out the water-furrows well and leave until the following spring. The first thing we do then, after the soil is perfectly dry, as deep as you have worked it, is to start the cultivators and harrows and work to a fine tilth, plow again going no deeper than the previous plowing,(1) harrow it well and roll it, then form your drills 26 inches wide, the soil being finely worked, and the manure well mixed with it, is now ready for the seed.

PREPARATION OF THE SEED FOR SOWING

Before sowing the seed which should not be much later than the 15th of May, place in a linen bag and soak in water for at least 12 hours. This will cause it to germinate much quicker and more surely. Sow with the seed drill at the rate of 4 pounds to the acre ¾ of an inch deep.

CULTIVATING AND HOEING THE PLANTS

In about 20 days the plants should be easily noticed in the drills; pass the wheel hoe through them which will check the grass and weeds at the start. In about 10 days after, pass the cultivator, then the hand hoes, immediately after single them out, the long reds to 10 inches, the globe varieties to 12 inches. Another hoeing will be all they require, but the cultivator should be kept going, especially in dry weather, simply stirring the top of the soil to allow the moisture in the air to reach the roots of the plants.

HARVESTING THE ROOTS

After the first week in October it will be well to get them out of the ground, as frost may injure them; to top them a sharp sickle or a long knife (2) will do the job quickly, after which the roots can be easily taken out. Place them in piles using the tops for a covering, allow them to lie for a week until they take a sweat, after which they can be stored for winter feeding. They should average at least from 25 to 30 tons to the arpent.

A FEW USEFUL HINTS TO ROOT GROWERS

Don't think of working the soil when it is not perfectly dry, as it always means harm.

Dont allow the weeds to get the least headway, as it will cost double the work after

Dont think of working a large piece of roots without the latest improved tools.

(NO NAME ATTACHED.)

(1) No one can keep the plough steady in the moved soil. The second furrow should be an inch deeper than the first ploughing.—Ed.

(2) Never cut beets of any sort as they would bleed to death.—Ed.

## Swine

### MILKING QUALITIES OF BROOD SOWS.

**Good sucklers—Modern cows bad milkers—Fat vs fecundity.**

The value of a brood sow depends to as great an extent, or even greater, than any other one thing upon her milking qualities. The sow that is a poor suckler is never profitable as a breeding sow. She has unusually small litters, and these fail to thrive, for the simple reason that they are not fed. On the other hand, a sow that is a good milker—or, as we say, a good suckler—has usually large litters, takes care of them so well that they make rapid advance-ment, and soon outstrip the rest of the herd. They grow from start to finish, and prices must be low and feed high if they do not pay a profit. A brood sow that is a good suckler is worth two that are poor, and even more. Whether the pig department of the farm in any year gives a profit or a loss depends largely upon the milking qualities of the brood sows, says a writer in the "Farmer and Stockbreeder."

Singular as it may seem, this point has been largely overlooked by farmers, and even by breeders of improved pigs. The present ideals of beauty in any kind of live stock are against the development of milking qualities, and the effects are seen not merely in pigs, but in cattle and sheep as well. In fact, on many breeders' farms the working herd of any kind of stock is of different type from the show herd. The one is selected with an idea of beauty of form and color, something to catch the eye of the granger: the other with the idea of utility and money-making. The farmer who buys brood sows at a show is not very likely to secure good milkers. Where fat covers a multitude of sins, as it always does, one of the most frequent, will be barrenness, or at least shy breeding and poor milking.

The best way to secure a milking herd of brood sows is to select pigs or sows that are good milkers. Select, at least, from the best milkers in the herd, and condemn the rest, no matter how handsome they may be, or how nearly they come up to the fashionable ideal, to the feed lot to be fitted for the shambles. By continuing this process from year to year, a very fair herd of sows will be secured.

It is not enough however, to select well. Feeding is as important as selection. No matter how good the stock may be, if the young things are fed all the corn they want to eat from birth until farrowing time, they will be poor milkers. It is impossible to develop a roomy sow with milking capacity without feeding largely on albuminous foods. The proper frame, bone, and form can be developed on clover pasture, on foods in which oats, bran, and shorts are predominant, with plenty of exercise for muscular development, and they can be obtained in their highest form in no other way. The short, compact brood sow, pretty as a picture, is not the one to yield a profit in the breeding herd. Plenty of corn will develop her beauty, because it will develop fat; but fat and a high degree of fruitfulness or fecundity are incompatible.

Nature is wise enough not to spend time in developing milking capacity beyond the wants of the litter. It will thus be seen that the sow that is a good milker must be built up from the foundation. Select, first, an inheritance in that direction, with vigorous and abounding health, and then feed along the line of nature as indicated.

Many dairy cows of strong milking inheritance, and that have been properly fed up to the milking period, are spoiled by bungling milkers. There is no danger of spoiling a brood sow. The pig, before he is an hour old, has mastered the science of milking, and has acquired greater proficiency than the most skiful dairyman in the country. That organized appetite which we call the young pig is thorough master of all the instructions ever given on the subject of milking. He milks quickly, thoroughly, and gently, except when his rights are disputed.

By thus selecting with an eye to inheritance of milking qualities, by feeding from birth, or rather from conception, with the object of securing vigorous and abounding health, and along the lines nature has indicated, the herdsman will be working with nature to victory, instead of against her to inevitable defeat.

"Farming."

### THE LAW OF INDIVIDUALITY.

In the very thoughtful article from Webb Donnell on "Prepotency In Breeding," printed last week on page 603 the writer used these words: "It would tax the powers of a Darwin to tell us why it is that of two cows fed side by side upon exactly the same food, one will return twice the amount of milk and cream that the other will."

This law of individuality is one of the hardest to understand. Yet it is found everywhere about the farmer's footsteps. Go into the cornfield and ask why one stalk of corn will grow strong and rampant and another show a weakly growth in the same hill? Why one stalk will show a fine heavy ear and another will be barren? Go into the pig pen and ask why in a litter of pigs from the same mother, one will be a "titman" and another make three times the growth?

This law of individuality obtains everywhere in nature. We once planted every kernel of corn in a single ear, in one straight row, stalks 10 inches apart. We started at one end of the row with the kernels at the butt of the ear, and finished at the other with the kernels at the tip ends of the ear, so that the full row represented longitudinally the ear of corn. We found this law of variation showing itself at every portion of the ear, there were weak plants from the kernels at the butt and strong ones at the tip. The strong ones at the tip. The strong kernels simply inherited more vitality or what we call constitution, than the others.

The work of the breeder includes that of selection. It is his business not only to breed well and carefully from favorable blood lines but he must also be able to follow out the law of selection.

What we have said will furnish a hint in the selection of seed corn as well as breeding animals. When seed corn is selected it should be from stalks which show a strong vitality, with a full vigorous growth. It often occurs that a weakly stalk will ripen a good ear just as weak parents may have strong children. But the after history of both seed corn and children will be likely to show the effect of their weakly parentage.

The whole business of the farmer (and the farmer ought to be the best posted of breeders) is to study out the laws of Nature. Breeding to his "purpose" whether it be for milk and butter or beef in cattle, or wool or mutton in sheep, or speed or draft in horses. He must first study out the law that governs his particular purpose and then be absolutely obedient to it. It is "law", "Law," LAW everywhere and it takes a strong, well-trained intellect to make much headway with the secret workings of Nature's laws. "Hoard."



### LONDON MARKETS.

| Mark lane: Prices current; Sept. 8th | s. | s. |
|---|---|---|
| Wheat, per 504 lbs.; British. | | |
| White | 27 | 29 |
| Red | 26 | 27 |
| London flour per 280 lbs. | 25 | — |
| Barley (grinding) | 14 | 22 |
| Oats, English per 8 bushels | 15 | 29 |
| White pease | 32 | 38 |
| FOREIGN | | |
| Wheat—Manitoba | 28 | 28 |
| Canadian white pease | 24 | 24 |

Milch-cows, per head, £21.

| BEASTS. | s. | d. |
|---|---|---|
| Scotch per stone of 8 lbs. | 4 | 6 |
| Herefords do do | 4 | 4 |
| Welsh (runts) do do | 4 | 2 |
| Shorthorns do do | 4 | 2 |
| Fat cows | 3 | 8 |
| SHEEP. | | |
| Small Downs per stone of 8 lbs. | 5 | 6 |
| Half-breeds and Scotch do do | 5 | 6 |
| Lamb trade over. | | |
| Calves nominal. | | |

| *BUTTER.* | s. | s. |
|---|---|---|
| Fresh, (Finest factory) per doz. lbs | 11 | 1' |
| English Dairy-butter fresh | 10 | 1 |
| Irish (creamery) | 86 | |
| Danish | 96 | |
| BACON. | | |
| Irish | 58 | 61 |
| Canadian | 35 | 44 |
| American | 48 | 50 |
| Irish hams (small) | 88 | 94 |
| Hay, per load of 2016 lbs. | | |
| Prime meadow | 88 | 90 |
| Prime clover | 90 | 92 |
| Straw, per load 1296 lbs. | 32 | 38 |

Hops from 50s. to 90s. per 112 lbs.