

HOW TO FIGURE THE DRAFT OF A PLOUGH.

By attaching a dynamometer to the end of the beam the exact force necessary to draw the plough through the ground is accurately indicated. Of course different portions of a field will offer different degrees of resistance owing to the nature and condition of the soil. An average draft, however, can be shown by setting a number of stakes—ten usually—an equal distance apart and noticing the draft at each stake. But the width and depth of the furrow will also vary, and it is necessary that the quantity of ground turned should be taken into consideration. At each stake the width and depth of the furrow are noted down, and at the end of the last stake we are ready to figure the average draft.

Below is an actual field test and the measurement shown at each stake.

	Draft	Width of Furrow	Depth of Furrow
1	250	10 inches	6 inches
2	250	11 "	5 "
3	225	11 "	5½ "
4	300	11½ "	5½ "
5	300	11½ "	6 "
6	350	12 "	7 "
7	350	14 "	6½ "
8	300	12½ "	6 "
9	350	14 "	5 "
10	375	13½ "	7 "
Total,	3050	121	59½

Dividing each of these totals by ten we get the following average: Draft 305 pounds, width of furrow, 12.1 inches; depth of furrow, 5.95 inches.

This is satisfactory, so far as it goes, but in case we wish to compare draft with some other plough, it is necessary to show what the draft would be in a common size of furrow. If we select as our standard a furrow sixteen inches wide and six inches deep, the arithmetical proposition is;

If a furrow 12.1 inches wide and 5.95 inches deep causes a draft of 305 pounds, what will be the draft with a furrow sixteen inches wide and six inches deep?

OPERATION.

$$\frac{305 \times 16 \times 6}{12.1 \times 5.95} = \frac{29280}{71.995} = 406.71995$$

Reduced to a simple rule it will read as follows: Multiply the average draft by the product of the numbers showing the depth and width of the standard furrow, and divide this product of the numbers showing the average width and depth of the actual furrow.

BREAKING YOUNG ANIMALS.

The breaking, or more properly *training*—we don't like the term breaking—of our young domestic animals, as colts, steers and heifers, is one of the most interesting of all the farmer's operations, and should be commenced when the animals are very young, when they can be handled without much force or violence, and it should always be done with patience and kindness, without the least anger or harshness, they are all perfectly willing and ready to do whatever is required of them, as soon as they fairly understand what is wanted of them. Even our children, who can talk and know the meaning of all our words, require more or less time and telling before they can fairly learn all that we require of them, or before they know how to do it; much more, then, should patience

and kind care be exercised toward our young dumb brutes, in training them for the various services which we expect from them; they are far more tractable and ready to learn and obey our commands than most farmers seem to understand, if we will but be patient and painstaking, without anger, to make them comprehend what we mean.

With a young colt, for instance, when it is yet only a suckling, by using only a few plain words, in kindness so as not to make it afraid, and always frequently using the same words for the required acts or purposes, it would soon learn exactly what is required and will be perfectly willing to perform; as readily as it usually learns the meaning of "whoa," "haw," "gee," "golong," and the like. It may be readily taught when young, to walk up and put its head into a collar or halter, as easily as into a pail of water or the feed box.

Boys can do this with them, and find pleasant amusement in doing it, if they themselves first learn to exercise kindness and patience, never getting angry or cross to make the colts fear them.

The same is true of steers and heifers. When young they may be taught everything that is necessary, as well as the puppies can. Steers may be led to know and like to put their necks to the yoke, and walk up to the cart-tongue as freely as to the manger; and little heifers, when mere calves, can be handled and familiarized so as never to be afraid or inclined to kick when first required to be milked with their first calves.

Simply kindness and deliberation, never striking or hurting them, in order that they may have no fear, will make all these young animals grow up trained and handy, without ever requiring the troublesome and dangerous operation of what is called "breaking," but which should be only early rational training.

HOW PRACTICAL FARMERS MANAGE THEIR CATTLE.

A well-known firm of practical farmers give the following information of the method pursued by them: "Unless the weather is stormy, we turn our breeding bulls out for exercise half of every day, often with the cows in the pasture, when none of them are in heat. After breeding our cows we keep them in a stable, where they can not be with other cows for from ten to fifteen hours. We have a few stalls that are specially designed for cows that are due to calve during cold weather, and of course, these are made as warm as we can get them. We turn the cows out with their calves three times each day, until the calves are six to eight weeks old, then only twice a day. We rarely allow calves to run with dam in pasture, though we put the calves out to grass as soon as they have learned to eat it. Feed young calves well on shelled corn, oats and meal. Have separate pastures for bull and heifer calves and do not allow them to pasture together after the bulls are three or four months old. Our dry cows we winter principally on hay, feeding very little grain, except to young stock and those that have calves at their side, or those designed for the show-ring. We breed our heifers when about twenty months old."

HOUSEHOLD HINTS.

MAKE brooms last longer and sweep better by wetting them in boiling soap-suds once a week; and when not in use, hang them up or invert them.

PRETTY and inexpensive screens can be made by covering an ordinary clothes-horse with dark felt or plush, upon which Chinese crape pictures may be mounted.

A CARPET, especially a dark one, often looks dusty when it does not need sweeping; wet a sponge in water (a few drops of ammonia helps brighten the colour), wring it quite dry, and wipe off the dust.

SAVE pretty pictures and wood cuts, and paste in a scrap-book, to please the children. Afterward send to hospitals to give pleasure to "nobody's children." Let the gathering be pleasant work for the children, teaching them early to do kind things for others.

THE weather should have much to do in deciding as to the bill of fare. Buckwheat-cakes are just the thing for a cold morning, but not for lunch or tea on a warm rainy day. Healthfulness often demands a change in plans for the table to accord with the change in the thermometer.

ONE of the strongest cements, and easiest applied, is lime and the white of an egg. To use it, take a sufficient quantity of the egg to mend one article at a time, shave off a quantity of the lime and mix thoroughly. Apply quickly to the edges, and place them firmly together, when it will soon become set and strong. Plaster of Paris will answer in place of lime.

A SOMEWHAT novel way to trim a table scarf is to put three-cornered pieces of silk or satin on each end. Have these pieces half a yard deep at the longest side, in the corner embroider a spray of flowers; where the satin or silk end joins the centre part of the scarf put a row of fancy stitches. A dark crimson felt scarf with one end light blue, the other of crimson shaded to brown, is very handsome.

THE *American Farmer* gives the following directions for making a cheap telephone: To make a good and serviceable telephone, good from one farm house to another, only requires enough wire and two cigar boxes. First select your boxes, and make a hole about half an inch in diameter in the centre of the bottom of each, and then place one in each of the houses you wish to connect, then get five or ten pounds of common stove pipe wire, make a loop in one end and pull it through the hole in your cigar box and fasten it with a nail; then draw it *tight* to the other box, supporting it when necessary with a stout cord. You can easily run your line into the house by boring a hole through the glass. Support your boxes with slats nailed across the window, and your telephone is complete. The writer has one that is two hundred yards long, and cost forty-five cents, that will carry music when the organ is played thirty feet away in another room. Its success depends upon the tightness with which the wire is stretched. If the distance is long it may be supported on intermediate poles. Such an apparatus from the stable to the house would keep the farmer aware whether matters are all right out there.