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end the greater part of the grain ration is given as a slop, and towards the end of the period of gestation a little oil meal or a small amount of flaxseed meal is introduced into the mixture of feeding stuffs. To offset the absence of green food in winter there is nothing better than roots. They may be sliced or pulped and mixed with grain or fed whole as a feed at noon. They are laxative in their effect and too liberal an allowance might bring about a too energetic action of the bowels. Consequently, even this cooling, and healthy article of swine diet should be dispensed with discretion. The craving of the hog should be met with a mixture of charcoal, wood ashes, lime, salt and iron sulphate constantly before them. The compound acts as a vermifuge, prevents disease and satisfies that craving too common in farrowing sows. The constant use of such a mixture with foods containing a liberal amount of protein will maintain a healthy, vigorous system, keep the sow in normal condition and insure greater success.

There is yet one practice in wintering brood sows that must be commended, and that is the habit of exercising regularly. At times it may be at the end of a whip but it is wise under any circumstances, and where the pens are small the barnyard should be brought into service and the sows exercised there. Walking one mile per day is not too severe a constitutional for a pregnant sow, and she should be forced to take a certain amount of exercise each day. With it all the keeper should handle the sow frequently and give her to understand that her attendant is her friend.

Fresh Air and Exercise for Young Cattle.

Of late the practice of housing all the stock continuously in winter has grown on many farms until not even the calves are let out for fresh air and exercise. By housing continuously we mean keeping the cattle in the stable from fall to spring without allowing them outside even for an hour or so a day. This practice may or may not be advisable for dairy cows in milk. Different successful dairymen have different views on the subject.

However, it is our firm conviction that with the young cattle, calves and growing stock better success on the whole would be obtained from allowing these to have from an hour to a few hours' exercise in the open air in the farm-yard each day during winter, provided, of course, the day is not too bitter cold or too rough and stormy. Of course, were the stables properly ventilated and properly lighted and the youngsters allowed to run loose all the time in comfortable, well-bedded box stalls there would not be such a great need of out-door exercise, but a large percentage of farm stables in this country are very poorly ventilated, in fact, many of them have little provision for ventilation outside of doors and windows and nothing to carry off the foul air, and besides this the proportion of box stalls in most stables is altogether too small, so that calves and young stock on too many farms are compelled to stand, throughout the winter, tied by the neck in narrow stalls, often dark and stuffy. For these if their constitutions are being developed to the greatest possible extent it is absolutely necessary that they get outdoor exercise and fresh air. Their growth will be more rapid and their general health much better than where they are confined all the time in an ill-ventilated stable.

Cattle should not be allowed to become very badly chilled, but we believe that it will not do the growing animal any more harm to shiver occasionally than it will to pine in a narrow, dark stall for lack of exercise, sunlight and fresh air. Besides, cattle once accustomed to going out every day will stand considerable cold without feeling it. They like to get a play in the farm-yard and a rub around the straw stack and may be found standing at the south side of the building or the stack in the sunshine on sunny afternoons looking much more alive than those too closely confined.

We would advise letting the young cattle out for a short time each day in the barnyard. Constitution, is one of the main considerations in the breeding and feeding of cattle. The animal which lacks in this particular can never prove as profitable to its owner as the one which has been well developed by a judicious amount of out-door exercise and the fresh air which accompanies it.

Has Saved Him Many Bills.

Editor "The Farmer's Advocate":

Am enclosing \$2.50 for my subscription to your valuable journal until December 31, 1915, and while writing you I wish to express my appreciation of your very helpful publication in its various departments. The Queries Column has saved me much in veterinary bills and a fund of useful information has been gained from the Editorials and the various articles by Peter McArthur, and "Whip" and also from your experiences at Weldwood.

Frontenac Co., Ont. JAS. L. F. SPROULE.

THE FARM.

Stick to Good Cultivation and Stock.

Among other things which the Hon. Duncan Marshall, Minister of Agriculture for Alberta, said in advice to farmers in the Christmas Number of "The Farmer's Advocate and Home Journal," of Winnipeg, Man., were the following applicable to Ontario and in fact to all Canada:

Probably the greatest danger to the farmer at present is that of being stampeded into a line of operation that looks like a good thing in the immediate future, but that in the end may not prove to be either the most profitable or the most desirable line of action. Farmers are being advised to make a special effort to grow grain to feed the war-stricken countries. It will be good business for every farmer to get every acre he can under crop next year, as the price for grain will not only likely hold good, but will in all probability go higher; but it is only good business to do this when you can get your crop in under good conditions. Don't let any farmer be persuaded next spring to sow to grain the field that he knows should be summerfallowed. It would be better to put the extra time and labor on the land he has in good cropping condition; rather give it a few extra strokes with the harrow, making the seedbed as perfect as possible, thus ensuring a better crop on clean, fresh land, than to spend time rushing into crop land that is dirty and worn, and that needs a summer's work to fit it for growing a reasonably good crop.

The farmer who will be the best off in the long run is the man who will not allow the present high prices to turn him from the best methods of soil cultivation he knows, and who will keep steadily on improving his system of

the cultivation of his land and the quality and number of his live stock; putting a little extra effort into his farm operations because of the great crisis through which we are passing, but at all times keeping his head and farming for future as well as present results.

More on Financing Farming.

Editor "The Farmer's Advocate":

In my former letter I endeavored to show that the chief problem affecting farmers to-day was the problem of getting adequate returns from their investments in farm property, and I also endeavored to dismiss from the minds of my readers the idea that lack of credit facilities was the chief cause of the trouble. Having thus cleared the ground I propose to deal with what I consider to be the chief cause, and ask you to form your own conclusions after having heard all the evidence. The fact that the war in progress and that prices of farm produce will be temporarily increased, owing to the fear of a scarcity and the consequent desire to purchase supplies for future consumption, and, later on, to the shortage of producers in Europe, should not blind our eyes and lead us to the belief that this increase in prices can be anything but temporary, for when once the abnormal conditions now prevailing are removed, ordinary conditions will reassert themselves and things will be as they were before. Therefore, when you read of the back-to-the-land movement and so on, think of the future, and do not forget that as capital always takes the line of greatest profits when normal times return it also will tend to flow in its ordinary channels unless the farming community take advantage of their temporarily strengthened position to entrench themselves there firmly.

I will now attack the question directly by stating that the conclusion I have come to, based on my own experience, is that the whole trouble lies in the system of distribution of farm products, and I want to make this clear by giving a few instances in support of my contention. I am myself greatly interested in the raising of poultry. On the ordinary farm the cost of feeding a given number of hens or chickens for any particular time is an unknown quantity. As a result many farmers are entirely unable to tell what their birds cost them to raise or to keep, and do not know in the least whether they are profitable or not. I, however, keeping accurate accounts, am able from my own experience to corroborate the conclusion of the Ontario Department of



Elita.

Champion cross-bred at the Smithfield Show, London, England, 1914. Sired by an Aberdeen-Angus, and out of an Aberdeen-Angus and Shorthorn-cross cow.

farming. He may be able to crop more now, as labor will be cheaper, and he should 'if he can, but he must not sacrifice efficiency in farm work simply to get a larger area seeded.

What I have said about cultivation of the soil is also true of live stock. One of the things I fear is that farmers may be tempted to sacrifice their live stock on account of the high prices of grain. Don't do this. Live stock is the foundation of all permanently successful farming to-day, just as surely as it has been in the past. Circumstances seem to have conspired at the present moment to depreciate live stock prices, but just as surely as the packers have pounded down the prices at the present, because of the disposition of the farmer to sell off hogs and cattle rather than feed high-priced grain, just so surely will they be compelled to pay good prices for hogs and cattle a short time hence. The world's supply of meat can not be produced as quickly as a supply of grain, and the man who stays with the live-stock business will win in the end.

This same condition holds good respecting horses. The draft horses of Belgium and France will be almost annihilated, and the farmer who is raising a few draft colts now will find a market that will be attractive and profitable before long. If the war lasts for any extended time, all the light and nondescript horses will be left in the trenches and the demand for good farm and work horses will be abnormal.

In conclusion, the business of the farmer at present is to keep on improving and increasing

Agriculture, and as they are better known I use them. The Department has found by experiment that to produce a cockerel weighing 4 lbs. alive requires from 13 to 14 lbs. of grain, and that the cost of hatching each chicken raised is from 5 to 7 cents. You can all figure out for yourselves how much this comes to in your own particular locality. The Department after giving these facts (Bulletin 217, Farm Poultry) goes on to say on page 33 that each cockerel will sell in the market for at least forty cents, as if the said forty cents constituted ample remuneration not only for the cost of hatching and raising but for the time and labor spent in the process and the use of the invested capital. Take a flock of 100 cockerels, calculate the maximum profit, and think for a moment if the game is worth the candle. I say the thing is ridiculous, and that the monetary return is far too low to admit of any decent standard of living on the part of the raiser.

How are we to improve this state of affairs? We obviously cannot lower the cost of production. The only way lies in the direction of increased sale prices. I notice a great many articles in different periodicals informing us we must produce early chickens to sell at a fancy price and winter eggs. With the majority of farmers this is hardly possible, as it demands special facilities and the investment of further amounts of capital, and moreover if every farmer was in a position to do these things the present state of affairs would again result. I do not say that methods of production cannot be improved,