in the case of colts, only more "dry" or concentrated food may be used.

If, after two or three months' working and conditioning, some horses do not "come on" as they should, these should be discarded, or disappointments will result. Look well to individuality and soundness, and be sure not to show any horse unless he has good feet and legs; a man can build on a body, but unless the proper kind of legs and feet are there to commence with, it is little use to try to make a show horse of the animal in hand. Great care should also be taken in having the animal properly and suitably shod; spare no trouble in going to the best blacksmith within reach, study the horse's way of going, and have him shod accordingly.

To sum up, show nothing but good individuals, clear of blemishes; feed liberally, work regularly, and you will have "manners," and something that is a credit to yourself and the show at which you exhibit, whether you get to the front or not. R. P. STERICKER.

N. J.

Horse Mangers.

Many styles of horse mangers are in use, many of them are not very desirable when we consider the dangers associated with their use. The rack in front and above the horse's head is convenient to fill from the loft, but hard on the eyes and lungs of the horse, and most inconvenient when a person desires to sprinkle the hay to settle any dust, then there is the chute or box with opening in lowet end, and also the ordinary mangers about two feet wide and the same in depth, which are made with tight bottoms, slatted bottoms, and with slanting bottoms with one-inch space opening at lower edge—some of these slanting towards the stall, and some towards the feed aisle. There are none which will give as great all-round satisfaction as the latter, both in saving feed and the horse's health.

Let the bottom be tight, with eight to ten inches of fall towards the feed aisle, and have a one-inch space in the front board at lower edge of manger. The dust and chaff naturally seek the lower part, and gradually work their way back into feed passage along with any oats or chop, which are always spilled more or less. This can be shovelled up, and it makes first-rate feed for cattle, or, better still, to scatter on floor of henhouse, where there will be nothing wasted, as the hens are very fond of clover leaves, dead grasshoppers, crickets, etc..

If the manger is slatted bottom, or slanting towards the stall, refuse passes into stall with litter and on to the manure heap, where it is lost for food purposes. When tight bottom is used, the horse is constantly rumaging through the trash in search of stray grains, filling his lungs with dust and his stomach with indigestible substances, much to the disadvantage of himself and his owner. Besides, the search if often begun before the hay is eaten, and in this way the habit formed of rolling hay out of the manger, where it is tramped upon and wasted. J. R. H.

Healing Sore Shoulders.

There are several things that might require to be done when a horse gets sore shoulders. There may be a fistulous growth that should be dissected out; there may be a pocket with pus in it that requires opening; there may be a "sit-fast" (a piece of skin remaining on a galled surface) that requires cutting out; or there may be nothing more than an ordinary gall. Before trying to effect a healing of the sore spot by homely methods, it is best to make certain the knife is not required. If a horse with a sore shoulder must be worked, do not place an old stocking stuffed with straw or hair crosswise of the collar to keep the draft off the sore, but cut a piece out of a pad so the pressure will be removed from the gall; then put some clean cotton in the hole in the pad to keep the stuffing of the pad from irritating the sore. At noon and evening bathe the sore well with cold water, and in the evening also, after work, bathe with a saturated solution of alum—that is, water to which all the alum that will dissolve has been added. Dry the wound, and rub on the following application: Carbolic acid one ounce, camphor five ounces, resin one ounce, methylated spirits fifteen ounces.

Cleaning Harness.

Just before harvest, when the horses need a short rest, is one of the best times to give the harness a good cleaning and oiling. The warm sun helps the operation along by drying the leather and causing the oil to strike in. If the harness has not had an annual or semi-annual cleaning give it one this year whether it "needs it or not," as the tramp said when he took his annual bath.

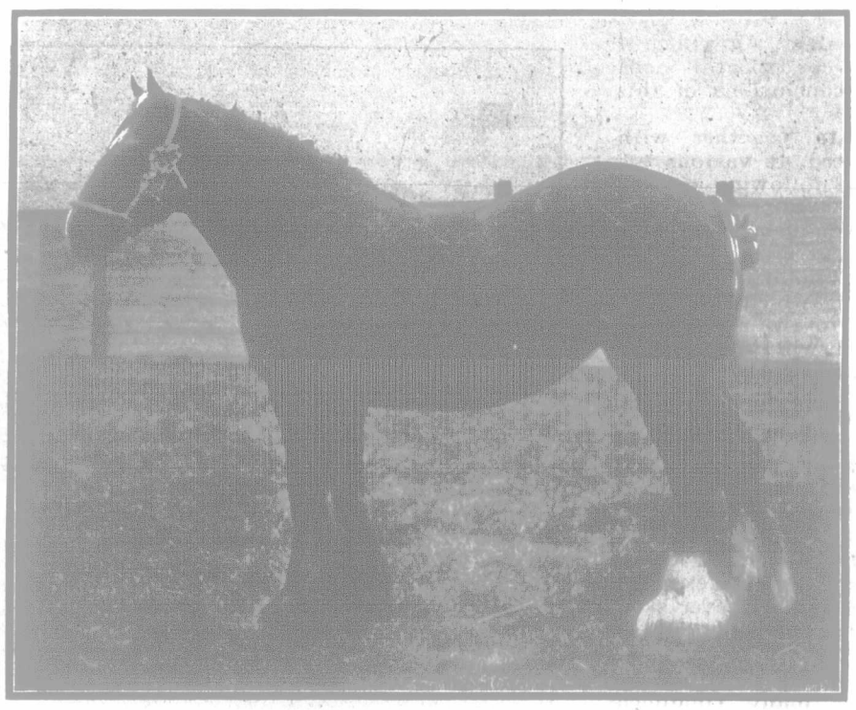
Stock.

Application for Flies.

The fly nuisance at milking time has been provocative of as much unpleasantness as any single circumstance one has to contend with. To reduce this annoyance, the Kansas agricultural authorities recommend the use of the following mixture: Fish oil two quarts, crude carbolic one pint, oil of pennyroyal one ounce, oil of tar ten ounces, kerosene one quart—all well mixed. This mixture may be applied with a brush, cloth or small hand-sprayer, and is said to drive the flies away immediately. These ingredients can be had at any drug store, and cost about one dollar. A gallon of the mixture will make about forty applications, and a single application will keep the fles away for two or three days.

Beefing the Dairy Breeds.

While on the lecture platform the question has been asked me on several occasions, "Do not heavy milkers of the dairy breeds fatten well and make good beef?" My reply has usually been to this effect: "No cow can be a heavy milker unless she is a good feeder and has the power of assimilation highly developed. It stands to reason that when a heavy milker and good feeder is dried off, she will still be able to assimilate her feed, and if it is not used in making milk it goes on her carcass, though not of necessity on her back. We all know by practical experience that, as a rule, a cow of the dairy breed, who is a heavy milker, will fatten readily when she is dry. We have to stint her in her feed or she will be hog fat at calving time; therefore, such a cow will fatten readily, and, consequently, at a low cost of feed per pound of gain; yet if she is of the dairy breed, she will not be as profitable for the block as one of the beef breed. I am not a dual-purpose fiend. I believe that all the improved breeds have a specific purpose to perform, and that no one of them can most profitably fill all the purposes for which the bovine race is used. Therefore, for beef purposes, let us use one of the breeds especially adapted to that purpose, by years of careful selection, feeding and coupling, and for dairy purposes one of the breeds especially bred for that purpose."



Dunsmore Fuchsia.

Two year-old Shire filly. Winner of female championship of the breed, Royal Show, England, 1905. Owned by Sir P. A. Muntz.

If pressed further to give reasons why a fat cow or steer of the dairy breeds is not as profitable for the block as one of the beef breeds, my answer has been to this effect: "Because the fat is not evenly distributed, nor in the right place to make the carcass sell at the highest price. There is too much fat internally, and, consequently, there is too much offal. Speaking for the Jersey breed, I know the fat is too yellow."

It was fortunate for me that the answer apparently satisfied the audience, for this was about the limit of my knowledge, and had I been pressed for further and more detailed information, I would have been obliged to plead, "I am not a butcher, nor the son of a butcher."

But a bulletin recently issued by the Iowa Experiment Station on this subject, exhausts every phase of the case, namely, the related profits in beef production in animals of the beef and dairy breeds, and their profitableness from the standpoint of the slaughterer or packer.

The experiment extended over one year. The steers consisted of two high-grade Herefords, average age 16 months; two pure-bred Angus, average age 18 months; two pure-bred Holsteins, average age 24 months; and two pure-bred Jerseys, average age 18 months. Each of them was believed to be a fair type of the breed they represented. The animals were fed in the stable, and not put out to pasture at any time. Each was fed the same composition of food and fodder, but not the same quantity, which was regulated by appetite and digestion. They were fed hay, sorghum, bran, oil meal and gluten meal.

The greatest gain in weight was made by the Holstein—677 pounds—at a cost of feed of $48.23: next came the two Herefords, who averaged 644 pounds, at a cost of $48.93; the average gain of the two Angus was 568 pounds, cost $45.60; and the two Jerseys averaged 518.5 pounds, at a cost of $42.13.

Average grain required per pound of gain per steer: Holstein, 8.21 pounds, Hereford 8.76 pounds, Angus 9.18 pounds, Jersey 9.24 pounds. Roughage and hay was in about the same proportion.

Cost per pound of gain in live weight: Holstein, .0712 cents, Hereford .076 cents, Angus .0802 cents, and Jersey .0812. By this it will be seen that the Holsteins made the greatest gain in live weight at the least cost, next the Hereford, then the Angus, and lastly the Jersey. From the standpoint of fattening at the least cost, one of the dairy breeds—the Holstein—proved itself pro-eminent.

But when the test of the block is applied the beef breeds assert their superiority. The percentage of dressed weight in the slaughter test was as follows: Angus 62.6, Hereford 60.8, Holstein 58.9, and that of the Jersey steers is not given.

The average live weight and beef per steer per breed was as follows: Hereford, live weight, 1,329 pounds; beef, 784.5 pounds. Jersey, live weight, 1,141 pounds; beef, 614 pounds. Holstein, live weight, 1,203 pounds; beef, 687.5 pounds. Angus, live weight, 1,233 pounds; beef, 751 pounds.

When the tallow is weighed it is easily seen where the Jersey steers put their fat, as they average 113.50 pounds of tallow, to 83 pounds of the Herefords, 64.5 of the Angus, and only 45 pounds for the Holstein. The carcasses were cut up by an expert of 20 years' standing, from the Chicago market, and the prices were fixed by him on the different cuts. Here is where the dairy breeds as beefing animals fail, as the prices for different cuts are governed "by the demand of the consumer, as expressed through the slaughterers." The gains in weight of the dairy breeds were not distributed on the body in such a way as to command the highest price, hence we find that the rib portion of the dairy breed is valued at retail at 2 cents a pound less than that of the beef breeds, and the loins at from 2 to 3 cents less. The dairy breeds carried only 25.88 per cent. weight in the valuable cuts, while the beef breeds carried 26.82 per cent.

The wholesale price of each breed was fixed as follows: Herefords 5 cents per pound, Angus 4¾ cents, Holstein 3.85 cents, and Jersey 3.65 cents.

From what has been stated it will be seen that the quality of the meat, how it is distributed on the body, and the percentage of dressed weight are all factors which have to be counted.

The summary concludes as follows:

Dairy type steers show a considerably higher percentage of offal, and a lower dressing percentage.

Dairy type steers carry higher percentage of fat on internal organs, thereby increasing the total weight of cheap parts.

Beef-type steers carry higher percentage of valuable cuts.

Beef-type steers furnish heavier, thicker cuts; they are more evenly and neatly covered with outside fat, show superior marbling in flesh, are of a clearer white color in fat, and a brighter red in the lean meat; but there is little difference in fineness of grain.

The low price paid for dairy steers may be due partially to prejudice, and to the greater expense of carrying and selling the low-grade carcasses; but it is chiefly due to an actual inferiority in the carcasses.

It is neither profitable nor desirable to feed steers of dairy type for beef purposes. They are unsatisfactory to the consumer because they do not furnish thick and well-marbled cuts; they are unsatisfactory to the butcher because they furnish low-grade carcasses which are difficult to dispose of, and they are decidedly unsatisfactory to the feeder because they yield him little or no profit, and both breeder and feeder waste their time in producing such a type of steer for beef purposes. VALANCEY E. FULLER.