The inevitable conclusion from all these considerations appears to be, that it is of national importance that we shall no longer be destitute of a species of animals for which this country is specially fitted, and from which we may derive at once good milk, excellent meat, magnificent wool, and very sure-footed beasts of burden. The introduction of them into Australia holds out the sure prospect of a large accession to the wealth of the colony. As we fear that Parliament will not imitate the colonial government in facilitating this by pecuniary assistance, we turn to the Highland and Agricultural Society of Scotland, and invoke its powerful aid in the promotion of an object in such harmony with the design of the institution, and so fitted to be specially a benefit to the Highlands. *From the Journal of Agriculture of the Highland and Agricultural Society.*

Summer Hog Feeding in Canada.

To the Editor of THE CANADA FARMER:

SIR,—Five cents per lb., alive, is now being paid at Hamilton, for prime fat hogs weighing 180 lbs. and 250 lbs each, and now scarcely to be had at that price. I feel sure that farmers are neglecting their own interests in not paying more attention to summer feeding. When going through a considerable portion of Upper Canada, last month, I noticed a large number of good sized lean pigs racing wildly along the roads and through the country looking for something to eat, and many of them, I am sorry to say, of an exceedingly ugly bad breed. They would have been worth to-day $10 to $12 per head, if only three or four bushels of pease had been given them, even if thrown upon the ground in the proportion of a quart per day to each hog, in addition to other things going to waste on the farm. Pork produced in this way, though not of the finest quality, would no doubt sell readily enough, and when firmer and better is not obtainable. Many of our farmers may not be aware that pork invariably sells 25 per cent. higher in the months of July, August, September and October, than it does in the four following winter months, and the principal reason for this difference of price is the increased English demand for American ice-cured bacon. This matter must certainly be worthy of some attention by our farmers, and after keeping over as many peas as they require for summer feeding, the next best thing they can do is to improve the breed of their hogs as soon as possible, with the small or medium sized Berkshire, Yorkshire, Suffolk.

SAMUEL NASH.

Hamilton, October 3, 1864.

The Horse.

THE HORSE is a living machine, capable of more or less reasoning, and set in motion not only at our will, but also on his own account. The trainer must therefore, before he begins to handle it, make himself familiar with the capabilities and peculiarities of both body and mind. We hardly ever find this machine in perfect symmetry—it is not even wanted to have it so; for the English race-horse is not symmetrical, but has intentionally, by careful breeding, undergone a change of figure deviating entirely from its ancestors, the Arabs. But any such deviation, although it may favour a certain quality, for instance, speed, is the reason that the horse cannot perform other works with equal ease. The body of the thorough bred appears more symmetrical than it is, because by breeding for the turf the withers have become so high, that it looks as if the shoulders were as high as the hips; but the disproportion of the legs strikes any beholder the fetlock and radius being too long, and the shankbone too short. If these horses perform great deeds apart from speed, we find the reason in their great muscular power, and their small bones, as well as in the lightness of the head and neck. But very seldom will the thorough-bred naturally be a good steeple-chaser, or an agreeable saddle-horse; if he is such he will resemble more or less the Arab, as does also the English hunter, except in size.—*Correspondence of Wilkes' Spirit of the Times.*

To Make a Balky Horse Draw.—To make a balky horse draw, when every other method fails, take a good strong cord (clothes-line, for instance), long enough to reach from the horse's head to the waggon, tie one end around the horse's neck, close up to his head, in a slip-noose style. When the horse balks, draw on the cord until you choke the horse down, and keep down until he shows an inclination to get up; then slacken the cord, and he will in nine cases out of ten draw right off. Continue the practice, and he will soon get tired of the balking for the sake of not being choked. I have succeeded that way when every other means failed.—*Rural New Yorker.*

The Dairy.

Elements of the Dairy Business.

UNTIL within a few years, the manufacture of cheese has been almost entirely an empirical process,—the mere following of forms which have been handed down from other generations, without an understanding of, or any reference to those guiding principles which should direct the process. Science has at length stepped in, and in several particulars has rendered valuable aid. By it have been accomplished reduction of labour; increase in quantity of product; improvement in its quality, and a shortening of the time required for ripening. Reduction of labour and increase of product have been effected by the substitution of improved apparatus in place of the old fashioned cheese tub and other utensils. Both of these objects are assisted, and at the same time an improvement in quality is gained, by the adoption of an improved method of separating whey from curd; viz: by the chemical action of warmth applied to the curd in the whey, causing a contraction and precipitation of the curd. This method of separating whey from curd effects a change in the latter which enables it (after pressure) to ripen with greater rapidity than when the separation is mainly accomplished by mechanical means; indeed, there is reason to believe that a proper cooking of the curd in the whey, is of itself, the equivalent of a portion of the former curing process.

The important points in cheese-making are few, and may be easily and clearly stated, so as to be readily understood; but to be able to secure their being fully carried out in practical operations, so as to secure uniformly good results, and to be prepared for any contingencies which may arise, as an unexpected degree of acidity or any unusual temperature, electrical condition, or other state of the atmosphere, requires practical skill, which can be obtained only by careful study and close observation, aided by a competent teacher.

The first point I will mention is *cleanliness*, and this is quite as important in the butter as in the cheese dairy.

The second; that the milk be in the proper state as to temperature, and not too far advanced toward acidity when the rennet is added.

The third; that the rennet be properly prepared and sweet, and that a sufficient quantity and no more be added.

The fourth; that the whey be properly separated from the curd.

The fifth; curing or ripening.

First. Cleanliness; absolute cleanliness, and by this is meant a great deal more than exemption from visible dirtiness. The inferior character of a considerable portion of the dairy products manufactured not only in Maine, but anywhere and everywhere, and especially the bad flavour, which, although no perceptible when new, but which developes in an unmistakable manner with age, in butter and cheese, is chiefly owing to lack of proper care and cleanliness in the full sense of the term. To understand this better, let me say that caseine, or the curdy portion of milk, is a nitrogenous body; and like all nitrogenous animal substances is apt to run into putrefaction. This liability to putrefy is developed with greatest rapidity when under the influence of other substances in which decay has already begun. For instance:—A piece of fresh meat placed in a perfectly clean vessel, and the air pure also, may keep good many days, in some cases weeks, perhaps; while if it be put in one apparently clean, and which has had tainted meat in it previously, it will begin to putrefy in a short time. The exciting cause, although, in this case, invisible, is as really operative as a visible amount of filth would be. Its action is that of a ferment,—similar to that of yeast, a little leavening the whole lump. Any decaying emanation, whether from spilled milk or any other source, communicates a tendency to the same decay; and the change once begun, it is very difficult to arrest it. Its effects may not be apparent at once, but the leaven is working. Butter possessing the tendency may not while fresh offend the most delicate taste, but it will most surely develop so as to be plainly perceptible after being kept.

Ferments are destroyed at the heat of boiling water, 212 degrees. Boiling water will readily cleanse vessels in which milk has been kept if they be of tin or other metal. Possibly a slightly lower temperature may suffice for metalic vessels, but certainly not for wood; and it is safer in all cases not only to have the kettle "sing" but the water to dance. Wood is porous and absorbs more or less milk, and be it ever so little which finds a lodgment in it, there is no security against the propagation of the peculiar ferment. In a note from Dr. E. Holmes, he relates from his experience on this point, thus: "The following fact shows not only the importance of having vessels for holding milk purely clean, but made of materials easily kept so. We purchased a new wooden pail, unpainted inside, for a milk pail. The usual care was taken to scald, wash and dry it, every time it was used. It was found after being used sometime, that if the milk was allowed to remain in it say from a quarter to half an hour before being strained, particles of loppered milk would be found gathered in the crease or angle formed at the junction of the bottom and sides; and no amount of scalding and scrubbing would prevent it. It became advisable to throw it aside and use a tin one in its place, when the trouble ceased. Was it not that particles of the milk, at some time, had become absorbed and lodged so deeply in the pores of the wood as to be out of the reach of scalding water, (wood being a poor conductor of heat,) where it had "turned" and thus formed a *nidus* for loppered particles which acted upon new milk and changed it in so short a time?"

The danger that the ferment may find a permanent lodgment in wooden vessels, together with the great amount of labour which their use involves, should cause their banishment from the cheese dairy in all cases where metallic ones can be substituted to advantage. If wooden utensils must be used, great caution should be had not to employ any which have been recently painted. On this point Mr. Willard remarks: "Sometimes when the dairyman has been using newly painted pails and tubs he will find black specks and spots on the rind of many of his cheeses, and should he cut them, the same peculiarity is presented throughout the cheese. This is poison cheese, more or less dangerous to the consumer, and justly feared and avoided in market; for although much of it may possibly be eaten in small quantities without producing any serious sickness, yet the chances are that some of the cheese is very poisonous. Now the dairyman often, and perhaps generally, is ignorant of the cause and innocent of any intent to posion, and he learns with amazement that his cheese has been thrown out of market, or sent back to him, or that some family has been poisoned by eating it; but such is the fact, and the result has been brought about by carelessly using newly painted utensils. The milk and whey have extracted poison from the lead and deposited it in the cheese. The fact has been well substantiated from numerous cases where the matter has been fully traced out. When utensils are to be newly painted it should be done at a time when they will not be needed for three months; and before painting they should have been thoroughly scrubbed with strong lye, in order that all the old flaky paint be removed and a good clean surface presented for the new paint. After the new paint has become thoroughly dried and hard, the tubs and pails should be frequently soaked with water and whey until there is no smell or taste from the new paint."

The cleanliness referred to should include not only the utensils but every part of the premises. Milk absorbs odours of any kind with such facility that much caution needs to be exercised lest it suffer injury by exposure to offensive effluvia. Let milk be ever so rich, it may be spoiled before as well as after rennet is added.—*L. S. Goodale.*

Milk Cows in Fall and Winter.

MILKING, except for a short period after the birth of a calf, is altogether an artificial process, nature intending animals to yield milk only while it should be necessary for sustenance of the young; but, by long training, artificial habits have been induced, and the flow of milk is prolonged for months, and even for years after the natural period has passed. Partly for this reason, the secretion of the cow is more easily affected by treatment of the animal. Any derangements of health, insufficient food, or bodily discomfort at once shows its effects in the decreased quantity and quality of the milk. It should also be borne in mind that the continued flow of milk beyond the natural period is no small drain upon the vital functions of an animal, and this should be counterbalanced by extra stimulus in the form of good nourishing food and whatever care is necessary to keep up the health of the cow to the highest standard.

At this season of the year a change of food is neces-