

get our phosphoric acid very much cheaper in that way. We can also buy potash, in the form of ashes, close at home, much cheaper than we can buy in it a fertilizer, and we can get nitrogen as cheap separately as we can ready mixed. So, as a matter of economy, we buy our materials and use them, mixed or alone, according to the state of our soil and the kind of crop. For instance, if we were seeding to clover, we should put on bone, or floats, with ashes, but no nitrogen, because clover is able to get the nitrogen that it needs from the sub-soil, its roots going down four or five feet.

Another point in our practice is different from that of most other farmers. We aim to keep our land manured ahead, so that we could grow two or three crops before it would show signs of needing more manure. Doing this, we can use a slower fertilizer than where it is necessary to supply all the elements of plant food in an immediately soluble form. And these slower fertilizers (so far, at least, as their phosphoric acid is concerned,) cost so much less that we can get enough for three or four crops at the cost of what we must use for one crop, if the highly manufactured and very soluble form is taken. The manufacturers are very fond of calling the slowly soluble phosphates "insoluble", and the chemists themselves authorize this mis-statement by using it themselves in their official analyses. To be sure, they say afterwards that by insoluble they do not mean insoluble in the soil, but only that it is insoluble in their solution of ammonium citrate, which they use in making their analyses. They admit that this "insoluble" phosphate is soluble, by attaching a value to it in their analyses. If it were really insoluble, it would have no value at all to the farmer. The real truth is that the phosphoric acid of bones, and of the soft mineral phosphates, like the South Carolina floats, and the "phosphate meal" lately introduced, are quite sufficiently soluble,—as soluble as the phosphoric acid naturally present in all fertile new soils, which will produce crops for some time without any manuring. The only thing needed is that we put on a larger quantity at first, because only a third or a quarter will become freely soluble the first season. Now, as we can get three or four times as much phosphoric acid in floats as we can get in a complete fertilizer for the same money, we think it economy to buy it, put on three or four times as much, and let the crop be three or four times as long getting it. In this way, so far as phosphoric acid is concerned, we manure for three or four seasons at the cost of manuring for one season with an acid phosphate.

4. We should much prefer linseed meal to cotton-seed for feeding to young pigs; but we think shorts probably quite as good, if fed in milk. The shorts and milk furnish the same elements as the oil meals, except the fats, which are mostly absent in skimmed milk. By the new process, nearly all the oil is taken out of linseed, so that the linseed-cake has only three or four per cent, or less than new milk. There is something in cotton seed which makes it differ from linseed, in being usually much less digestible, especially to young animals. Even with mature beasts, we have to be more cautious in feeding cotton-seed meal than linseed.

5. Yes, linseed is nice for calves, if feed with discretion, in connection with other food. But the new process linseed cake, having the oil so completely extracted, is inferior for this purpose to unpressed linseed meal. For feeding, linseed meal with the oil in it is much the best,—which is not true of cotton seed.

DR HOSKINS.

The sale of grade Percheron horses made by Messrs J. D. & L. B. Smith, at Walnut Hill Stock Farm, near New Berlin on the 24th of Oct. was well attended. The animal were nearly all in excellent condition and well deserved the complimentary remarks their fine appearance called forth. The

weather was exactly right. The lunch was one of the best, and C. C. July, the popular auctioneer was never in better condition for a good afternoon's work. As the result shows he did his part well. The sale was certainly the best of the season in Sangamon County.

Considering the quality of the stock of the good condition in which it was offered, the prices cannot be called high, yet they are such as to encourage our farmers in the rearing of good draft horses.

Forty-three mares and fillies, 2 to 8 years old, sold for \$5440, an average of \$152.00.

Eight Stallions, 1 year old sold for \$970 average \$121.25.

Fourteen geldings, 2 years old for \$1640, average \$117.14

Five weanlings brought \$340, an average of \$68 00.

One saddle horse sold for \$100.

The seventy one animals brought in all \$9590, or an average of \$135. Not a bad showing for grade stock, nearly all of them young and raised by the parties making the sale.

Prof. W. H. Henry, of the Wisconsin Agri Experiment Station has promised to address the National Swine Breeders Association a paper bearing on the industry it represents provided it is possible for him to be in Chicago at that time. Hon. N. J. Colman, Commissioner of Agriculture will discuss the prohibition of our pork products by the German and French governments. J. W. Pierce, of Indiana, will have a paper on the value of alsike clover for hogs, and Prest. D. L. Thomas will have a good address for the occasion.

The membership is now more than a third larger than it was a year ago, and names continued to come in, that they may be reported at the coming meeting, which promises to be the largest yet held.

Though every reputable swine breeder in the country cannot find it convenient to attend these meetings, all have the privilege of becoming members and thus having sent them as soon as published a copy of the proceedings, including the addresses and discussions. PHIL THRIFTON.

Springfield, Ill.

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### DARWIN'S THEORY.

Darwin's theory of the "survival of the fittest" is simply that the weakly die, while the robust and hardy thrive and live. How true this is of all seed growth, and how necessary to sow only that which is suited by nature to live and develop.

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