Why We Should Cultivate.

Correspondence published on the summer cultivation of growing crops indicates plainly that few, even among our best-informed farmers, comprehend clearly the real objects of such tillage. These are: First, by deep cultivation, to render the soil more permeable to plant roots, and to compel deep rooting; second, by preserving a loose mulch of dry soil to check upward capillary movement of moisture, and thus conserve it by protecting it from evaporation; third, to aerate or ventilate the soil; fourth, to destroy weeds. The latter object should be accomplished incidentally. The purpose of aerating the soil and conserving moisture is to provide conditions favorable to the liberation of plant food. In addition, large quantities of moisture are necessary to carry the plant-food solutions up to the leaves. Hundreds of tons of moisture are thus used and evaporated in the production of one ton of dry plant tissue. Excessive cultivation may, by causing rapid and complete disintegration of humus, exhaust the soil out of proportion to the net benefit obtained, leaving it in poorer condition to produce subsequent crops, and causing it to run together and bake. Cultivation should be three or four inches deep at first, decreasing to one or two inches when the corn is in tassel. Six or eight stirrings should usually be given the soil in a cornfield, but four or five of these may be advantageously and speedily accomplished with a weeder, which, if used rightly, is one of the most profitable implements one can employ on a farm.

HORSES.

Hunter Breeding and Registration

Editor "The Farmer's Advocate":

We notice in "The Farmer's Advocate" that our old friend, "Scotland Yet," is harshly critical of the Department of Agriculture, Ottawa, in recognizing the Imperial Hunter Studbook, which he characterizes as a "studbook upstart," and not to be taken seriously. "Scotland Yet's" displeasure arises, we surmise, not so much because "a gentleman in a remote town in the south of England" has succeeded in establishing a studbook for this useful breed of horses, as it does from the fact that those in charge of live-stock registration in this country—or, rather, the Clydesdale Association of Canada—have not seen eye to eye with him and his confreres in the matter of accepting for registration the get of certain Clydesdale sires, that, for reasons which need not be entered into here, but which the Clydesdale Association of this country considered sufficient, were not deemed eligible for registration in the Clydesdale Studbooks of the Dominion. And for this reason he makes this report excuse for going a little out of his way to take a crack at his Canadian friends for being "superlatively strict" about one thing and careless in another. We were not aware, until we read "Scotland Yet's" remarks in the matter, that the Ottawa authorities had decided to "recognize" as pure-bred animals recorded in the particular studbook to which he refers. However, if they have, we cannot see that any great harm will result from it, providing the book in question is not an entirely private affair, something to be confounded with the studbooks which certain American importers of French horses have made up to accommodate the animals they bring over.

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It is questionable whether any useful end would be served in making a distinct breed of the hunter. It is doubtful if foundation stock for such a breed could be secured which could be depended on to reproduce the type and qualities required in the hunter. And yet there seems no reason why horses of hunter type should not be as easily bred as horses of draft type, harness type, or any of the other distinct types into which the equine family has been divided. They are a class of horse for which good demand exists in England, and when a man succeeds in raising a well-made horse with a back that won't break when he is sent over the jumps with a weight up of 175 pounds or so, with legs that will stand the strain the animal is put to in cross-country work—jumping hedges and ditches, going over soft ground, up hill and down, and keeping up a galloping pace for miles at a stretch—when he produces a horse of the type, quality and stamina to do this, he has an animal that is worth some money in England, or any part of the world where horseflesh for riding purposes has any particular value.

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Hunters usually are the get of Thoroughbred sires. It is generally agreed that Thoroughbred blood is required to give stamina, staying power and ambition, without which the hunter would be no better than the cab horse. Hence a usual practice in breeding hunters is to cross a mare that is herself a good hunter with a Thoroughbred stallion. But the results of such matings have not shown that consistency in type can be expected in the offspring. Such a mare is usually a cross-bred herself, or may have in her the blood of several different breeds; she may foal a hunter, but she is just as apt to foal something else. It is strongly probable that the offspring of such breeding will be a "weed." So hunters usually are "misfit" Thoroughbreds, and thus far the chances of getting enough saddle horses of this type in the ordinary course of breeding for speed purposes have been long enough to supply requirements, that and the "misfits" that result from other courses of breeding.

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It is difficult to see how much uniformity can be expected in hunters as a breed. The foundation stock such breeds start from have not the quality of reproducing their own characteristics, and while it would be reasonable to suppose that after several generations of careful selection a hunter horse that would reproduce itself with some uniformity might be developed, it seems as reasonable that a sufficient number of equally as good horses could be produced in the manner in which hunters are now ordinarily bred. But then, something of the same criticism might have been offered when some individuals were laying the foundations of the various and distinct breeds of horses which now exist. A breed cannot start pure and reproduce itself uniformly true to type from the first. That character has to be developed, and perhaps when several generations of pure-bred hunters have been reared we shall have a breed that will reproduce hunter qualities as uniformly as the Clyde or Shire reproduce draft qualities, or the other breeds the particular types or characteristics for which they have been developed. The Irish have had a studbook for hunters for some time. EQUITANT.

New Percheron Secretary.

Geo. W. Stubblefield, who has been for several years secretary of the Percheron Society of America, has resigned the office, and Prof. Wayne Dinsmore, of the Iowa State College, at Ames, Iowa, has been appointed to the office. Prof. Dinsmore announces that he will be unable to give his undivided attention to the work of the Society until August 1st, after which date his address will be, Union Stock-yards, Chicago, Ill. Prof. Dinsmore, it is confidently believed, will make a very strong secretary for the Society, and a decided acquisition to Percheron interests in America.

LIVE STOCK.

Experience with the Yeast Treatment.

Frequent enquiries have reached this office regarding the effect of what is known as the yeast treatment for mares and cows failing to breed. A few favorable testimonials from those who have used it with apparent success have also been received, while, as was to be expected, as many or more unsuccessful experiences have been reported. The theory upon which treatment is based is that the usual cause of barrenness is bacteria of some sort, that give rise to an acrid condition of the secretions of the generative organs, which is destructive to the female ova and male spermatozoa. The yeast organisms when introduced into the vagina are supposed to invade every part of the female generative organs, destroy all bacterial life and incidentally neutralize the acid condition referred to. It has also been claimed by some that this treatment is effective in destroying the germs of contagious abortion, when used after abortion has taken place, thus serving as a preventive of recurrence of the disease, though we have no reliable evidence to that effect. The preparation for the treatment, which has been repeatedly published in these columns, is to stir to a paste with a little warm water one cake of compressed yeast and allow it to stand in a moderately warm room for twelve hours, at the end of which time stir in a pint of freshly-boiled lukewarm water, and allow to stand as before for another eight or twelve hours, when the mixture will be ready for use by being simply injected into the vagina by means of a large syringe, after first flushing the passage with warm water. Make this injection when the animal is first seen in season, and have her bred when the period of season is about over. In obstinate cases, first open the mouth of the womb with the forefinger, then inject the mixture into the vagina, not the womb. Repeat the treatment at each period of heat until the animal conceives. Prepare the mixture 24 hours ahead of the time the cow or mare is expected to come in heat.

With a view to securing evidence of the success of this treatment for the desired purpose, we have enquired of authorities who have used it, and we quote from their replies. Professor G. E. Day, of the Ontario Agricultural College, writes:

"We have used the treatment for several years, but have no definite proof of its merit. Following are some of the most notable cases:

"About four years ago, twelve cows in the dairy stable, which had given more or less trouble, were divided into three lots of four cows each. One lot was given the yeast treatment, and each of the other two lots was treated with a certain proprietary remedy. Of the four cows given the yeast treatment, three got in calf, but of the remaining eight cows, only one got in calf during treatment.

"In our other stable we have also used yeast. In one case a heifer was bred seventeen times, and operated upon several times for the purpose of "opening her up," without results. She was treated with yeast, and held to the eighteenth service, producing a healthy calf in due time.

"Another heifer was bred five times without getting in calf. At the sixth period of heat she was given the yeast treatment, but not bred. At the seventh period of heat she was treated again and bred, and held to this service.

"Three other heifers were treated with yeast several times, and failed to breed. One of these was slaughtered, and the post-mortem showed that the entrance to the uterus was completely closed. The other two were sold for export, so that no post-mortem examination was made.

"These results decidedly favor the yeast treatment, but we have no means of knowing what would have been the result had the yeast treatment not been used. The following three cases will illustrate this point:

"1. A Shorthorn heifer, bred seven times without result, held to the eighth service.

"2. An Angus heifer, bred seven times without result, held to the eighth service.

"3. A Hereford heifer, bred seven times without result, held to the eighth service.

"None of these heifers received any treatment whatever, yet they all held to the eighth service. If we had treated these heifers, the treatment would have got credit from most people. Further, many people would have given these heifers up as non-breeders before the eighth service was reached. These cases show how easy it is to draw erroneous conclusions. No doubt, failure to breed may be due to a number of different causes, and the effectiveness of a given remedy will depend upon its ability to overcome the conditions which prevent conception. It seems only reasonable to assume that no one remedy could be effective in all cases, and while the yeast treatment may be of use in certain cases, it is certainly not effective in all. So far as our experience goes, we do not know whether the yeast was of service or whether the cases where it appeared to be beneficial were merely coincidences, and I can see no way of settling the point."

J. H. Grisdale, Agriculturist, Central Experimental Farm, Ottawa, writes:

"We have tried the yeast treatment here on two different occasions. One time it was successful—that is, the cow held after the treatment—and in the other case it was not successful, so I am not prepared to say that it is a good treatment or not.

"It is, however, a very simple treatment, and one that would be worth trying by any farmer who found himself with a cow somewhat shy as a breeder."

Western Ranch Industry Languishing.

At the Western Live-stock Growers' annual meeting at Medicine Hat, on May 12th, the wane of the cattle industry of the West was the main topic of discussion, and various opinions were expressed as to what action the ranchers and stockmen should take. The following resolution was unanimously passed:

"That this association desires once again to place itself on record that it considers it absolutely necessary in order to safeguard what remains of the cattle-raising industry, that the tenure of grazing leases shall be made more permanent; that when a grazing lease is granted it shall not be liable to cancellation at the will of the Minister of the Interior. We would recommend that grazing leases shall be made for at least a period of ten years, and that when once granted they shall be permanent for the said period, existing leases to be brought under similar conditions."

Officers were elected for the year: President, Walter Huckvale, Medicine Hat; First Vice-President, George Lane, Pekisko; Second Vice-President, A. E. Cross, Calgary. Executive Committee: P. Burns and W. R. Hull, Calgary; Howell Harris and A. J. McLean, Lethbridge; H. Eckford and J. S. Brown, High River; J. Lineham, A. P. Bay and W. A. Taylor, Medicine Hat; E. H. Mansell, Macleod; H. M. Hatfield, Pincher Creek; A. B. McDonald and C. Pemberton, Willow Creek; A. J. Day and D. J. Wylie, Maple Creek.