

prices may be just the other way. The safe plan is to make the best of present conditions without conforming too rigidly to traditional rules, and rather than make violent changes in our methods, suffer some present loss, especially if those changes involve a reduction of our stock, the retention of which in the near future is more than likely to make it up.

THERE are some who say that it is a fallacy to talk of a general purpose breed. They argue that cattle cannot be both good for beef and milk production; that sheep cannot at the same time be good for mutton and wool, and that fowls cannot be excellent for the table and as layers. Now it cannot be denied that some breeds of cattle are better for beef and milk production than others, that some breeds of sheep are better for producing mutton and wool than others, and that some breeds of fowls are better for producing flesh and eggs than others. The question then arises, is it better on the whole to breed for one object exclusively or for the two combined. Some dairymen argue that milk and butter production should be the sole objects of the dairyman's search in the cow, and that beef should be the sole object of the search of the beef-producer; and that similarly the shepherd and the poulterer should seek one object and only one. But here comes in the awkward question, is not a certain amount of size required to the advantageous production of large quantities of milk, wool, and marketable egg produce, and a certain amount of milk before either beef or mutton can be profitably produced? If there are some breeds that possess these dual qualities in a higher degree than others, and some animals of those breeds of which the same holds true, is it not then an object of the purest and noblest ambition to try and perfect those dual qualities as nearly as may be? If a Shorthorn cow of the olden time was excellent for producing a large flow of good milk, and for producing steers for the block, why should not the modern Shorthorn cow be equally useful for both purposes, if managed on similar principles, notwithstanding the powerful exponents of the opposite view and the positiveness of their statements?

Ayrshire Amalgamation.

On another page we publish the explanations of both Mr. Rodden and Mr. Wade in reference to the unfortunate Ayrshire difficulty, we mean the failure of the associations for Ontario and Quebec to amalgamate. We do so with the desire to give both parties a fair chance, to offer explanations, that the general public may be in a position to draw conclusions for themselves.

We regret exceedingly the result of the past negotiations. We have seen men toiling in a slashing to roll a huge log to the top of a heap. They had skids placed and the chains adjusted, and the team on the other side had the log rolled very nearly to the top of the heap when one end of it struck a knot on the skid, the jar causing the chain to break and the log to tumble back farther from the foot of the skids than it was at first. The position of that log in relation to the top of the heap represents the present condition of the amalgamation movement of the two Ayrshire societies—the last state of it is worse than the first.

We only wait to say further just now, without pronouncing as to who are in fault:

1. That we think it a result that might have been avoided had the desire on the part of both associations to promote the true interest of Ayrshire breeders been stronger than their desire to secure a sectional triumph. The rock on which the negotia-

tions split was the decision of the *locality* as to where the books should be issued, and this only for a limited time, as, if we understand Mr Rodden aright, he was willing that after certain conditions had been fulfilled referred to in his letter, the records should be kept in Toronto.

2. That it is a result that will react injuriously to the breeding of Ayrshires. If the standards adopted are different there will be rivalries and jealousies endless in regard to the two books; if the same, it is supremely foolish to carry on two books at an expense each of nearly as much as would publish a book for the amalgamated associations.

3. That it is a legacy handed down by the Ayrshire breeders of to-day to their children, which, instead of demonstrating to them their wisdom, will make abundantly apparent their lack of this, in reference to this matter. They are but eating sour grapes which can only set the children's teeth on edge. They are delegating to them the work of uniting streams of record 100 yards apart which now are but ten yards distant. Had the split taken place on *standard* it would have been much more justifiable.

4. That we still cling to the hope that the two associations may think better of the matter, even now. It is not too late yet to heal the breach. Let the publishing of the records be delayed till the holding of the Provincial Exhibition next September. We have still a large measure of faith in the good sense of the breeders of this useful breed of dairy cattle, and we do hope that they will make it manifest by uniting in the publishing of one record for the Dominion. No one will be better pleased with such a consummation than the sons of the fathers, who, so *Scotch* like, refuse to yield or to compromise.

Maintaining the Fertility of Soils.

Our correspondent "Investigator," on another page, stirs again the profound question upon which the material prosperity of mankind depends more than upon any other—the maintaining and restoring fertility of soils.

With all due deference to the authority referred to, the "Report of the Massachusetts Board of Agriculture for 1886," we cannot believe that dairying rightly managed will tend to the exhaustion of soils. It may be true that certain areas in Massachusetts have become exhausted in sections exclusively devoted to dairying, but in every such instance it was not a direct consequence of dairying, but of dairying conducted on principles of injudicious economy.

Even under a system of dairying exclusively we can readily conceive of a loss of fertility. If the manure that is made is allowed to waste away one half of its substance in the barnyard, and is then applied as a top dressing at some dry season of the year when it will waste much of its fertility in giving odors to the desert air, then such a farm must become impoverished and ultimately refuse to produce. Even with our rich lands in Ontario this will be the ultimatum where such a practice is allowed. Even in dairying there is a large amount of plant-producing nutriment sold in the items of milk, butter and cheese, and unless this is restored in some way the result must be barrenness. Most carefully conserving all the sources of manurial supply from the farm and judiciously applying these, supported by a partial system of soiling, will, we believe, in most instances, be found equal to the task, for where a partial system of soiling is adopted the nutriment washed with the soil by the rains from the atmosphere, will, we believe, be found equal to the task of supplying the waste from the sale of dairy production. The phrase: "carefully conserv-

ing all sources of manurial supply from the farm" implies very much. It has regard to all the manure made, both in the solid and the liquid form, and the retention of its fertilizing properties, the contents of the cesspool, the mucks of the swamp, the bones of the slaughtered animals and the ashes from the forest. We have not the slightest doubt that were the whole truth known, much of the lost fertility spoken of went down from year to year into Long Island Sound, or was wafted by the fresh sea breezes over the Catskill mountains. It is the current opinion of dairymen in Canada that their dairy farms are increasing in fertility. This, too, is the case in Holland, and Denmark and Jersey, and other noted dairy countries. Of course when lands are impoverished, resource must be had to artificial fertilizers, and where a decided and quick restoration is the ambition of the dairyman, they will always be found indispensable, but we have always held it to be the duty of the farmer to stop the leakages of his home manurial resources, before he has recourse to these helps.

There can be no doubt that the results from the application of manure will be better, the more nearly we gauge their application to the period when their aid is required to nourish the growing crop, but it will not do to press this too far, for every farmer well knows that in practice it is impossible to carry out this idea completely in every instance. The farmer in all his operations should keep prominently before him, where a complication of duties arises, requiring his attention at the same time, that those should receive attention first, the neglect of which will entail the greatest loss. The importance of the principle of adaptation as to time in the application of manure will depend largely on the character of the soil. That importance increases with the porosity of the subsoil, and decreases with its retentivity. On some soils the traces of manurial application are obliterated in a single year, and on others they are visible at the end of five years. On the former the hope of establishing permanent fertility is a vain one. On the latter it is a blessed truth that must gladden the heart of every one who considers it, and the permanency of fertility oscillates between the degree of porosity of the subsoil or the opposite. In the former case the question of profitable cultivation will depend on the cost of the fertilizers supplied as compared with the net results from the crop; in the latter it will depend largely upon the returns from an accumulating or decreasing enrichment according to the plan pursued, and the net returns of the crops grown. In the first instance it is a simple case of barter, the land gets so much and gives so much back. In the latter it may be made to resemble a bank deposit where the interest is from time to time added to the principal.

The class of soils which obliterate the traces of manurial application in a single year are happily rare, and even these are not so destitute of the elements of plant food as is generally supposed. We try to force from them a growth to the production of which their nutritive elements are not adapted, and hence we fail. We know of a large tract of light land on the south side of the valley of the St. Lawrence, in the county of Huntingdon, where a crop of lordly pines straight and tall and sound, grew in years gone by. These were removed and a large plantation of hops is being grown upon a part of the area, which will not produce grain or even grass profitably. To grow these hops an application of muck, ashes and artificial fertilizers must be applied every year, and the question of the continuance of such cultivation resolves itself into a purely commercial one. Providence adapted these lands to the growth of pine. Man has used the