart, leaving eight or nine stalks on a stick, and the sticks are so arranged as to leave a space of eight or nine inches between them.

When the plants are sufficiently dried, which is known by the stems becoming of a brown colour and breaking when bent, the tobacco is ready for stripping. Damp weather is chosen for this operation, when the damp air is freely admitted and the leaves absorb moisture so that they can be handled without breaking. The operator pulls the leaves from the stocks one by one, until he gets what is technically called a "hand," which consists of from twelve to sixteen leaves, when these are fastened together by a good leaf folded to two or three inches in width, and wound around the base and secured by tucking the end under. During the stripping the leaves are separated into two grades according to size and soundness—all the torn and injured leaves, as well as the small and less matured specimens, forming a second grade.

(To be continued).

Pure Bred Ayrshire Cow.

Bred and owned by A. Terrill, Wooler, Ont. A three year old, Nettie 2486, daughter of Mary 1871. She comes of an excellent milking strain.

BREEDING, FEEDING, AND REARING OF DAIRY CALVES.

By S. Shaver.

My subject should be studied with care. A great quantity of our dairy products must be sold in the markets of the world, therefore we must study not only to produce the best, but must study to produce it as cheaply as possible, so as to obtain a profit. If there is anything in breeding, or feeding or both, that causes cows to differ one from another in economical productive capacity, its importance must be conceded. That they do differ in some degree is universally observed, and that this difference assumes wider proportions than is commonly supposed, has been proven by as carefully conducted experiments as the wisdom of man can devise. What is it that causes this difference? It cannot be feeding alone, or environment or care, or anything else subsequent to birth, for we can observe these differences when there is uniformity in all these particulars. It must be, therefore, that animals are born with different capacities for production. And hence improved dairy cows can be bred with just as much certainty as improved beef cattle, improved draught horses or roadsters, or any other kind of domestic animals. What is intelligent improved breeding? It involves something more and beyond the mere perpetuation of the species. It implies selection, care, and judgment; also, more than the mating of two animals. For each of these trace back to scores of ancestors each more or less different from the other in function, form, or temperament, as well as color and potency. Wild animals breed true to type without an exception, and in like manner every calf has in itself the germ of every possibility that is inherited in either its sire or dam and none other. If the parents are of mixed blood and mixed characteristics, so will be the progeny, and in a greater degree, but always subject to the law that the stronger or more potent will predominate. If it was not for our lack of knowledge of the characteristics and possibilities of our breeding stock we could know just what we are going to breed if this be true. If we are going to have better cows, they must be better bred, and to this end we must select better cows for dams—cows that have the characteristics that we wish to reproduce and perpetuate, and what is still more important, we must have better dairy bulls. Something has caused us to give little heed to the truth that the "bull is half the herd," and in consequence though we may have ten or twenty cows, we hesitate over the price of a good bull to put with them, as much as we would over a heifer, and sometimes let $10 or $20 hinder us from getting a good bull. The loss of keeping one or two poor cows is nothing to be compared with a bull that is an inferior sire. He leaves his impress on your ten or twenty calves, either for better or for worse, and it is three years before you find out the character of that impress. It is apparent, therefore, that his selection should receive the most intelligent consideration.

But "breeding," important as it is, and as I have tried to make it appear, is only half the story. When we get a calf from an ideal cow bred to a dairy bull that has been bred specially for the dairy, we must feed that calf intelligently. For instance I would feed it whole milk from two to three weeks. Then I would gradually mix in skimmed milk, invariably warm as cow's milk. In a short time the calf will eat whole oats, fine hay, oats in straw, and corn fodder; this will develop its digestive organs so as to be able to consume later on and assimilate as large an amount of coarse fodder as possible. For her future usefulness as a dairy cow depends on the amount of food she is able to manufacture into butter fat. The calf must be kept thrifty, but not fat. We want to teach our heifers to produce butter fat, not tallow. I believe we can destroy our calves and heifers by teaching them to lay on fat. I would feed to keep heifers thrifty, and would breed them when about fifteen months old to the best breed dairy sire I could get.

USE OF LIQUID GLASS IN EGG PRESERVATION.

The use of a water glass solution in the preservation of eggs is probably the best known process yet available for keeping eggs good, inasmuch as it is accompanied by fewest disadvantages. Water glass or Wasserglas, as the Germans call it, is a very curious substance, well known in certain industries, but almost unknown to the general reader. A better name for it is soluble glass. It is called a glass because it is an alkaline silicate, and it is termed soluble because it will dissolve in water, or rather will mix with water very easily. In appearance it looks like a thick sugar syrup and might easily be mistaken for it. It is made by fusing silica, for example, quartz, with sodium or potassium carbonate, adding a little small coal in order to aid the reaction. The commonest grades are manufactured by fusing two