

Have the Cream Separator on a Solid Base.

The old method of creaming milk by the use of shallow or deep pans has given place to the use of centrifuge machines. This new method has many advantages, chief of which are an almost complete separation of fat from the milk, a good quality cream, less labor, and a supply of warm skim-milk for feeding hogs and calves. However, the machines require attention in order that they may give the best satisfaction. It is essential that the separator be level and set on a solid base. It cannot be expected to give satisfaction if the floor is springy. A concrete base is preferable, and if wooden blocks are imbedded in the cement when building it, the machine can easily be securely fastened down and there will be little danger of it getting out of plumb or loose. One of the first indications that the machine is not level is a quivering when turning. This trouble may also be caused by the bearings being too tight, or the spindle of the bowl being slightly bent. However, having the machine set on a poor foundation is a forerunner of considerable trouble.

There are several things which might happen to cause a variation from day to day in the amount and percentage fat of the cream from the same weight of milk. Separating the milk with the same machine, at the same speed, day after day, does not guarantee a uniform test, as many things may transpire to cause a variation. Increasing the speed above normal tends to increase the percentage of fat in the cream and decrease the weight; while decreased speed lessens the percentage of fat and increases the number of pounds. Feeding the milk into the machine too slowly, having the milk below normal temperature, or the cream outlet too small, will have a tendency to cause a thick cream. Feeding the milk too fast, or clogged skim-milk tubes, causes thin cream. A fairly uniform product can be secured day after day by properly adjusting the cream screw and endeavoring to do the separating when the milk is at a certain temperature, and with the machine turned at a uniform speed. Cream appearing on the skim-milk, after standing a few hours, may be due to cold milk, insufficient speed, and the machine not being on a firm foundation. However, with the best separator made and the taking of every precaution, the percentage fat in the cream will vary more or less from day to day, as it is almost impossible to perfectly control all the factors which cause the variation.

For convenience the separator should be in or near the stable. If there is no special milk-house a room can be partitioned off in some part of the stable, and if properly constructed it can be made sanitary. It should be kept clean and well ventilated, otherwise there is danger of particles of dust or dirt falling into the milk while it is being separated, and any foul odor will be absorbed by warm milk. Care should be taken to keep the separator and its surroundings clean at all times. Unless this is done the highest grade cream cannot be produced.

Student from Rhode Island College Wins Highest Honors.

The Students' Judging Contest is an educative and interesting feature each year of the National Dairy Show. At Springfield, eighteen State Agricultural Colleges were each represented by a team of three students. The results show that H. H. Hawes, of the Rhode Island State College, won the highest honors for judging all breeds of dairy cattle in the contest. With this honor Mr. Hawes secures a gold medal donated by the National Dairy Show Association, and a four-hundred-dollar scholarship given by the De Laval Separator Company. This student received his training from R. B. Cooley, a 1910 graduate of the Ontario Agricultural College, Guelph, Professor of Animal Husbandry at the Rhode Island State College.

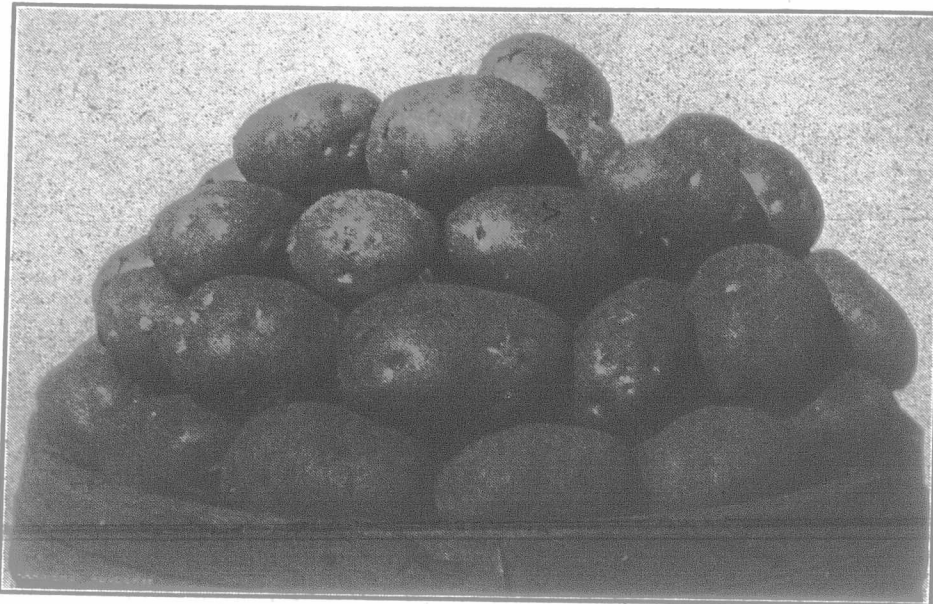
HORTICULTURE.

How Potatoes are Grown in the Province of New Brunswick.

The caprices of Nature, with regard to weather these last two seasons have forced upon us considerable respect for that underground-growing tuber, known as the potato. Perhaps the caprices of some speculators have had something to do with our growing admiration for the tuber, for at time of writing a Toronto daily paper carries an item to the effect that 110 carloads of potatoes stand unopened on the G. T. R. terminals in that city. The respect of the consuming public for a good mealy potato far surpasses that for a dealer or speculator who will corner a season's crop and even allow a portion of it to spoil in order to extort exorbitant prices from the people who can least afford to pay them. Be that as it may, there are few enough potatoes this year to go round, even under the best system of distribution, and the householder with several bags in the cellar can chalk up one good reason for being happy. There are many farmers in Ontario this year who did not lift as many potatoes as they put into the ground as seed last spring, and there are not a few who had none at all to dig. They, like the urban dweller, are buying potatoes, a common source of which are the Green Mountain, Empire State, and Irish Cobbler fields of the Province of New Brunswick. Nova Scotia grows potatoes largely for the West Indies. Prince Edward Island grows them for Newfoundland, local

markets and some United States cities in the East; while the New Brunswick Green Mountain is a well-known tuber in Ontario.

This great source of Green Mountains is not a potato-growing province as a whole, but some districts are so well adapted for the crop, and the production of this tuber is so well developed there, that we often think of New Brunswick generally as headquarters for potatoes, when, in fact the great bulk comes from Carleton, the banner potato county, Victoria, York, Westmorland and Kent. Lumbering is still a great industry; much labor and capital are annually employed in fishing, and on the east side of Kent County is a small fishing town whence we get the famous Richibucto oysters. A considerable part of New Brunswick farming is conducted in the fertile and pleasant St. John Valley, a district which will in subsequent years, we believe, come to be known as one of Canada's garden spots.



The Well-known Green Mountain Variety.

The Potato Growing Industry.

Different provinces usually follow methods of their own with regard to production. They may differ in details only, but the grower who has a knowledge of the several systems and constructs one for himself, using local conditions as a foundation and making his framework out of ideas gathered here and there, has nine chances out of ten of making a success. C. Fred Fawcett, of Westmorland County, New Brunswick, did this, and the district in which he lives is now more prosperous on account of the good seed introduced and the methods he advocated. After a term at the Agricultural College at Guelph, Mr. Fawcett saw possibilities in Westmorland County farms. He argued thus with his neighbors: if these fields that have been long in grass and producing little were broken up, and a proper system of rotation followed, the run-down farms could be reclaimed without the use of barnyard manure. They should be planted the first year to potatoes and the soil enriched with commercial fertilizer. The next year sow grain and a seeding of clover. One year in grass completes the rotation and may be followed again by potatoes. This was his theory, and by successfully practicing it himself, he proved his contentions to be right. That was sufficient. To-day many erstwhile idle fields are growing profitable crops of potatoes, grain and hay, because of a system that made good.

The effort to establish some suitable method of farming their lands was accompanied by the acquisition and breeding of good seed potatoes, which were distributed in the neighborhood. Mr. Fawcett has been breeding potatoes for seven years, and has now developed

pure Green Mountains and Irish Cobbles according to the rules of the Canadian Seed Growers' Association, originating at the same time a variety which he named "Pioneer Pride." This is a selection from about 300 new varieties derived from potato bulbs, which are often seen growing on the vines. Out of 300 so started, this was the only one of any use. It requires three years to mature a seedling from this source, and though started in 1910 not until 1913 did this new potato show the possibilities wrapped up in it. In appearance it is much like the Empire State; it is also a heavy cropper. On the last day of September the writer visited this potato enthusiast, and had the opportunity of seeing how the Green Mountain and Irish Cobbles yield when well cared for under New Brunswick conditions. In the breeding plot on the farm mentioned several hills were pulled, and one hill of Irish Cobbles had in it eighteen potatoes; fourteen were large and four were of medium size. One hill of Green Mountains revealed seventeen good specimens, and another, fifteen. Good seed, a system of rotation, and good cultural methods are doing much for the potato-growing industry of Westmorland County.

Methods in Westmorland County.

When discussing potato-growing methods in Westmorland County, we are describing quite fully conditions that exist throughout the Province of New Brunswick. There might be slight local differences and some exceptions, but in such cases they would be the application of the same ideas, only perhaps applied on a more extensive scale. As before stated, potatoes are planted chiefly on a clover sod. This is

plowed down, preferably in the fall, about five inches deep, and in the spring it is disked and harrowed with a spring-tooth harrow so as not to disturb the sod. It has been found that with a three-year rotation and clover as one of the items in that system, that potatoes can be grown without the use of barnyard manure. However, a liberal application of commercial fertilizer is used and applied in the drill when the potatoes are planted. As much as one-half ton per acre or more is applied, sometimes less, but the feeling has become more widespread that the small dabs of commercial fertilizer do not pay and that the heavier applications will result in a greater profit per acre. Much of this commercial fertilizer is mixed by the growers. The ingredients used by them are nitrate of soda, acid phosphate, basic slag, and muriate of potash when obtainable. This year some wood ashes were used to supply potash without any apparent injurious effects. The percentages desired in a good potato mixture are four per cent. nitrogen, eight or ten per cent. of phosphoric acid, and five per cent. of potash.

The machine planter is in general use. The rows are about thirty-two inches apart, and an endeavor is made to have the sets dropped about fourteen inches apart in the row. This requires about five barrels of seed to the acre. An attempt is also made to have from two to four eyes on each set; at least two are required. Some seed is treated for scab, but the practice is not general in Westmorland County.

Where potatoes are grown on a large scale a hand hoe is not used, but a horse hoe, the important part of which consists of two shares converging slightly at the back, is a common implement. The practice is to kill as many



A New Brunswick Potato Gang and Digging Outfit.

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