

any season when convenient. It grows late and stands up to a good deal of frost. Dwarf Essex is the favorite variety.

Steel Corn Cribs.

The new steel corn cribs are being erected on the Ohio State University farm, at Columbus, to provide storage room for this year's bumper corn crop. These cribs have a capacity of 500 bushels each, and with two already in use provide a total storage capacity of 2,000 bushels of corn. Both steel and wooden cribs have been used on the University farm. The steel cribs have proved very satisfactory, it is said, as they are durable, and proof against birds, rodents, thieves and fire. These cribs are circular in form, and made of perforated steel. The floor is of cement and steel, and is moisture proof. The total cost is about \$150 per crib.

THE DAIRY.

Fat in Milk of Cows at Time of Calving.

The usual objections raised against seven-day tests of dairy cows are that they do not give a fair estimate of the yearly production of the cow, and that by preparing cows for seven-day tests by long dry periods before calving and selecting breeding animals on the basis of seven-day records, there is a tendency to develop individuals that will produce heavier for a short time but not persistently. Recent investigations by Prof. Eckles, of the Missouri station, show conclusively that the percentage of fat in seven-day tests of cows may be entirely abnormal. The determining in this variation is the condition of the animal as measured by the amount of fat stored in the body at the beginning of the milking period.

One of the cows used in the tests reported by Prof. Eckles calved when she was in fat condition. An official seven-day test was begun on the tenth day after parturition, and the per cent. of fat by milking during the seven days ranged from 4.2 to 9.3, with an average for the week of 5.1. Approximately one year later the cow calved again, but this time she was much thinner in flesh. In seven days, beginning the same length of time after calving as did the first seven days' record, the average per cent. of fat in the milk was 3.63. This same cow was entered in the Advanced Registry with an official test of 4.09 per cent. fat, although her average for the year was 2.76 per cent. Similar results were obtained with a number of other cows tested for purposes of these investigations.

This subject is one of great practical importance in several ways, as Prof. Eckles states:

"First of all, it has a bearing upon the economical production of milk by emphasizing the importance of having cows in good flesh at the

time of calving. * * * The data that have been given indicate that, when the cow has a considerable amount of fat stored up in the body at the beginning of the milking period, the milk will contain a higher fat percentage for a certain period than will be the case if the same animal is thin in flesh at the beginning of the milking period. * * * One of the necessary conditions to bring about this abnormal percentage of fat in the beginning of the lactation period seems to be underfeeding. As is well known to all practical herdsmen, it is impossible to feed a cow that is in good flesh and is at the same time an animal with strong dairy characteristics, a sufficient amount of feed during the first month after calving to maintain the weight of the animal. There is certain to be some decline in weight, and for this reason where a cow is more moderately fat at the beginning of the lactation period there is almost certain to be some effect upon the richness of milk for a time regardless of whether any special attempt is made to bring this about or not. The relation of the data presented to the methods of carrying on official tests of dairy cattle is evident, and it is along this line possibly that the subject is of the greatest immediate interest. It is evident from the data that it is possible, by taking a short period at the beginning of the lactation period, to secure a percentage of fat which is entirely abnormal for that animal, and for this reason such tests have very little practical significance, and are apt to be misleading to a person who is not familiar with the means by which it is possible to secure such abnormal results."

Manure from Dairy Cows.

The value to put on manure from dairy cattle, is a very complex problem, and is one that perhaps has not received due consideration. On many dairy farms they figure their profits from the direct cash returns; at the same time they do not consider the indirect value obtained from the manure produced. Figures obtained from experiments conducted by Prof. W. J. Fraser, of the Illinois Experiment Station, furnish some very interesting data.

The manure is figured at 11 tons per head for cows producing 8,000 pounds of milk. On the 20-acre dairy farm at the University last year cows which were kept in the barn during the winter, and in a dry lot during the summer produced 13 tons of manure per cow. The average value is considered at \$1.50 per ton. At the Illinois Agricultural Experiment Station, on a three-year rotation of corn, oats and clover, manure has increased the crop yield \$1.60 for each ton of manure used, figuring the market value of the crops, for the first three years after it is applied. No consideration is taken of the increased production from the effects of the manure after the first three years. At the Ohio Experiment Station the value of the crop yields has been increased \$2.34 for each ton of manure used. From the figures above stated, \$1.50 a ton is a conservative value on cow manure which

has been well cared for. Cows which produce less than 8,000 pounds of milk will produce, on the average, less than 11 tons of manure. Cows producing more than 8,000 pounds of milk will not only produce more manure, but it will be of a better quality, owing to the fact that they are fed more concentrates. For these reasons the value of the manure is lowered 50 cents per cow for every 1,000 pounds' decrease in production of milk below 8,000 pounds, and raised 50 cents per 1,000 pounds' increase in production above 8,000.

To Get Clean Cream.

The following concise rules for the production of clean cream are given in a recent Kansas Station publication.

- (1) In favorable weather keep the cows in the pasture as much as possible, thus preventing an accumulation of manure in the stable or corral.
- (2) Remove the dirt from the cow's udders and flanks before milking, and wipe the udders with a damp cloth.
- (3) Do not feed hay or dusty feed just before milking.
- (4) To clean pails and cans, first wash them with warm water and a mineral washing powder, then rinse them well, scald them and allow them to drain.
- (5) Skim about 35-per-cent. cream.
- (6) Take the separator and wash it thoroughly after each separation.
- (7) Remove the cream to a milk-house or cool place where the air is pure, and where the can may be placed in a trough or barrel of cold water fresh from the well.
- (8) Do not mix warm cream with cold cream, nor keep cream in cellars or caves.
- (9) See that all cans and tinware coming in contact with cream are perfectly sweet and clean, especially in the seams and crevices.
- (10) Deliver the cream in the morning during hot weather. Make at least three deliveries a week in summer, and two in winter.
- (11) At all times protect the can containing cream against heat, cold, and dust, by covering it completely with a clean canvas.

Instead of holding separate cheese and creamery meetings at Guelph this year, during the week of the Winter Fair, it was thought well to combine these two meetings and discuss topics of interest to both cheese-factory and creamery men. Cheese-makers, butter-makers, factorymen, patrons, buyers, instructors and others interested in dairying are cordially invited to meet at the Dairy School, Guelph, on Wednesday, December 11th, at 1.30 p. m., to discuss such questions as they may feel are of interest. No set program will be adhered to, but the whole time will be given to discussion.

POULTRY.

An Ottawa Valley Henhouse.

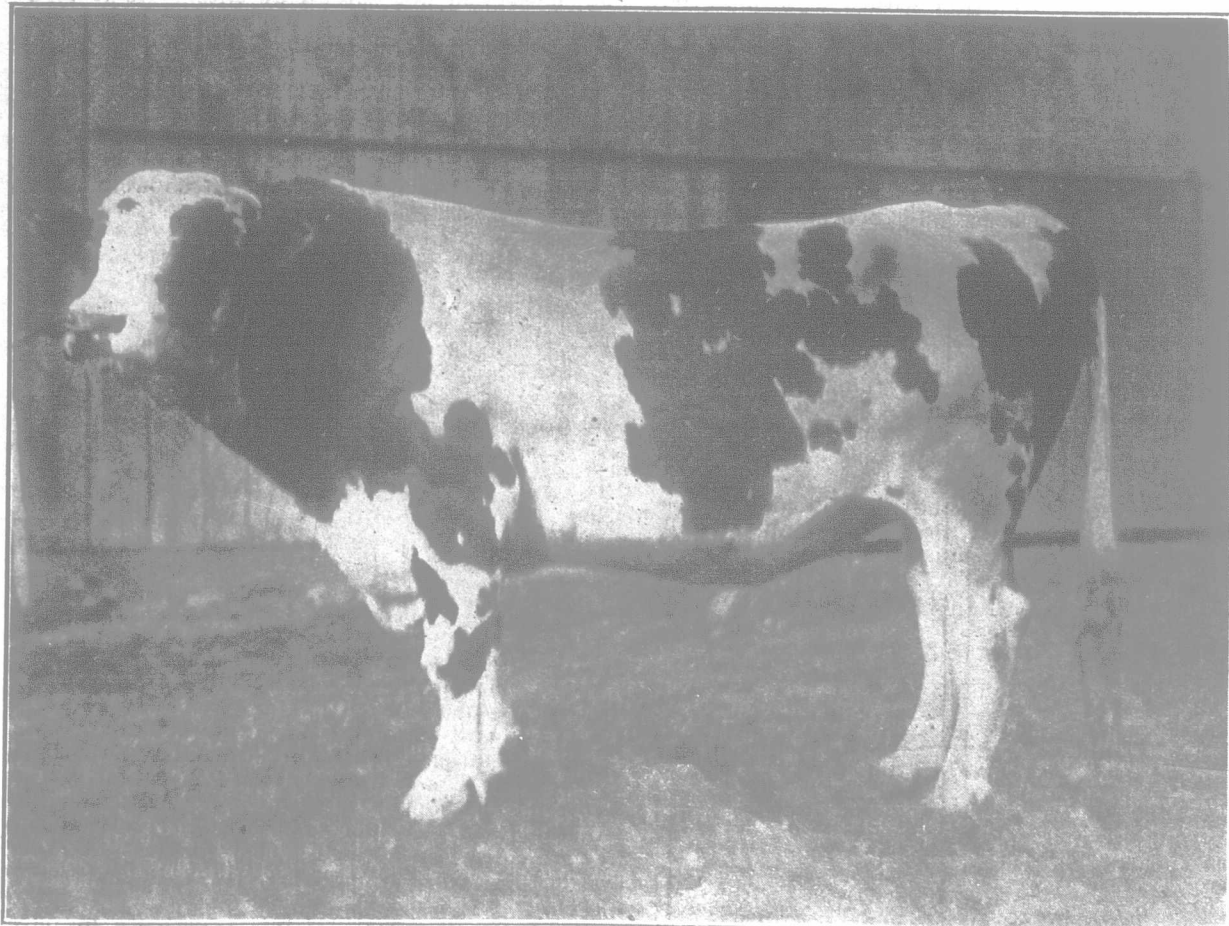
Editor, "The Farmer's Advocate":

In building the henhouse, of which the following is a description, four aims were kept in view—to provide abundance of light and ventilation for the fowl, and to economize space and labor.

The site of the building, which should be the first important consideration in erecting a henhouse, in this case is not a strictly ideal one, as the ground all around has a hard-pan bottom, but by good drainage and thorough cultivation of the yard, which will be divided into two parts, I hope to keep it in a healthful state. I consider that a yard without good natural drainage, so long as it is not low and damp, and is kept well cultivated and growing crops, is a much more healthful yard than a well drained one without any systematized cultivation to keep the ground clean.

This building is forty feet long and fourteen wide, six feet eight inches high, with a double roof, having a centre pitch in the roof of three feet eight inches. The foundation is cement, six inches high at one end, running to two feet six inches high at the other. This was necessary owing to the slope in the land. The north-east and west walls are of pine clapboarding, lined and interlined with tar-paper, and sheathed with matched spruce sheathing. The south wall is boarded up to a height of two feet six inches at the bottom and eight inches down at the top. The remainder is made up of six cotton windows and three glass ones. The cotton ones are hung on hinges, and can be opened up to allow more air to enter during the day, when not too stormy. Three openings are placed below the windows on a level with the floor, through which the hens may enter or leave the building. These are protected by shade doors.

Two ventilators, one foot square and two feet high, are placed near either end of the roof of the building. These are for the purpose of carrying off the foul air rising through the cov-



Rattler Beryl Wayne 5037.

Five-year-old Holstein bull, the property of G. A. Hogg, Thamesford, Ont. This bull is for sale. See Gossett.