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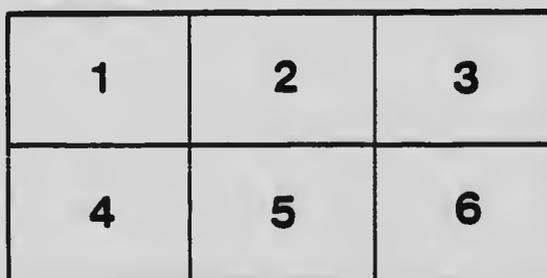
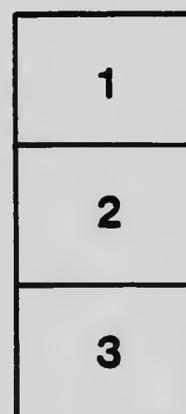
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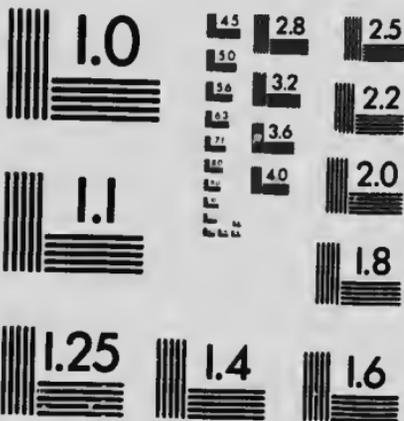
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# BULLETIN NO. 33

GOVERNMENT OF THE PROVINCE OF SASKATCHEWAN  
Statistics Branch, Department of Agriculture

Int. Agr. Inst.

JAN 26 1914

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## THE LIVE STOCK INDUSTRY IN SASKATCHEWAN

A Bulletin containing Extracts from Annual Reports and  
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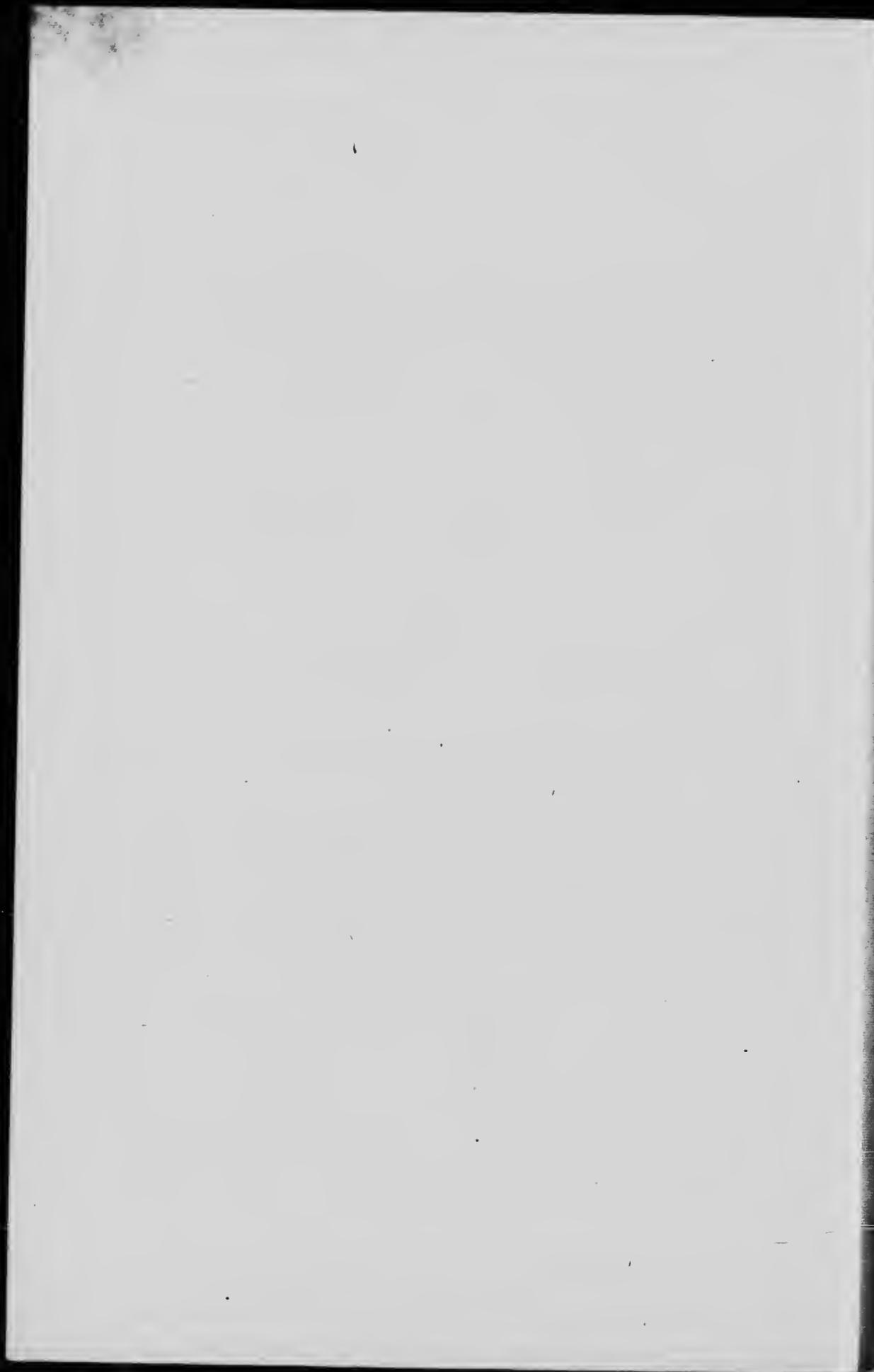
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MINISTER OF AGRICULTURE*



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1913



## LETTER OF TRANSMISSAL

HON. W. R. MOTHERWELL,  
*Minister of Agriculture.*

DEAR SIR,—

Many inquiries reach the Saskatchewan Department of Agriculture every week as to the status of the live stock industry in this province. These inquiries come from outsiders who are interested in the province, have read immigration and publicity literature concerning it, and are attracted to it, yet desire further information as to some of its resources and possibilities. They come also from new settlers who have taken up land, established themselves upon their farms, perhaps have been engaged in grain raising for a few years and now are thinking of broadening the basis of their agricultural operations by engaging in some branch of the live stock industry. To deal adequately with each of these inquiries individually is impossible. All that can be supplied to such inquirers, beyond the limits of a brief letter, are the annual reports and certain other publications of the department which contain articles or addresses dealing more or less directly with the subjects of the inquiries. Some of these publications are now almost out of print and in any case such a method of dealing with specific inquiries is not the most satisfactory.

Pending an opportunity for the Live Stock Branch of the department to prepare a thoroughly up-to-date treatment of the subject this bulletin, containing extracts from the publications in question and other data in the possession of the department, has been prepared by Mr. Thos. Cromie, of the Statistics Branch, for general distribution in response to the widespread demand, both within and without the province, for some such publication as evidenced by the inquiries above referred to. It is in no sense technical or educational. Such bulletins will in due course emanate from the College of Agriculture, Saskatoon. It is merely informative, and is principally a reprint of matter already published under your direction.

A companion bulletin, No. 34, to be entitled "Pioneer Problems," is in course of preparation by the same branch from the same or similar sources. These two publications together with such bulletins as:

- No. 15—Causes of Contamination and the Care and Preservation of Milk and Cream on the Farm;
  - No. 21—Methods of Soil Cultivation;
  - No. 24—Hints for Flax Growers;
  - No. 25—Fleshing Chickens for Market;
  - No. 30—The Grading of Cream;
  - No. 31—Farm Weeds and how to Control Them;
- will, it is hoped, serve to place the intending and the newly located settler alike in general touch at least with the magnificent possibilities of our province and the main lines along which they are being developed.

Department of Agriculture,  
Regina, January, 1913.

Respectfully submitted,

A. F. MANTLE,  
*Deputy Minister.*

## LIVE STOCK IN SASKATCHEWAN.

Table showing the increase in numbers of live stock from 1901 to 1912 inclusive:

Year	Horses	Milch Cows	Other Cattle	Sheep	Swine	Poultry
1901	83,461	56,440	160,613	73,079	27,753	
1906	240,566	112,618	360,236	121,290	123,916	
1908	343,863	179,722	565,315	144,370	426,579	3,411,052
1909	429,776	233,548	594,632	152,601	352,385	4,343,643
1910	552,574	224,745	527,305	164,855	329,046	4,626,118
1911	574,972	231,297	546,205	125,072	333,218	4,643,858
1912	592,220	258,235	562,590	128,198	324,880	4,750,954

## HORSE RAISING IN SASKATCHEWAN.

Few countries are better endowed by nature than is Saskatchewan for the production of good horses. One proof of this fact lies in the splendid qualities of strength, endurance and constitution displayed by the ranch reared horses that have had the maximum of exposure and hardship with the minimum of pampering—one might almost say of decent care. These horses are usually undersized of course; that condition is due to the privations they often have to endure while colts and yearlings, just as their frequently unreliable tempers and sometimes vicious dispositions are traceable to the slight contact they have ever had with man and the violent and even brutal nature of some of those experiences. But the wonder about the "western" horse is not that he has some defects, but that he has so many sterling qualities. When one considers what the western horse is, and the wholesale and haphazard kind of rearing he has had, one can imagine better the kind of horses Saskatchewan will raise when our farmers get right down to business and pay, as a general rule, as much attention to the details of raising horses as is now paid to those connected with the raising of wheat.

There is a jingle concerning the Briton's pride in his navy that runs:

"We've got the ships, we've got the men,  
And we've got the money too."

Why indeed should Britain not have a great navy? So with Saskatchewan, if we may be allowed to paraphrase:

"We've got the soils, we've got the feeds,  
And we've got the climate too."

So why shouldn't Saskatchewan make as good a name for itself raising horses notable for constitution, quality and dense flinty bone as has been won already by the raising of hard, high grade red wheat?

If "well begun is half done" is true, then the man who has decided what breed of horses he will raise and has secured suitable foundation stock of that breed is well on the road to the enjoyment of some of the pleasures and profits of horse raising. The third step is to mate the mares comprising the stock with as good a stallion of the breed as can be met with or heard of. The fourth step is to feed and care for the mare well after service and up to foaling time as well as while the foal is nursing; this is a point often overlooked by good horsemen who observe all the others, yet it is one that largely governs the size, temperament and constitution of the colt. The fifth step comprises the care, feed, management and training of the colt, while the sixth is that point where farmers so often fall down, namely, in the marketing of our product.

For the purposes of this article we shall assume that the farmer who is now devoting, or who intends giving, some attention to horse raising as a branch of his farm work will confine his attention to heavy horses. It takes more capital and perhaps more special training and care to handle the breeding of light horses satisfactory. We must keep a number of fairly heavy horses for the working of our farms and we usually breed what mares we have to such horses as may be available in any case. Thus the material for a start in horse breeding is all ready to our hand and all that is required at the outset is that we decide upon what breed we will build up along the lines of and then see that, if our present mares are not similar in type and do not approximate to the standards of the breed determined upon, we sell or trade until we have a group of mares that will be likely when bred to the same horse to throw stock having similar general characteristics. If we only start with two mares let us have uniformity; uniformity of excellence if possible, but uniformity. The whole work of improvement and grading up is then simplified, for it can be done by the use of one stallion.

Perhaps an illustration will make this point clearer. The man who does not realise the necessity for uniformity requires two fairly good mares; neither is perfect, of course, and consequently each has some weak points. The one is a trifle over refined, lacks in substance and tone, but has a splendid set of hocks, pasterns and feet. The other is a strong middled, short coupled, deep chested mare but a trifle coarse at the ground and meaty around the hocks. The owner recognises that his mares are not perfect and desires to effect an improvement in the colts. What kind of a stallion shall he seek for? In no case can he hope to find an animal strong in all or even half the points where one or other of the two mares are lacking. He can hardly avoid over-emphasizing the good qualities of the one while counteracting the weaknesses of the other. To insure both mares throwing stock better than themselves he would have to find and use two stallions. If he does not do so the results of his breeding operations are likely to be disappointing and discouraging.

On the other hand the man with two mares, both of which incline to fineness, light tone and quality at the expense of substance has a simpler task. Having found a stallion of similar general type but with substance, masculinity, scale and good tone the breeder could rest reasonably satisfied that his crop of colts would be an improvement upon their mothers. As time went on more and more uniformity would be evident in this man's stud, while the other man, unless he selected a stallion for each individual animal, would soon not know where he was at.

The point has but to be stated in this way to make its truth and importance clear. Moreover, it should be remembered by the man who is breeding to sell that a matched team of three year olds will bring much more money than will two unmated individuals of the same excellence. The buyer is saved the time, expense and uncertainty of looking for a mate for his purchase. Matched teams cannot be raised from dissimilar dams; so be sure your breeding mares are of similar type and conformation before entering upon the horse raising industry with a serious purpose in view.

The question of what breed to work with and towards is an important one that must be settled right at the beginning. In this respect the amateur breeder and raiser of horses for market purposes is fortunately placed these days, for in this country he can choose any of three or even four heavy draught breeds and make no mistake. In the order of their present popularity in the West the heavy draught breeds are: Clydesdales, Percherons, Belgians and Shires. We also have some good representatives of the Suffolk Punch breed in this country. The popularity of Clydesdales is due to the presence of so many Ontario people and Scotchmen in the West. Scotland is the home of the breed and the great source of supplies and just to the extent that Ontario was settled with Scotch was the breed introduced there.

We should not like to say that Clydesdales are losing favour in the West, any more than that we are less Canadian than we were ten years ago, but the steadily increasing favour in which Percherons are held must be explained. We believe that there are two causes for it. One is that the Percherons preponderate over other draught breeds in the United States, and it is but natural that our settlers from that country should bring their love for that breed and horses of that breed with them. The other is that for a time at least, if not today, size and substance were sacrificed to quality by many Clydesdale breeders. Action, feet and pasterns were emphasised and scale and weight lost sight of. During this same period the Percheron breeders were busy remedying the defects in the horses of their breed and with every passing year better and better representatives of the breed—particularly as to action, hocks, pasterns and feet—were arriving in the West. The natural result was that the breed steadily gained in favour with others than the settlers from the south, until today it is firmly entrenched in the public regard and is receiving more and more recognition in the prize lists of our big fairs.

In addition to the two breeds named we have the Shires and Belgians with a fair representation scattered throughout the country. The Belgians are popular in many of the districts largely settled with German Americans and are another importation from the south, while the Shire is the popular draught horse of England.

It matters but little which of these four breeds a man elects to work with. The important thing is that he selects but one and that the one he likes best. There is a brisk demand for good representatives of any or all of them. On the market the individual animal is considered more than the breed he belongs to; but good individuals can only be produced with any degree of certainty when the breeder confines himself to one breed. The relative popularity of the four breeds in question in Western Canada at the present time may be stated thus: Of, say 25 stallions, 17 will be Clydesdales, 6 will be Percherons, 1 a Belgian and 1 a Shire.

A study of prices at the leading horse markets on this continent will reveal the fact that the prices paid for heavy horses bear a direct ratio to the weight of the animals. This does not mean that quality and other points are not factors in determining the price paid for any individual horse but that, other things being equal, weight is the ruling factor in making the price for a draught horse. How can weight be obtained if it is so essential to securing high prices? Parentage and feeding are the determining factors. A big mare mated to a big horse is more likely to throw big growthy stock than are a small mare and big horse or a big mare and a small horse. This rule, like every other rule of breeding, does not always apply, but it is a safe one to work by in seeking weight. But feeding—both of the mare before and after the colt comes and of the colt during the first year of its life in particular—is at least as powerful a factor as is heredity in the making of heavy horses. The maximum weight of a draught horse in the judgment of many breeders is determined by the time the colt is one year old. No amount of feed and care after that age is past will greatly affect the size and ultimate weight of a horse that has been neglected prior to that time. Therefore the careful breeder who is after results and the big money feeds his pregnant mares and sucking colts as carefully and generously as any other stock on the farm.

A few of the salient points connected with the horse raising industry as it now exists and as it might exist in Saskatchewan have been touched upon in a fragmentary way. The subject both in its study and its actualities is a fascinating one, for is not the horse—next perhaps to some dogs—the most intelligent animal that man has been given dominion over? The possibilities of the industry are enormous, despite automobiles and gas tractors, and the demand for good draught horses is further from being supplied than it ever was. Cities, railway and lumber camps and the newer farming districts alike call for horses and will pay more than profitable prices for even such inferior animals of nondescript breeding as are too often offered. Can anyone doubt but that an interesting, promising, profitable and important branch of farming is being sadly neglected or inadequately developed by most of our farmers?

There are some 780,000 horses in the three prairie provinces or about  $4\frac{1}{2}$  to each farm. In Ontario the number of horses per farm is at least as great so far as can be determined, while the farms will not average more than half the acreage of those of the West. This largely explains why we annually import thousands of work horses from Eastern Canada. It is not the presence in Ontario of a number of large importing, breeding and exporting firms of horse dealers that makes that province the base of supplies for Western Canada in horse flesh, but the fact that every farmer is a breeder on a small scale. In the same way the presence of a few big horse ranches in southern Alberta and southwestern Saskatchewan will not make the West a horse raising country or avert the ever growing scarcity of horses.

These things can only be done when the general run of farmers see fit to keep a small stud of brood mares, mate them carefully to selected stallions, feed them well during pregnancy and care for the colts after they come. We are slowly but surely moving in that direction. The trouble is not that we are not travelling on the right road, but that our horses do not increase in number as fast as our wheat acres. Were it not for the ranches, old Ontario and the corn belt states, the West—a country of farmers—would experience the horseless age in very truth; not in spite of the efforts of breeders, but because of the apathy in the past of farmers towards horse breeding.

#### INQUIRY INTO THE HORSE BREEDING INDUSTRY.

Some time ago the department conducted a careful inquiry into the horse raising industry in Saskatchewan. Following is a summary of the information elicited from breeders and horse raisers:

Among those replying to the circular of inquiry to horse breeders there were but few dissentients to the opinion that the horse raising industry is in a very prosperous condition in Saskatchewan at the present time from the standpoint of those engaged in it. Those differing from this opinion were chiefly the ranchers in the south-west portion of the province whose range is being taken up by farmers, and those farmers who had been so unfortunate as to lose their horses from swamp fever during the past year. It was generally agreed that the demand for horses is good, prices are satisfactory and the quality of horses being produced is improving all the time.

When asked for suggestions as to how the industry might be improved in the province many discussed the stallion question. It was evident that there is a strong feeling in support of a more drastic treatment of the scrub, cross bred and grade stallion. Some heroic measures were proposed. One farmer suggested an annual license fee of \$500 for such, only to be outdone by another whose verdict was: "Shoot the scrub and imprison the owner." The castration of all scrubs found standing or travelling for public service was frequently recommended, as also was the revocation of license to scrub stallions.

The gold brick stallion syndicated to a number of farmers who are untrained in judging and inexperienced in horse dealing also came in for much criticism, and even now this appears to be a very real

disadvantage under which the industry is labouring in many districts. It was often suggested that the governments should take some part in the business of introducing good stallions, either by buying outright and placing the horses with reliable men; by bonusing the industry; or by offering substantial premiums for the best imported and the best homebred horses. Many farmers evidently realise that much of this work is being done, and that as the country develops knowledge of stock becomes more general, and the resources of communities become larger, this phase of the question will gradually disappear.

Appreciation of the existing licensing system and a desire for its stricter enforcement is very evident in the replies. High license fees for inferior animals are warmly advocated. The issuing of a description of the stallion from a breeder's standpoint at the time of licensing is also freely spoken of in order that the man who is not an expert judge of stock may know just what are the outstanding characteristics—both favourable and unfavourable—of the horse he is intending to use. The absolute refusal of license to any horse that is not sound—whether he is pure bred or not—finds many warm supporters.

It is pleasant to be able to state that since the above paragraphs were first written the old Enrolment Act has been superseded by a new and better one, which also makes provision for the examination and subsequent licensing, if passed, of all of the pure bred stallions in a given municipality upon petition of the council or of a majority of the resident ratepayers of such municipality. A bulletin dealing with this subject is in course of preparation and it and The Horse Breeders' Act may be had free upon application to the Live Stock Branch of the department.

In its more commercial aspects the disadvantages under which the industry labours, in some places at least, are also three in number. Swamp fever is the worst of these and appears to take a heavy annual toll of the horses of the province. The worst feature of this trouble is that the loss is usually very heavy upon a few farmers, while the great majority are untouched by it. The difficulty in getting paid for the horses that are sold, often at satisfactory prices, is mentioned, especially by men living in the newer districts. The third disadvantage named is the lack of a market when there are a number of horses to sell. To remedy this it is suggested by a number of those reporting that, in such districts, the local agricultural society might organise a horse fair or auction sale. If well advertised it is thought that it would prove an excellent means for bringing buyer and seller together and might also be used as a means for introducing a few good stallions if such were needed in the district. This possible source of activity is well worth the attention of some of our more progressive societies.

In view of the fact that no part of this continent is so well suited, climatically, to the building up of the horse raising industry it is gratifying to learn that the present status of the industry in the province is so satisfactory. Visiting horsemen frequently make reference to the high quality of bone found in the draught horses bred in Western Canada, as well as upon their strength of constitution and hardiness. Our feeds—both grains and roughage—seem pre-eminently suited to

the requirements of the horse, being full of nourishment, yet not too sappy on the one hand or too heating and fattening on the other. The rapid growth of settlement and the increase in the acreage under crop creates a strong market for the nondescript types of agricultural horses, while the demands of our growing towns and of the lumber and railroad camps are for a more pronounced draught type. There is also a good local demand in all districts for light horses having quality, constitution and a fair degree of speed.

Approximately 2,000 pure bred and 1,800 grade stallions were enrolled in Saskatchewan under the provisions of the old Horse Breeders' Act, which was repealed on July 31, 1912. Under the new Act enrolment will be annual, which will enable the department to know just what number of stallions are in the province each year, their breeding, location and ownership.

#### THE NEEDS OF THE HORSE BREEDING INDUSTRY.

*(Extract from an Annual Report.)*

Address delivered by Duncan Anderson, Orillia, Ont., at several farmers' institute meetings in Saskatchewan.

"There is no more attractive and fascinating line of animal husbandry on the farm than that of breeding and raising horses of a kind and type suitable in their early years for farm work. When matured and fitted for market they are one of the most profitable lines of farm production, more especially so in view of the high prices that prevail now and are likely to for some years at least. The opening years of the twentieth century in Canada will show an era of agricultural, railway and general development. With a steady stream of immigration pouring into our unbroken prairie lands there is now and will continue to be an excellent market for our large, strong, good quality, commercial geldings. It may be in Great Britain,—in seaport towns and shipping points,—where wheeled vehicles run for twelve months in the year,—that the traction auto is likely to supersede the draft horse; but as long as it is fashionable for the large milling and brewing firms to vie with one another as to who can have the best turnout, using the heaviest good quality horses that money can buy, keeping them well groomed and in high condition, loaded with harness, glittering with silver and brass mountings, acting as an attractive, ornamental advertisement for some special brand of flour or beer, there will always be a high price and brisk demand for horses of this kind. But at present the extraordinary home demand for horses prevents dealers from cultivating the export trade.

#### THE KIND TO BREED.

Farmers can make no mistake in breeding the right kind of horses. The best of them would be suitable for city dray work; the second grade would find a place in railway construction or lumber camps. The undersized of draft type are particularly well fitted for farm work with our heavy agricultural implements and machines of wide scope and heavier draft requiring stouter build, more compact, weightier

horses to handle them. It is a very serious mistake to breed a class of light, or driving horses, unless the breeder has in mind firmly fixed ideals. Too many of the stallions from which harness horses are bred are of a very poor quality, possessing neither speed, stamina or style. Many are but low grade hacks that should never have been used for breeding purposes, the reproduction of which has, in some parts of Canada, left large numbers of very inferior horses. They are not strong enough for farm work, and, were it not for the extraordinary present demand for horse flesh of every kind, they would be unsaleable, food-consuming horse stock. But when anyone has the skill and capital to breed, raise and train good quality road horses, it proves in capable hands a very lucrative line of horse production. Few men have the ability and inherent knowledge of the laws of breeding and the skill in mating to produce the highest class of road or carriage horses. But the farmer is on a safe line when he stays tenaciously with the draft horses.

In selecting a stallion he should be sound and free from blemish. We can successfully grade up our stock only by keeping to the one breed. The greatest drawback to live stock improvement in every line is the mixing of breeds. A steady, fixed course of grading up, firmly and persistently adhered to, is the only way to get satisfactory and profitable results.

I would prefer to use a compact, well built sire, rather than one that is too heavy. The mare should be large, somewhat loosely built, of open conformation, with well formed limbs. A close, firm built mare is too often a shy, uncertain breeder.

The stallions of my knowledge that have left good stock have had heads that would be called undersized, but the face lines were clean cut, the eyes bold and very prominent, the ears a trifle short but carried well, and their movement very active; such have nearly always proved impressive sires. It is seldom we find the neck too long. It should be clean cut at the junction with the head, but blending snugly into a sloping shoulder. This shape of shoulder gives a short back. A close coupled loin to a short back gives strength in the upper line, but to get a long free stride there must be strength from the shoulder point to back of thigh. The hind quarters and lower thigh, both inside and out, should be well muscled. In my experience the horse that has a strong, heavy sinew running down the inside of the thigh, ending before it comes quite down to the hock, makes the most powerful kind of a horse.

The front feet and hocks are the two points in a draft horse that come directly in contact with hard work. I think there is no single point in the horse that has more work to perform and is more subject and liable to disease than the hocks. See that they are wide, clean and strong. A stallion with short, thick, coarse, boggy hocks should be avoided. The leg bones should be flat, cordy and strong, shaped like a razor blade, with the thick part forward. Fore and hind pasterns should have a good slope. Feet should be sound and well shaped.

A good length of rib, well sprung from the back is essential. Too many of our draft stallions have long light middle ribs and short hind ribs, giving a tucked up flank. A horse with that conformation can neither stand feed nor work.

The feet should be large and waxy in appearance, the frog plump and elastic. Sound, open heeled feet that are neither flat, brittle, nor contracted are the important points, along with sound, clean hocks. They should be inherent characteristics in both sire and dam. These points are especially imperative where the highest class of draft horses are being raised for city work.

The present day show ring demands a straight, regular, true action with a free uniform flexing of hock and knee. Judges are almost as critical about the show action of a draft horse as they are in the hackney classes. Sometimes, I think, we are too apt to overlook the cardinal functions of a draft horse,—the power to draw heavy loads. A good horse must have a well balanced even temper, so that under all conditions, on the steep hill, in deep snow in either hard or soft footing, he will willingly put his shoulder to the collar and draw as true as steel. A medium sized head, with clean cut face lines, broad forehead, and prominent, mild eyes are sure indications of an intelligent, teachable disposition. But a coarse, big head, with a sunken, dull, small eye, is nearly always associated with a sluggish, obtuse disposition that you can neither teach nor trust, and often when the load gets into a bad spot, will either see-saw back and forth on the doubletree, or throw his head over the shoulder top of his working mate. The stallion that has a bold, clear, mild eye should be chosen to find the desirable disposition in the offspring.

The pregnant mare, during the winter months, should be kept at light work right up to the time of foaling; in fact the best success is often obtained by keeping the mare at field work until the day of foaling. She should not be overworked. Avoid travelling her over very soft land. She will be apt to become leg-weary. I like to have her in the plough furrow where she is always sure of firm, solid footing. One of the principal causes of mares aborting their foals is a too free access to the water trough in the winter. A sudden chilling of the whole system with a gorse of ice cold water is often the chief cause of abortion. She should be watered twice a day, not over one and a half pails at a time, and then she should drink slowly. Nor should she be fed much boiled feed. Soft, mushy food has a tendency to force an overfat growth in foetus (embryo foal) that, when dropped, will lack spirit and vitality, and for the first few weeks will require very careful coddling, but too often will pine, languish and die. Ideal winter conditions for a pregnant mare are to have her in harness almost every day at slow work. Feed her good hay at noon, clean oat straw, all she will eat, and a gallon of crushed oats twice a day, with a little dry bran added. Nor should very many roots be fed, a few twice a week will be sufficient. When roots are generously fed they have the same tendency on the foal as soft boiled feed. After foaling a mare should have at least two months' rest. After that she will do a reasonable amount of farm work as long as she is not overheated. Never allow the foal to run with the mare while at work. It should be kept in a roomy box-stall, and it will soon learn to eat and give less trouble at weaning time.

The first winter is the important time in the colt's life. If neglected then by want of food or exposure or too close confinement, the loss can never be regained. The aim should be to keep the colt in

good, growing condition from liberal feeding and plenty of exercise. Three quarts of crushed oats per day, a feed of boiled barley mixed when hot with bran four times a week, and all the good hay it will eat; and unless very stormy it should have at least three hours a day exercise in a yard or paddock. The surest way to ruin a colt is to keep it in a close box or stall all winter. Exercise is all important, as it grows bone and hardens the muscle. I would like to emphasise this,—that the most successful horse breeders always feed their colts well and give them plenty of exercise, especially during the first winter. Examine the colt's feet, keep the toes from growing long by rasping the hoof into shape. This should be attended before putting the colt on to pasture; if it is neglected the hoofs will break up. Many a horse goes through life with poor feet because they were not properly attended to when young. The same amount of hay and grain feed will do the second and third winters as the first, only more straw and roots. I have found Swede turnips an excellent succulent food for growing colts. A couple or three turnips a day will keep them in condition.

Some care should be used the first few days when the colt is put to work. It is best to break him in in the cool fall months, when the colt is rising three years old, by putting him to plough with a steady mate, placing the colt in the furrow, giving the young horse some advantage on the double tree, and working half a day at a time. Pay close attention to his shoulders, when resting remove the collar from the shoulder to allow it to cool, if this is not done there will be scalded shoulders. When once the skin on the collar seat gets broken, it is sometimes very difficult to get it healed.

#### MARKET CONDITIONS.

It does not pay to sell a lean horse any more than it does to sell a steer that is low in flesh. To get anything like a horse's value he should be in at least good if not high condition. Good hay, crushed oats, faithful grooming, combined with liberal exercise will bring a horse to best condition. Feed oats four times a day; smaller feeds give better results in fattening a horse than too much grain fed at a time. Oats and barley with a little flax seed boiled and dried up with bran fed four or five nights in the week in addition to the above treatment will soon put a horse in fine market condition. With liberal feeding a gain of 100 pounds a month is quite common. When horses are in good condition it adds at least twenty-five if not thirty per cent. to their value.

To summarise, the needs of the horse breeding industry of your province are: More discrimination in breeding, staying tenaciously with a breed, using more judgment in mating, paying liberal service fees for the use of good quality stallions, and feeding the colts well, especially the first winter. All stallions should be examined once a year by a competent veterinary surgeon and unless they are sound should not be allowed to stand for service.

#### QUESTIONS AND ANSWERS.

Question.—Do you think it pays to raise horses on a grain farm, have we not to lose the mare's work for a whole season when she is raising a foal?

Answer.—If a mare gets from a month to six weeks' rest after foaling she will if carefully and humanely driven, do considerable work. She should not be put to steady, constant, severe, heavy work, nor overheated; but if kindly handled she will help get through with the late summer and fall work and at the same time raise a good foal. The colt should not be allowed to follow the mare at work; it will get leg-weary and fagged out; better to shut it up during the time the mare is in harness, teaching it to eat a mixture of whole oats and bran as soon as possible. When this is done, there will not be much trouble at weaning time.

Question.—We have some trouble getting our mares in foal.

Answer.—In grain growing districts where mares are at hard, constant, steady work all summer they have to be heavily fed on grain, getting little or no succulent food. I have known cases of this kind to be remedied by feeding some carrots or turnips to the mares the winter and spring previous to being bred. A few roots fed four times a week helps to purify the blood and keep the mares in good condition. A half acre of roots grown on a grain farm would keep the horse stock in a more healthy condition and insure a larger percentage of mares getting in foal.

Question.—Do young horses do best tanning out in winter?

Answer.—Vigorous, strong, lusty yearlings and two or three year olds will be able to thrive, especially in a mild open winter like this; but foals for their first winter should be weaned, halter tied and handled, stabled at night and grain fed twice a day, but give them a run of the yard every day unless it is very stormy.

Question.—How much grain should be fed to a weaned foal?

Answer.—A draft foal should get three quarts of oats mixed with bran for a day's ration with all the good hay it will eat, water regularly, and plenty of exercise. This will get growth and develop muscle and bone. The first winter is the most important period in a horse's life.

Question.—What do you mean by grading up?

Answer.—It is to continually keep using sires of the same breed. I have known of several farmers whose financial circumstances forced them to start with undersized, inferior, common kind of mares but who stayed tenaciously with a breed and in less than fourteen years their horse stock was of such a high grade that you could not distinguish them from pure breds. Let me give you a case in point. At the Salt-coats stock judging school last winter a farmer brought in a young grade Clyde mare of excellent type and conformation, weighing about 1,450 pounds. Her grand dam was an Indian pony not over 800 pounds in weight. The owner had used good judgment in mating, combined with liberal feeding, with the result that in less than ten years he had nearly doubled the weight of his horse and added at least \$150 to its value. He was still continuing the good work by having the young mare in foal to a good quality Clyde stallion. It may be that some of the farmers prefer other draft breeds; if so, stay with them but do not mix the breeds. The points that keep back and retard the development of the heavy horse industry are: The mixing of breeds and using poor quality sires and not feeding liberally enough when young, especially the first winter.

## THE CATTLE INDUSTRY.

*(Reprinted from the Annual Report of 1909.)*

A schedule of questions was widely circulated and replied to by many breeders, ranchers and others engaged in this industry. There was wide discrepancy in the replies received, many appearing to think that the industry was expiring, while more were confident that it is steadily gaining ground in the affections of Saskatchewan farmers.

The ranchers complained bitterly of the encroachments of the homesteaders, the resulting introduction of herd law and the curtailment of range and water privileges. Many of them assert that a well established and long tried industry is being destroyed for the sake of a precarious one—as they consider farming in the semi-arid southwestern portion of the province to be. They appear to consider their industry doomed and statistics justify their contention.

From other portions of the province, however, come more hopeful words and many men report themselves as well satisfied with the present status and future prospects of the industry. Others complain in no uncertain manner of the lack of competition when the time for selling comes and name a number of discouraging features. A general difficulty in securing good breeding stock is expressed and the suggestion is freely made that good bulls should be introduced into districts through the medium of the agricultural society and, further, that the use of scrub sires should be entirely prohibited. Delays in transportation, insufficient yard room and discriminatory methods encountered when a farmer takes a load of cattle to the Winnipeg market are other unsatisfactory features noted.

The herd law comes in for severe criticism at the hands of many stockmen who contend that it has greatly retarded the industry in their district. They further assert that it is calculated to encourage poor farming by sacrificing the cattle industry of a district in order to save bachelors and others who do not keep cattle from the expense of fencing grain fields which would be better fenced in any event.

Another retarding influence frequently alluded to is the high cost of building materials. There is need for wider knowledge of the fact, noted by some others reporting, that expensive buildings are not required for the winter feeding of three year old steers and dry cows. Adequate stabling must be provided for young stock and milch cows, but shelter and plenty of straw are sufficient protection for the steers.

Many farmers refer to the urgent need for the establishment of a chilled meat trade with Great Britain as the remedy for the monopolistic conditions alleged to prevail in the live stock trade, while others press for the removal of the embargo on Canadian cattle. The good work and possibilities of the fairs in educating farmers in the value of good sires and enabling them to locate such stock are often alluded to. The extension of the educational work of farmers' institutes from the towns to the country districts to a greater extent is also urged by many.

A gratifying feature is noted in the growth in a number of districts of the practice of winter feeding for the spring markets. Usually an advance in price of from 1½ to 2 cents is secured, heavier animals are sold and less shrinkage is encountered than when beasts are sold on a glutted fall market right off bare pastures.

From the northern districts especially comes the note of the value of cattle as a supplementary or alternate source of revenue, particularly when frost strikes the grain crops in August. From the south-east, again, the tribute paid to the cattle is to their value in keeping summer-fallows clean and in packing them, thus conserving their moisture. Here the value of some subdividing fences is made evident and the cattle quickly pay for these—not so much by the price they sell for as by the material increase in yield per acre they make possible.

Progress is being made in the development of this industry. Not only are the cattle increasing in numbers, as the statistics indicate, but there is greater interest in the improving of their quality than ever before.

The chief disadvantage under which the cattle industry is labouring at the present time, as in the Western States to the south, is not herd laws and unsatisfactory markets—real as these are. The highly profitable and less engrossing branch of farming represented by the growing of grain crops is dazzling the eyes of many Saskatchewan farmers to the permanent and solid advantages afforded by the companion industries of cattle raising and dairying.

The past years have been favourable ones to the stockmen. Pastures have been abundant and the weather excellent. Prices have been almost uniformly good. There has been a marked absence of all kinds of disease and sickness from the milk cows and other cattle of the province of recent years. Even the dread tuberculosis tends to decrease in its ravages under the influence of our healthful climate when modern barns with provision for light and ventilation supersede log stables.

Persons interested in the possibilities of the cattle industry in Saskatchewan should also address the Department of Agriculture, Ottawa, for a copy of "The Cattle Trade of Western Canada," a special report prepared some time ago by the then Live Stock Commissioner, Dr. J. G. Rutherford.

## DAIRYING.

Persons interested in dairying in Saskatchewan, the possibilities of the industry and the steps that have been taken to foster it through government operation of the creameries and otherwise, should address a request to the Dairy Branch, Department of Agriculture, Regina, for bulletins 22, 25, 30 and the annual report of the Dairy Commissioner for 1911.

Interest in dairying is constantly increasing because of the changed conditions arising out of the growth and development throughout the province. Many new settlers are coming from dairy sections in other provinces and states and these naturally favour mixed farming. Localities adapted to dairying are being opened up and provided with railway facilities and the demand for good butter is increasing, while the price remains firm and satisfactory. Within the province there is a splendid market for butter during the winter months, especially if it is freshly made. In recent years the supply has not been sufficient to meet the demand.

The present activity in co-operative dairying presents a marked contrast to that of seven years ago, when the dairy branch of the Provincial Department of Agriculture was inaugurated. The industry was then in its infancy and the year's make of creamery butter was less than 100,000 pounds. During the year 1912 over 730,000 pounds were made and the creamery patrons increased in number during the interval from 400 to 1,700. This progress represents the increase of patrons at existing creameries rather than any marked expansion in the number of new creameries. Most of the creameries are under the direct supervision of the Department of Agriculture, Regina, and the Minister of Agriculture, through the Superintendent of Dairying supervises all business transactions with the exception of arranging for cream delivery. This particular part of the work receives the attention of the local board of directors. Butter sales are effected by the department and the advances on cream are made direct to the patrons twice each month. These advances are based on the wholesale price of butter at the time of payment and are forwarded regularly even if the butter is not sold. They constitute an advance payment only and at the end of the summer and winter seasons, which terminate on November 1 and May 1, respectively, the season's business is closed, and after deducting the actual manufacturing cost the balance, if any, is forwarded to the patrons. The average price realised for butter during the season of 1912 was about 30 cents per pound.

The statutes relating to dairying enable the department to regulate to quite a marked extent the various phases of organisation. Efforts are being made to establish the industry on a permanent basis and to assist in so doing legislation has been passed providing for a government loan of not more than \$2,000 to any creamery company complying with certain regulations. The loan is repayable in from two to six years and the rate of interest charged is 3 per cent. The legislation is chiefly beneficial in that its liberal terms induce prospective com-

panies to seek advice and assistance from the government. In this way the department has been able to prevent a great deal of unhealthy expansion and development in creamery operations by carefully investigating all conditions and pointing out how premature organization might retard rather than extend the usefulness of a creamery. Among other things the Act requires all companies to submit their plans and specifications to the department for approval. The location and site are also subject to the same conditions. When at all possible centralisation of creamery work is advocated and encouraged. This appears to be the solution of successful creamery work under our present conditions. It has a tendency to reduce the manufacturing cost and correspondingly increase the net returns to the farmers. It has the additional effect of minimising the expenditure on capital account and having a large make of butter under the direct supervision of a competent manager, thus making uniformity in quality less difficult. The various forms of assistance which the government is extending are duly appreciated by the farmers throughout the province, and there is every reason to believe that a live and enthusiastic interest is being developed with respect to this branch of farming. For an intelligent dairyman who will conduct his work according to modern methods Saskatchewan affords opportunities almost unsurpassed.

## INQUIRY INTO THE HOG RAISING INDUSTRY.

*(Reprinted from the Annual Report of 1910.)*

During the month of April, 1910, the Department of Agriculture conducted by mail an inquiry into the hog raising industry in Saskatchewan. Several hundreds of the men whom the statistical records of the department showed to have been keeping upwards of twenty hogs the previous summer were written to and a large number of replies were received. The objects of the inquiry are set forth in the six questions asked. They will be discussed separately and a summary given of the replies received to each.

QUESTION No. 1.—“Is the tendency of the farmers of your district to go into hog raising or to go out of it?” Out of every twenty farmers replying to the circular between seven and eight thought there was a tendency upon the part of their neighbors to go into hog raising; ten—or half the number—were equally confident that in their district farmers were inclined to go out of the business, while three out of every twenty thought there was no change in the local situation in this respect. One man phrased his reply: “The tendency around here is to stay out.” If the number of districts where the industry is normal, therefore, is added to that of districts inclined to further restrict production, the conclusion arrived at will be that in only one district out of every three in the province as a whole is there any marked tendency to increase the number of hogs kept upon the farms. As all the men addressed were themselves keeping a fairly large number of hogs, it may reasonably be inferred that they were quite in touch with the local situation and competent to speak with reference to it.

In summing up the tendency in this matter throughout the province, as reflected in these reports, there is small ground for the belief that any marked additional interest is being taken at the present time by the farmers of Saskatchewan as a body in the possibilities of hog raising.

QUESTION No. 2.—“Have the farmers of your district any confidence that prices for hogs will remain for a year or more as high or nearly as high as they are at present?” Out of every ten farmers answering this question six thought the feeling in their district was that prices would remain satisfactory and profitable for at least one year; three thought the feeling was that they would not; while one had no opinion to offer on the question. Evidently, then, it is not fear of a slump in prices alone that is keeping men from raising more hogs, for about half the men stating that fewer hogs were being kept in their districts also state that they and their neighbours have confidence in the outlook for good prices.

QUESTION No. 3.—“Have an undue number of old brood sows been sold from your district since prices reached their present level?” Many of the answers to this question were not very definite. In many of the districts so few hogs of any kind are kept that if an “undue” number of sows were disposed of there would be absolutely none left.

In such districts the number of sows kept is an average of one per farm. About three out of every five reporting thought that no undue or unusual number of old sows had been disposed of. On the other hand two out of five thought that the number of sows had been much reduced. Several hinted at "a clean sweep" and "everything in sight sold." No great dependence could be placed upon any conclusions that might be drawn from the answers received to this question.

QUESTION No. 4.—"Are you or your neighbours withholding many young sows from market with the idea of making brood sows of them?" It would naturally be expected that there would be substantial agreement and harmony between the answers to this question and those to question No. 1, and such was actually the case. If it was properly understood and answered carefully the answers received to this question should give a fair indication as to the prospects before the industry in the immediate future. Looked at in this way it must be admitted there is no ground for supposing that there will be any marked increase in hog production in Saskatchewan within a year. Fully two-thirds of those replying were of the opinion that in their district no more young sows than usual were being withheld from market. Many stated that such were almost impossible to get.

QUESTION No. 5.—"Are any boars that are not pure bred used by yourself or in your district?" There was more agreement in the replies received to this question than in those received to any of the four preceding it. Practically all those replying were agreed that the pure bred boar is greatly in the minority. In some districts there are none but grade and scrub boars; in a few there are none but pure bred. But in the great majority of districts there are one or two pure bred and a number of grades or scrubs. Nearly all the farmers heard from (it must be remembered that these are the leading hog raisers of their respective districts) either keep and use or obtain the use of a pure bred boar, but they admit that they are exceptions to the general rule—which rule appears to be that any boar is good enough.

QUESTION No. 6.—"Is anything being done by yourself or neighbours to provide a summer pasture or supply of cheap succulent feed for your hogs? We refer to feed such as rape, clover, alfalfa, fall rye, or pease and oats." The replies received to this question form the most gratifying feature of the whole inquiry. From them it is evident that many men are awake to the advantages to be secured from the providing of a summer pasture for their hogs. Almost without exception the men reporting stated that they are doing something along this line. Some claim that the practice is comparatively general throughout their district; others assert that it has not been common in the past but that many are intending to take the matter up this season. There can be no doubt but that the heaven is at work in this matter and that the day is rapidly passing when the farmers of this province will attempt to keep hogs in any number during the summer months without making some adequate provision for a summer pasture or other supply of cheap, succulent feed for them. It will only require a demonstration for a few years upon the part of a few of the leading hog raisers in each district, of the reduction in work required and the increase in profits

which follow such a system to cause it to be more generally adopted. Rape appears to be most commonly grown. More than half of those replying reported it as among their crops. Many had wild native pastures fenced in and fed their hogs each day rape and roots. Many others had a pasture of mixed grains, such as oats and barley. Still others are trying alfalfa in this connection. Brome grass, too, has its advocates as a hog pasture. A few extracts from the replies received to this question will be of interest as indicating the wide variety (for a new country) of methods that are being tried for the production of cheap and succulent feed for hogs in the summer time:

*Weyburn*—Rape is grown more or less every year in the district; also some alfalfa. I am seeding two separate pastures this spring—one to alfalfa and one to brome grass. *Regina*—I have 12 acres of brome grass and timothy and have had ever since I came here. No man can raise hogs successfully without pasture. *Glen Adelaide*—I have three acres fenced off for hog pasture which I seed down to green barley, rape and peas. It is the only pasture to my knowledge in Glen Adelaide. *Garnock*—To a certain extent special pasture is being provided for pigs. Chiefly mixed grains, green oats and barley. I have a patch of alfalfa successfully grown without inoculation of seed or soil. *Flett's Springs*—Most of the farmers sow a mixture of grain for summer pasture. *Lumsden*—I grow rape and turnips and a few m. *Saltcoats*—We have each year had pasture for our hogs, using grain for ear pasture and rape for late pasture and others are following our example. *Tuz. rd*—I have been growing rape for the last five years and would not raise six hogs without it. I am trying a little alfalfa this year. *Forget*—Yes, I sow rape for feed, and fence them in on a grass run. I throw them a few mangels once a day. *Langbank*—I have fenced with wire a two acre hog pasture, on which I raise rape and a mixture of grains as a pasture for the hogs all summer. *Forester*—With the exception of myself no one is providing summer pasture or cheap succulent food for their hogs in this district. I am seeding rape, sugar beets and green grain for summer feed. *Langbank*—I sow grain and rape, others take pot luck. *Du'*—Near all raise mangels and rape for their hogs but not many provide pas'. *Bradwell*—Last few years we grew rape, this year we are trying an expe. 'th pig weed as the pigs ate it well last year, so we fenced a yard. *Moffa*—w a patch of rape and turnips mixed and use the turnips when the rape is y. also barley and pease green, a few others grow rape, but no clover, alfalfa or rye in this immediate neighbourhood. *Drinkwater*—I use a pasture of brome grass, keeping it down to proper height. I find it the best for green feed as it remains green the entire season.

Questions Nos. 5 and 6 indicate two of the lines along which the stimulating of the hog raising industry in Saskatchewan must be pursued so far as the producing end is concerned. More men should be got to realise the necessity of using only the best breeding stock obtainable and of following this up with the providing of feed supplies which will insure in the pigs vigorous, healthy growth at a comparatively low cost. The means of providing such feed supplies outlined or suggested in question No. 6, however, deal with only one source of supply. The other source—and one perhaps equally as important—is the farm dairy. Whatever may be possible in the way of producing the thick, fat hogs of the corn belt states without the aid of skim milk or whey in liberal quantities it is questionable whether the industry of producing hogs of pronounced bacon type such as Canadian markets in general call for can ever reach large dimensions apart from the dairy industry.

The testimony of the Canadian Commission recently appointed to discover the reasons underlying the success at present attending the hog raising industry in Great Britain, Ireland and Denmark on these points is of interest and value. This report says: "Roughage in the form of roots or other green fodder is considered an essential part of the success-

ful pig raiser's food supply. These, it is generally believed, help materially to maintain thrift in breeding and growing stock. Nowhere can these be cheaper grown than in Canada and no pig raiser can afford to be without them." The hog raisers of Saskatchewan confirmed that statement as above set forth. But the commission also reports: "The value of milk and whey in pig feeding was everywhere exemplified. The commission saw very few pigs being fed without one or the other and nowhere were these foods fed without a care for the greatest profit."

The experience of the countries in which the producing of bacon hogs has longest and most successfully been carried on is that, as a general rule, the produce of the pig pen will be in proportion to the products of the dairy. It does not follow that because dairy production is large hog production will be proportionately heavy; there are other uses to which the byproducts of the dairy can be put than the feeding of pigs. But it does appear that the industry of producing bacon hogs is not likely to reach large proportions on many farms where dairying is not also extensively carried on. Therefore it would appear that an excellent method of stimulating hog production is to first stimulate dairy production. Then, if market conditions are at all equitable or on a par with those existing in connection with other kinds of stock in the production of which the skim milk or whey might be utilised, increased activity in the bacon hog industry may be looked for. When such a basis for swine raising exists, too, another condition of affairs alluded to by the Swine Commission above referred to is more likely to obtain. Says the commission: "Everywhere was there found a tendency to intensive methods which demand careful attention to details. Nowhere was haphazard work associated with satisfactory result. Swine rearing as examined in Europe is a highly organised branch of agriculture secondary to, and almost always associated with, dairy farming."

But it has been abundantly proved in the last few years that the marketing end of the business reacts upon production fully as much as do any questions of greater economy in production or available supplies of feed. Once let a man get the feeling firmly lodged in his mind that he is not receiving a due share of the price for which his product ultimately sells and he will soon drop out of that line of production if at all possible. This is exactly what has occurred in Eastern Canada, and is what is today tending to keep down hog production in Saskatchewan. The cure for this state of affairs which the commission found in England was co-operative selling on the part of the farmers and an attitude of sympathetic and far sighted co-operation with the producers upon the part of the best packers. In Denmark the cure was found in co-operative packing houses. There is little in the present outlook throughout Canada to encourage the belief that stability in the industry can be secured and confidence in the packers re-established without the aid of a co-operative movement of some kind.

In conclusion, a study of the returns received to this inquiry confirms the impression that the question of hog raising merges into and is only one form of the whole problem of live stock production and dairying in Saskatchewan and how they may be stimulated. It is evident

that no era of high prices for hogs alone has much effect in increasing production. A certain number of men keep more live stock than their own immediate needs demand because they are fond of live stock and prefer to be surrounded with horses, cattle, swine or sheep. To such men the financial aspect of the question is of secondary importance; they will keep live stock in any case. The larger number of the farmers of Saskatchewan are not live stock farmers by temperament or training. They will only keep live stock as they are tempted to by favourable market conditions or driven to by decreasing grain yields. At the present time conditions of soil and grain markets are such that a farmer in most parts of Saskatchewan need not keep live stock unless he so desires. He can do well and make money by exclusive grain growing. But the change from this state of affairs, though it may be gradual, is certain. The influence of education, the force of circumstances and the allurements of better markets are likely to be the factors most prominent in effecting this change from a transitory to a permanent system of farming.

#### SWINE RAISING IN SASKATCHEWAN.

*(Address delivered by A. B. Potter, Montgomery, Sask.)*

The two industries dairying and hog raising, should go hand in hand for best results. The farmers of Ontario grew wheat, the same as we do in Saskatchewan until they found they could no longer grow it successfully. They then went into beef raising, dairying and hog raising with the result that today many of the mortgages have been raised, and better buildings erected and many other improvements made. Theirs is a permanent system of agriculture and that is what ours will be when the value of live stock and its possibilities here are recognised.

The Danes are following the same line of farming and they have become one of the most happy prosperous and contented people in Europe, if not in the world; and they have reached this condition through dairying and swine raising. These people import from the United States and Canada shiploads of corn and mill feed, some of the latter being products from the milling of Saskatchewan wheat. What the Ontario farmer and the Danish farmer are doing we can do. It is a fact that we do not produce enough pork to supply our own home markets in Manitoba, Saskatchewan, Alberta and British Columbia. Pork is being brought in continually from the east and south. We have cheap land and can grow cheap feed, then why risk all in growing wheat when many parts of our country are so well adapted for mixed farming?

For profitable hog raising a man should grow his own feed-barley, oats, roots and green feed. To grow green feed to best advantage, a plot should be sown early and thick with barley, oats and wheat, then later sow a plot of rape, three pounds to the acre. These, along with some milk make excellent summer hog feed, and all can be produced on the farm. Roots and grains should form the major part of the winter rations.

The bacon type of hog should be used. As many as possible of the farmers of the district should go into the business so that a car lot can be secured in a small area. Buyers can then work on a smaller margin and there will be more of them when they know that they can buy a full carload.

Six breeds of hogs are commonly used. Poland China, Duroc-Jersey, and Chester White are the American breeds, sometimes known as the lard types. These are the principal breeds in the corn states. In Canada the leading breeds are the Yorkshire, Berkshire and Tamworth. These are known as the bacon breeds. There is no best breed. The one a man likes best is the best for him, but in Canada it should be one of the bacon breeds.

None but a pure bred boar should be used. A good one can be purchased when young for from ten to fifteen dollars and express. A man can use the sows already in his possession, but he should always keep the best ones in the litter for breeding purposes. The best are worth more for pork than the others, but we want to improve the herd, and selection of the breeding animals is the best and cheapest way to do it. A sow should have at least twelve teats. She should be long in the body with a gentle arch of back from the head to the tail. A lean head, light jowl, strong pasterns, and rather light shoulder, long and deep side and well developed hams are desirable characteristics.

The period of gestation in the sow is 112 days and they do not vary from this more than two days, so that it is possible to breed to get the pigs within a few days of any time we want them. The date of the service should be noted so that within two weeks of the time the sow is due to farrow, she may be placed in a pen by herself. A railing should be put around the pen eight inches from the floor and eight to ten inches from the wall, to protect the small pigs, and the pen should be kept as dry as possible. Nine litters out of ten will come in the night and if the weather is cold it is always best to be present and assist the pigs to get some nourishment. Then, unless the sow lies on them in the next two days, they are almost sure to live.

Give the sow nothing but warm water for the first twenty-four hours. Then gradually increase the feed so that within a week she gets all she can eat of sloppy feed of any kind that will make milk. Bran mash and finely ground oats or shorts fed in the form of thick slop is good. Skim milk is a valuable addition, especially at this time. When the pigs are a week old it is advisable to get them and the sow out in the sunlight, if the weather will permit. The little pigs should have a trough by themselves when three weeks old. This trough should be kept clean to prevent scours in the young pigs. Castrate all boars not wanted for breeding at four weeks old and if you raise two litters a year, wean at five weeks. Feed the weaned pigs shorts and milk. Give them plenty of exercise and green feed. This, with a full grain ration at the last should make them of marketable weight in six to eight months.

In winter it is necessary to have shelter of some kind. A stack of straw on some poles does very well for half or full grown pigs, but for small ones and early litters we must have warm buildings with as much sunlight as possible. Have a system of ventilation and keep

the pen clean. A loft overhead well filled with oat straw will save many steps and help to keep the pen bright, clean and warm. A supply of sods to feed in the pen should be secured in the fall. These, with ashes and a little salt, will help to keep the pigs healthy. I give my hogs a feed of soft coal, Souris, Galt or Edmonton, every week. There is no nutriment in this but it acts as a tonic or medicine and does away with the acid in the stomach resulting from the green feed. If the droppings are dark in colour it is an indication that your pigs are thriving.

If you put cement floors and troughs in the pens a platform of 2 x 4's with plank on top and a sideboard to hold the bedding in place should be made. Grain is generally cheap in this country, but it will not pay to feed it to hogs to warm a cement floor. Have all the pen doors on hinges so as to be able to let out the pigs of all ages and sizes every few days for sunlight, fresh air and exercise.

If you keep a boar till he develops tusks (old hogs are inclined to produce stronger pigs) break them off at least once a year to protect yourself and stock from any possibility of being hurt. Place a rope on the upper jaw and tie him up to a post and with a strong pair of pincers break the tusks off.

Breed what the trade demands—that is the bacon hog. Don't get more than you can handle properly and then feed and care for them to the best of your ability. Better grow twenty at a profit than one hundred at a loss. Grow your own feed and stay with the business. Don't rush out when the price is low and in when the price is high, but stay with it, and you can say with the Irishman who rolled down hill with the saw-log: "I was on the top half of the time, anyhow." You will not only be on top half of the time, but you will be there with hogs to sell when the price is high.

#### QUESTIONS AND ANSWERS.

Q. How about cross bred pigs?

A. They are very good for feeding but do not use them to breed from.

Q. When is the best time to castrate pigs?

A. When the pigs are about four weeks old, and before they are weaned. They do not seem to feel the effects of castration at that time so much. If you let go till two or three months of age they will often swell up, eat little for some days, make very unsatisfactory gains for some time afterwards, and look staggy.

Q. What is the cause of young pigs being born very fat and without hair?

A. What did you feed?

Q. Barley.

A. The main cause is the want of plenty of exercise for the sow, as good pigs can be got even with barley when plenty of exercise and fresh air are given. It is always best to give a variety of food, some bran, oats, chop and roots.

Q. What causes rheumatism in pigs?

A. To my mind the whole cause is indigestion from too much grain and no exercise. Give some physic, get them out in the sun and make them move around on dry footing in the fresh air.

Q. Is not the fat hog easier raised than the bacon hog?

A. No; it has been proved where they weighed the pigs and the feed that a pound of meat on a bacon hog could be produced as cheaply as the same weight on the fat hog.

Q. What is the desired type in the bacon hog?

A. The ideal bacon hog has a nose of medium length, light jowl, long and deep in side, light, smooth shoulders, slight arch from head to tail, well sprung rib, deep in the body and hams and standing on strong straight pasterns. When killed it should dress out one to one and a half inches of fat of even depth the whole length of the carcass.

## INQUIRY INTO SHEEP INDUSTRY.

*(Reprinted from the Annual Report for 1909.)*

During the fall and early winter an inquiry was conducted into the present status and future prospects of the sheep raising industry. A schedule of questions was sent to several hundreds of sheep raisers—both farmers and ranchers—throughout the province. A gratifying number responded and many went to some trouble in expressing their opinion as to the advantages and disadvantages connected with sheep raising in Saskatchewan.

Letters of inquiry were also sent to a number of the leading packing house operators, wool dealers and smooth wire fence companies, asking them a number of questions as to those aspects of the sheep industry with which they were concerned. Here again a gratifying response was met with, and there was evident upon the part of these companies a desire to co-operate in any movement looking to the fostering and building up of this neglected industry.

An analysis of the replies received from sheep raisers indicates that the industry of sheep raising is in a transition stage in Saskatchewan at the present time. The large flock of the exclusive rancher of sheep is being replaced by the more numerous and smaller flocks of the grain growing farmers who keep sheep merely as a side line.

Without exception those ranchers who replied to the circular of inquiry considered the industry as viewed from their standpoint to be on the decline. Some accepted the inevitable and were either disposing of their flocks or were bringing their methods into harmony with the changed conditions of their districts; others desired that old conditions might be restored and the ranching industry perpetuated—not recognising that the homesteader and farmer has come to stay and would vastly increase the production of wealth per acre in their locality. Said one Maple Creek rancher: "My opinion of the sheep industry is that it will soon be a thing of the past on account of the ranch being taken up by farmers." In addition to this cause, the difficulty of controlling watering places and preserving them from entry, the scarcity of winter pasturing grounds near hon., the competition for range rights and privileges of horse and cattle ranchers and the increased cost of holding large range areas due to the supplementary revenue tax, were given as reasons for the decadence of the ranching industry.

In view of all these adverse and unalterable conditions it would appear to be inadvisable to attempt to stimulate the industry of sheep ranching. The hope of the province from the standpoint of sheep productions lies: (a) in assisting those farmers who at present are sheep owners by placing before them information as to how they may improve their flocks, how handle them to the best advantage and how secure the best returns when marketing; (b) in so setting forth the advantages and profits accruing to sheep production that more farmers may be induced to make the experiment.

A large amount of interesting and valuable data was compiled from the returns sent in, and it is gratifying to report that the pessimistic note, either as to the present state of the sheep industry on Saskatchewan farms or as to its outlook, was seldom struck. The consensus of opinion undoubtedly was that, despite certain drawbacks which will be enumerated later, sheep raising is an easy, sure and very profitable adjunct of grain farming.

The following facts, being based upon a large number of returns, may be regarded as authoritative. Forty-eight sheep comprised the average farm flock, where more than five sheep are kept at July 1, 1909, when lambing was completed; the composition of this flock is in the following proportions: 15 aged ewes, 8 shearling ewes, 7 shearling wethers, 17 lambs, 1 stud ram. Most lambs came between April 15 and May 15 and most correspondents considered that the best time of the year for the lamb crop to come. If suitable quarters are available and a supply of succulent feed has been arranged for during the previous summer early lambs can be made very profitable and the farmer can sell larger and superior lambs at seven months than those of the rancher at eighteen months. Several farmers advocating early lambing gave the price realised for their lambs as being figures from \$1 to \$2.50 above the average.

The percentage of lambs saved is 83 out of every 100; when the number of twins is taken into account a man would be justified in expecting to save and raise, on an average, one lamb for every ewe. Without doubt this number could be much increased if proper attention were always paid to the securing of a good ram, to the feeding of the ewes at the time of breeding and to the care of the lambs at and after birth.

The average weight of fleece was  $7\frac{3}{4}$  pounds and the average price obtained for the wool was  $9\frac{3}{4}$  cents in 1909 and in 1908. Thus the average income from wool per flock of 48 sheep (excluding 17 lambs) was \$23.42 in 1909. The average price obtained for lambs was \$5.50 and for sheep \$7.25. The usual amount of stock to be marketed each year from a flock constituted as above described would be 4 wether lambs (the best and most advanced), 7 shearling wethers and 5 of the 15 aged ewes. Such a selection for the market would leave ample margin for the renewing and expanding of the flock and is a moderate estimate. At the average prices given above the 4 lambs would realise \$22 and the 12 shearling wethers and aged ewes \$87, a total of \$109. Add to this the value of the wool clip, \$23.42, and it will be seen that the prospective sheepman may safely count upon a cash return each year of about \$132.50 upon a flock averaging in size at July 1 each year 48 head, even after liberal provision has been made for increasing the flock, providing his methods and equipment and market are up to the average standard now obtaining throughout the province. These figures are merely offered here as a guide to the large number of farmers who are thinking of going into sheep raising chiefly as a means of controlling their weed problem. They are based upon averages and must not be considered as approaching the income possible if approved methods are followed.

Nearly all correspondents reported that the local butcher shop afforded a sufficient market for all they produced, though Winnipeg, Brandon, Prince Albert and Regina occasionally were named as shipping centres. The ranchers in the south-western portion of the province, of course, find in Winnipeg their principal market for both mutton and wool. With the local markets not fully supplied and the number of sheep for shipment east declining each year, there is no danger of over production for years to come. This is further borne out by the testimony of the packers to which reference will be made further on.

The most popular breeds among Saskatchewan farmers are: Shropshire, Oxford, Southdown, Leicester, Merino, Cheviot, and Rambouillet, and they are named in the above order of frequency. Thus the short woolled mutton breeds largely predominate. Pure bred rams are very generally used when obtainable, but many correspondents report a desire to use such but no knowledge of where they may be obtained. Here is further evidence of the need for a bulletin dealing with the whole subject.

Coyotes or prairie wolves were named as almost the sole source of loss by the sheepman of the province. A number of other sources were named by different correspondents, but each was reported by but one man, so these cannot be regarded as sources of more than very occasional loss. Dogs, unseasonable weather at lambing time, ewes too fat when lambing, poison, spear grass, castration and stealing were the sources of loss named by one or another, but coyotes were named as a source of loss or as a disadvantage of sheep raising by fully half those reporting.

Coyotes are undoubtedly a factor that must be reckoned with in this connection. Two methods of disposing of this pest are available. One is to increase the present bounty and thus encourage greater slaughter of them, and the other is for the individual sheep owner to fence against them. It requires but little better fencing to keep coyotes out than to keep sheep in and the cost of such fencing when its durability, appearance and usefulness in many ways other than as an essential of successful sheep keeping are considered is not excessive. These two methods of solving the coyote problem should go hand in hand. Their extermination should be encouraged in every way, while the individual should gradually equip his farm with such a system of permanent fences as will permit him to place sheep or other stock on any field requiring to be pastured off or on which pasture for the use of the sheep at certain times has been grown. The inner division fences need not be of so strong and expensive a type as the line fence. From the data submitted by a number of fence companies it is estimated that the entire cost in labour and material, including good cedar posts and all necessary braces, etc., of a first class coyote proof 10 or 12 strand fence, 44 to 48 inches in height, at points having about the same freight rate from the east as Regina has would be not more than \$300 per mile. By the farmer supplying his own labour, and in a variety of other ways, this figure could be materially reduced. It is named as the outside figure for a first class, durable, woven wire, coyote

proof fence. Sheep can be kept in at much less cost than coyotes can be kept out, however, and a much smaller investment in fencing would suffice in districts where the coyote problem is not acute. Such a fence as above indicated is no more than every well equipped farm should have, whether or no sheep are kept, and such fences are being erected to an ever increasing extent in the older districts of the west.

One enterprising keeper of a large band of farm sheep near Carlyle offers the following as his solution of the fencing problem. It is worthy of careful consideration. For smaller flocks less woven fences would be required. He says: "This is a bluff country on the edge of Moose Mountain and is badly infested with coyotes. I use a woven wire fence 49 inches high, 11 strands, cut into lengths of 10 rods each, and never let the sheep out of it without a herder. I have them in this portable fence without a herder, but find a daily visit necessary. I have one and a half miles of the woven wire and three men can take down the fence and enclose a fresh 40 acre pasture in less than a day. It is not stretched tight and can be hung on any barbed wire fence with an occasional 3 inch nail at the bottom to keep it close to the ground (use 2½ inch or 3 inch nails, not staples). When there is no fence to hang it on, a stake every 15 feet, lightly driven in, will suffice. With the portable fence everp patch of rough land or summerfallow that will keep the sheep a week can be made use of. I have had my flock on a neighbour's weedy stubble before summerfallowing for a month at no cost. We do not put the sheep in a corral at night and have only lost one lamb in four years and it was taken when the sheep were in the open and the herder was at dinner."

Inquiry of the hide and wool dealers in Winnipeg elicited the information that Eastern Canada is the ultimate destination of all the wool sheared in the west; that during the clipping season is the best time to sell the wool, as then the buyers are looking for it; and that from 12 to 12½ cents per pound at point of shipment was the average price paid by them for wool during the past season. A considerable disparity will be noted between these wool prices and those given by the sheep raisers themselves. In figuring up the average proceeds obtained from a flock of sheep the lower prices—those given by the farmers—were used.

As the transition of the sheep industry from a ranching to a farming basis gradually takes place a decline both in quantity and quality of the wool crop must be looked for. At the same time wool is an important product for which there is at all times a market and in the attempt to secure large, heavy and well fleshed carcasses the demand for wool should not be lost sight of even though, with the disappearance of range conditions, the necessity for some long woolled strain of blood in the flock no longer exists. The Shropshire or Suffolk and Merino cross gives a sheep recommended alike by the butcher, as yielding a desirable carcass, and by the wool dealer, as supplying a desirable fleece.

Some interesting data was secured from the leading firms buying western sheep and also from those importing eastern mutton. The extent to which the West falls short of supplying even the existing

demand for mutton was variously estimated at from 40,000 to 100,000 head. The former figures applied rather to the Winnipeg market, and the latter to the whole country, including British Columbia. All firms agreed that there was no danger of the supply being stimulated to the point of over production. The chief sources of outside supply named were: Ontario, Maritime Provinces, Australia and the United States. Winnipeg houses draw largely upon the three first named and western houses upon the two last named sources. It was pointed out that American and Australian mutton costs between 4 and 4½ cents per pound, dressed, in freight charges and duty, and the western producer has this great advantage over foreign competitors at the outset.

These firms handling both the native and imported mutton were agreed that the western product is superior in quality and flavour to that imported. The breeds recommended for mutton production were: Shropshires, Suffolks and the cross of these with the Merinos. None of the firms consulted recommended breeding for an early lamb crop on account of the greater risks involved. It was admitted, though, that the early fall market is a better one than can be expected later. These firms were also agreed that the feeding of a bunch of lambs through the winter with the idea of marketing them on the strong spring market would be a profitable enterprise if cheap feed were available and care and judgment in feeding were exercised.

Apart altogether from the cash returns and the undoubted possibilities for profit from mutton and wool sales, there was remarkable accord between the sheep raisers who sent in returns as to the advantages of sheep keeping as an aid to agriculture and as a source of convenient, cheap and tasty meat supply for the farmer's own table. Perhaps a few extracts from the reports will cover this part of the subject better than any generalisations. They clearly reveal that, in the minds of many, the direct profits are of secondary importance to the effect of sheep keeping upon grain yields and as an aid to good farming.

A Prince Albert farmer says: "A bunch of sheep will kill more weeds on a farm than two teams of horses, and every farmer should have a band of sheep for that purpose, besides the profit they make."

A Broadview farmer says: "I claim that sheep are one of the best four footed animals that ever stepped on to a farm for the average man as a money maker. The advantage of raising sheep to other stock is, they need no tying up, or clearing after them in winter. I feed prairie hay in winter and a little sheaf oats in spring after lambing. With proper care at lambing time the trouble with them is over, as I turn them to pasture."

A Valley farmer says: "Many would keep sheep if they had their farms fenced. To get full benefit from a flock of sheep one's farm would have to be fenced so that sheep could be allowed to run on allows and destroy weeds. They require very little attention in winter."

A Birch Hills farmer says: "Every farmer should have a small bunch of sheep. They are very easy to keep and of good value in the destruction of fowl weeds. I fail to see any disadvantages."

A Prosperity farmer says: "It is an all important matter. Sheep are harmless, perfect to handle, are managed in droves that need no tying or leading, come to call, need very little water, thrive with a cheap straw-and-pole shelter, require only weeds and scrub in summer and straw and screenings in winter, digest all seeds swallowed, afford palatable nutritious meat in a handy sized carcass, convert waste into wealth, and are altogether the most profitable of stock."

A Wynyard farmer says: "Sheep raising should be practised more as there is more money in it than anything else."

A Logberg farmers says: "The time is coming when sheep will be kept on every well tilled farm. They eradicate weeds, cultivate the soil and under ordinary conditions return 100 per cent. profit."

A Nesscliffe farmer says: "The advantages in keeping sheep are that wool and mutton are a good side line and sheep are weed destroyers costing little to keep compared with profits made."

A Hobar farmer says: "Sheep husbandry will increase as the province grows older. There is profit in sheep to the extent that they keep down weeds and produce mutton and wool on feed that other stock will not eat. They also require very little care except at lambing time."

