

made to perpetuate the best possible seed, and the following points are given, suggesting some evils which should be guarded against.

TYPE CHARACTERISTICS.

There are several recognized types of potatoes on the market, but, having decided upon the variety of is easily seen to which type it belongs, and having in mind the perfection of this type, the seed should be selected to conform to this idea as far as possible. Thus, if a round variety is selected, all seed should be uniformly of round type. No seed should be purchased from a dealer that does not show a marked uniformity of type, for a lack of uniformity gives a strong indication that the variety is not fixed, even though it is sold under an old-established name.

SIZE.

In selecting individual tubers for planting, the potatoes used should be fully mature, of moderate size and perfect development; that is, they should be sufficiently developed to give them their full allotment of vigor from the mother plant from which they have been selected. In every healthy plant there are usually a number of mature tubers of nearly the same size, and several which are undeveloped. The undeveloped tubers are immature because, although the plant has had vigor enough to start their growth, they have not been fully developed and matured. The undeveloped tubers do not possess the full vigor of the mother plant. On the other hand, Girard concluded from his experience that overgrown tubers, or tubers larger than the general size of the variety, do not excel the mother plant in vigor, but have merely had more starchy material stored up in them, and possess no more prepotency than those potatoes of moderate but complete development. Even if this conclusion should not be supported there is a reason why it is not advisable to grow a variety of tubers larger than is now common. Restaurants and hotels do not wish to buy potatoes so large that they cannot with profit serve a whole tuber with each order, while some lunch-rooms prefer to serve two smaller potatoes.

The continued use of small seed gives weaker plants, a diminishing of the size of the total crop, and constant increase in the number of small tubers in the crop. This conclusion has been reached by a large number of investigators, both in this country and in Europe, and the discarding of small tubers is regarded as an important point in the production of maximum crops.

SHAPE.

The shape is one of the special points noted by buyers, and the preference is likely to vary in different localities. Potatoes may be divided into three classes: the round, the kidney-shaped and the oval. The kidney-shaped are probably the most popular at the present time. They look larger, weight for weight, than the other varieties, and, for this reason, sometimes sell better in the markets. The oval potatoes are nearly the same shape, but are thicker through the center, and taper towards the end. Round varieties are the least popular in most sections, probably because they look smaller in the market, although they hold one point of advantage, in that they sift to a more regular size than do either of the other kinds. Round potatoes are said to have a tendency to develop discolored hollows on the inside, while some of the longer varieties have the greatest tendency to second growth. Knowing these weaknesses of the different shapes, it becomes a matter of selecting a variety as free as possible from these defects of the shape desired by the local market.

COLOR.

The color of the skin is not a matter of great importance, although it is a fact that sometimes a color of a potato is a prejudice to its ready selling. The white-skinned varieties, such as the Rural New Yorker No. 2, or the Carman No. 3, are in favor at present. Those varieties which show a noticeable network in the skin should have it well marked. The skin should be of moderate thickness; too thick a skin interfering with the cooking qualities, and too thin a skin making it a poor keeper. The skin should be clear and smooth, and have no tendency to spot, scab or split. The flesh underneath should be a clear white, with no hollows, dark rings or discolorations of any kind.

A pure white-fleshed potato should remain white after cooking, both when hot and when cold. A tendency to discolor in this particular is indicative of a poor flavor, as well as giving a poor appearance. The potato when boiled should fall to pieces upon pressure, showing a glistening white, dry appearance, which indicates that the starch granules have been broken with the heat, and the potato thus rendered digestible.

DEPTH AND NUMBER OF EYES.

To be of value in cooking, where the potato is peeled before boiling, the eyes should not be too deep, as this gives an opportunity for great waste in the peeling. A very shallow eye shows a lack of vitality of the tuber, but while the vitality usually increases with the depth of the eyes, when set too deep it indicates coarseness of flesh and flavor.

TENDENCY TO SECOND GROWTH.

Second growth nearly always indicates that the tuber has been checked or stunted at some period of its growth, and that it has not had the strength to recover and keep on in its natural development, but had developed in the way easiest for the plant when growth was again started. This decadence will be

greatly checked by methodical selection, but if the tendency persists, there should be a change of seed to that of a stronger, fresher variety.

KEEPING QUALITY.

Last, but not of less consequence, is the keeping quality. This is especially important in the southern part of the State. A good keeping quality is very marked in some varieties that have been especially selected for this property. This attribute will naturally be strengthened if care is taken every season not to plant those potatoes which are badly sprouted or have begun to rot. It is merely a business proposition in this as in other cases, because the crop from these potatoes will be small and weak, and the same amount of ground will have been used as if good, well-kept seed had been planted.

Large Potato Yield from Small Sets.

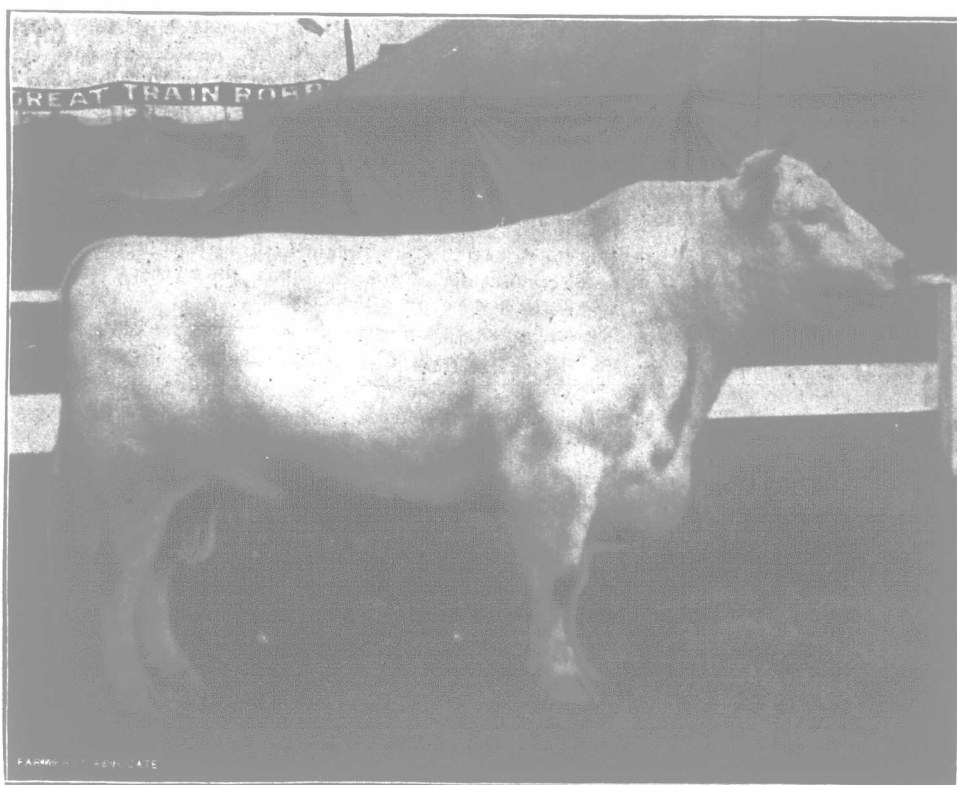
To the Editor "Farmer's Advocate":

It may be of interest to readers of your great farm journal to read an account of an experiment in which I have been interested the past season.

I received from the Ontario Agricultural College farm two pounds of potatoes, called Empire State. These were to be cut into 66 sets for each pound; 66 sets to be planted in hills and 66 sets in rows, with flat culture. In the hills I put a small handful of superphosphate, and in the rows I used muriate of potash. The results were as follows: From the 66 sets in hills I dug of good large potatoes 131 pounds, and of small ones 1½ pounds. From the rows from 66 sets I dug 87 pounds, and of small ones one-half pound. There were no signs of rot, although rot was prevalent in this section. This is the largest yield from two pounds of potatoes that I ever had, being a total yield of 218 pounds of good large tubers, and two pounds of small, or 220 in all. I would like to hear from others who experiment with O. A. C. seed.

ROBERT L. JARVIS & BRO.

Kent Co., Ont.



Valasco 40th =30861=.

Winner of first prize and sweepstakes and head of first-prize Shorthorn herd at London and Ottawa, 1904. Owned and exhibited by W. B. Watt's Sons, Salem, Ont.

Increasing Stable Room.

A reader in Western Ontario, who has a barn 30 x 75 feet, asks how he should arrange a lean-to behind it for stabling purposes. The barn now has 18-ft. walls, but our correspondent wants to make the lean-to 22 feet wide and still have 18 feet from the eaves to the ground. We cannot suggest any way of doing this satisfactorily. In fact, we strongly advise him not to build a lean-to at all, but rather to raise the barn and put stabling under it. It would be much more convenient for feeding, and, we believe, less expensive, as there would be no additional roof to maintain, and not as much wall, and if the additional floor space is not required for stables it will always be convenient for shelter. The walls may be made of a frame and boarded, or the more substantial material, stone or cement concrete, used. In such a stable many conveniences could be had, such as sufficient light, more compact arrangement, etc., that would not be had in a lean-to, and when the expense is considered it appeals to us as by all means the better plan.

Enclosed please find \$1.50 for one year's subscription to the "Farmer's Advocate and Home Magazine." I am pleased with the change to a weekly, and wish the "Farmer's Advocate" and its publishers every success, as its success means benefit to the subscriber.

JOS. JOHNSON.

"Myrtledale Farm," Atwood, Ont.

DAIRY.

Making Butter from Sweet Cream.

Where a large number of cows are kept, and churning is done every day, it may be desired to convert the cream into butter with the least possible delay, hence the system of making butter from sweet cream is advocated by some dairymen. The system has not generally commended itself to buttermakers, but a few who practice it have excellent results from the system. To make butter successfully with sweet cream, the cream must first be pasteurized, carefully cooled, a ferment used, and finally it is doubtful if as much fat is separated from the cream as is the case when cream is allowed to ripen before being churned.

The following article on the making of butter from sweet cream has been adapted to the home dairy chiefly from a pamphlet designed more especially for factory use by J. D. Sinclair, Superintendent of the Dairy School at St. Hyacinthe, Que.

The making of winter butter, to have it of that peculiarly delicate flavor which marks the best butter and commands the highest price on the market, must be carried on in quite a different way from the summer process. The necessity for milking in the stables of itself, instead of out in the pure air, would necessitate some difference of treatment. During the operation of milking, no matter how clean the stable and the hands and clothes of the milker, bacteria of different kinds are bound to enter the milk, and before either milk or butter can be of the best quality these bacteria must be disposed of.

Not all bacteria are harmful; some species are even necessary to the proper flavor of good butter. Nevertheless, there are many varieties which give a very disagreeable flavor both to the milk and to the butter made from it, and the aim of every buttermaker should be getting rid of the undesirable species, and keeping only those which are necessary to the proper flavoring of the butter. It is, moreover, due to the work

of certain bacteria that lactic acid, the souring element of milk, forms, and, although this paper deals with making butter from sweet cream, the process of souring is necessary to the "ferments" with which the sweet cream must be treated.

After much experimenting, the best method of thus "inoculating" cream with the proper bacteria has been found to be first to get the cream in as pure a state as possible, that is, as free from all bacteria as may be, then to pour it into a starter or ferment containing only the right kind of bacteria. In some places these ferments are now prepared by chemists with the most scrupulous care, and are bottled and sealed for distribution, being placed upon the market under the personal guarantee of the chemist as to the purity of the "culture." Though almost unknown as

yet among Canadian farmers, these "bottles" have for some time been in use among the progressive home dairies of Denmark and the creameries of this country.

Very satisfactory ferments, however, may be made by any farmer's wife in her own home if she exercises the most scrupulous care. They may be made as follows: (1) Method No. 1, the new-milk ferment:—Select a newly-calved cow, in perfect health, whose milk is known to be of good flavor. Milk her in some place where the air is perfectly pure, seeing to it that all other conditions of cleanliness are also as nearly perfect as possible, the milk vessels thoroughly washed and steamed, the clothes of the milker clean and preferably sprinkled with formaline. Do not use the first milk taken from the cow. After straining set the milk at once in ice-water, or in very cold water, cover with a clean linen cloth, and leave for twelve hours. Then skim the milk, cover again carefully, and set to sour and curdle in a place where the temperature will be at 70 degrees F. (2) Method No. 2, skim milk ferment:—Pasteurize good skim milk by heating at 170 degrees F. for twenty minutes; cool down in ice-water to 70 degrees F., and keep it somewhere at that temperature until it curdles, as above.

If you do not want to use the ferment at once, cover it well and keep in the coolest place possible at a temperature below 40 degrees to stop the fermentation. A good cover is made of a sheet of wadding with a piece of linen over it. If you wish to propagate the ferment to keep some over for next churning,