constitution, Gloaming has, or she would never have stood the taxes imposed on her. Another Shire stallion—*i. e.*, Bury Victor Chief—must also be possessed of sound interior and any amount of vitality. It will be remembered that he came up to Islington year after year, looking fit and well, and won every time, and now at ten years old he is a sire with a great and growing reputation.

These instances prove that there are horses which can stand the stress and strain of modern life, but on the other hand there are many—very many—which break down under it, and breeders should have an eye to these things when the mating season comes around.

The law of the "survival of the fittest" seems to hold good in this matter, so it remains for horse-owners to patronize the horses which survive, the strains which are remarkable for robustness and longevity, which have sufficient strength and stamina to throw off and overcome the baneful effects of the artifical life under which they are too frequently kept.—*J. A. F., in English Live Stock Journal.*

DAIRY.

Milk-Condensing Enterprise at Ingersoll, Ontario.

The dairy products of Oxford County, in the Province of Ontario, have long enjoyed an enviable reputation in quality as well as quantity. This section of Western Ontario was practically the birthplace of co-operative Canadian dairying when the older men of to-day were striplings. Twenty years or more ago some of the grandest dairy conventions ever held in Canada took place in Woodstock and Ingersoll in the days when the Hon. Harris Lewis, X. A. Willard, and Prof. L. B. Arnold were in their prime; he latter as a pioneer investigator of dairy problems and travelling instructor, an idea so successfully developed in later years. A few seasons ago Oxford County figured conspicuously in the inception of Prof. Robertson's winter buttermaking movement, and it was here that an Oxford County boy, Mr. J. A. Ruddick, now New Zealand's Dairy Commissioner, compounded the big 22,000-lb. World's Fair cheese. FARMER'S ADVOCATE readers will therefore be naturally interested in the springing up of a great condensed-milk enterprise in the town of Ingersoll. The building, now in course of erection, to be completed by January 1st and ready to begin operations on January 15th next, is a two-story white brick, 190x90 feet, on a site covering 10 acres, one half of which was given by the town, along with free water supplied from a special reservoir, and exemption from taxation. The promoters are Chicago parties, called the St. Charles Condensed Milk Factory Company, of St. Charles, Ill., where they have had experience in carrying on a large concern of a similar nature. The building, including machinery of the most improved sort for the process, will cost about $100,000, with a capacity for handling 30,000 lbs. of milk daily, the contract price to farmers being $1.00 per 100 lbs. Farmers within five miles of this town have already undertaken to make arrangements to produce the quantity of milk to supply this establishment, besides what is going to the cheese factories. The total cost to the corporation of securing this promising enterprise is about $4,500, and the company expect to employ a staff of from 50 to 75 hands, and to construct a beautiful park in front of the building. If conducted with the same enterprise and success as have characterized its inception up to this time, it will add another to such renowned enterprises as the Noxon manufacturing establishment and the Ingersoll Packing Company, of which the town is so justly proud, and be likewise a source of satisfaction to Mayor Mills and the local Council.

Milking Contests at the Dairy Show.

One of the "novelties" at the Dairy Show in London last month was a milking contest, the first of its kind brought off in connection with the show. There were three competitions, one for men over 18 years of age; one for women over 18; and the third for boys and girls under 18. The contests aroused much interest, and the manner in which the work was performed was most instructive, the way in which the competitors set about their business varying considerably. Some of the visitors questioned the advisability of instituting competitions for women, as they argued that "milking was not woman's work." It must be admitted, however, that it is a very useful accomplishment for a woman to be able to know how to milk when occasion requires it. The laborer's wife, where a cow is kept, finds it most useful, as also farmers' daughters and others at harvest time, when a little help is worth a good deal.

The Weight of Milk.

The specific gravity of milk, water being regarded as 1, is about 1,030; it varies from 1,028 to 1,032. This means that a vessel capable of holding 1,000 lbs. of water will hold 1,030 lbs of miik. Skim milk has, of course, a distinctly higher specific gravity than whole milk, because the butter-fat which is removed in the process of skimming is the lightest part of the milk. On an average the specific gravity of skim milk varies from 1,036 to 1,040. Roughly speaking, a gallon of milk may be regarded as weighing 10 lbs.

Appetizing Rations.

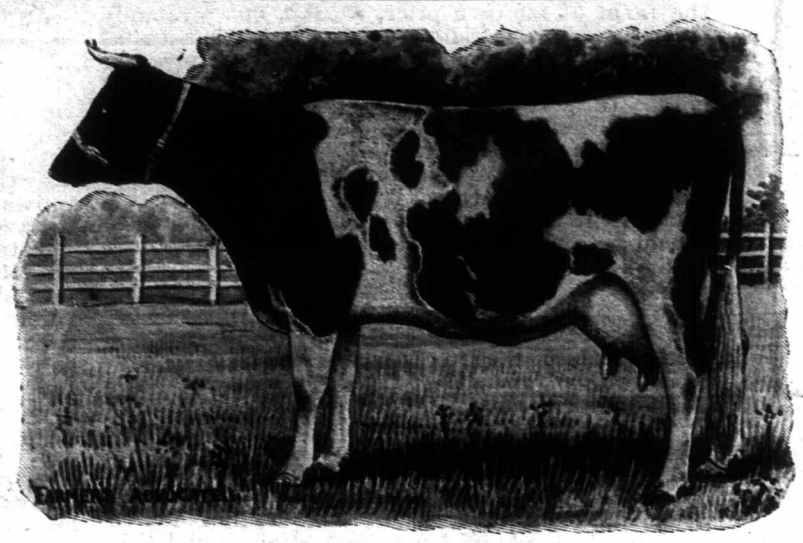
Whatever makes the feed taste better or makes it more enjoyable to the cow, increases its value for milk production. Early-cut hay is best for the dairy cow, not only because it contains more protein than that cut late, but because its aroma and flavor make it more palatable to the cow. The appetizing effect from the early cutting and careful curing of all forage crops increases their feed value for milk production. Freshly-harvested and freshly-ground grain is the most palatable to the dairy cow, and will give best results. Dairymen who grind feed, should grind often, as grain that has lost its freshness is not the best relished by the cow.

Often the dairyman has a large quantity of coarse, rather unpalatable rough fodders, such as corn fodder and overripe or slightly damaged hay, which he must feed, and has only a limited quantity of choice roughness to feed with it. In this case best results can be secured by giving the more palatable roughness in the morning, or with the grain night and morning, and feed the poorer roughage as the last feed at night, to be eaten at the cow's pleasure during the night, or else put in racks in the yard for midday meals. Palatable feed in the morning gives a contented cow through the day, and this contentment brings more milk.

When several kinds of feed are given, it is usual to throw them together into the manager and let the cow eat at will. This method does not secure the highest milk yield. You do not want your soup and pie served together on the same plate, and neither does the cow like this method of serving her food. If all the feed stuffs for a meal are thrown together, the more palatable are eaten first. In separating and eating these, the others are "mussed" over, and when the cow comes to eat them they do not taste good, and she will not eat enough to produce the greatest milk yield. We like to feed our most palatable roughness and give this just before the milkers go to their meal. When the milkers come back from eating, the cows have finished their first feed, and the less palatable roughness can then be given them. It will not then have been slobbered on, and will be better relished and more of it eaten. This method of feeding requires time and care, but it pays.

If the cows are given their rough feed in racks out of doors, it will pay to put feed in their racks often, so that the feed will be clean and appetizing. Mangers, feed troughs and racks should be kept clean and fresh from old, soiled feed, both as a matter of health and because the food in a clean manger smells and tastes better.

The dairyman's rule should be to harvest feed in its most palatable form, and feed in the most appetizing manner.—*Bulletin 81, Kansas Experimental Station.*



CROSS-BRED GUERNSEY-SHORTHORN COW, NANCY.

Winner of the championship in the Milking Test, London Dairy Show, '98 and '99.

Milking Trials at the London Dairy Show.

The annual show of the British Dairy Farmers' Association, held at Islington, London, is probably the largest exhibition of the kind in the world. It is not confined entirely to milking trials, but embraces several other departments, such as goats, poultry, pigeons, cheese, butter, bacon, hams, bread, honey, eggs, roots, dairy appliances, etc., which accounts for the rather startling number of entries, which this year totalled 7,741. The number of cattle entered was 207, and the entries in milking and butter tests 168. Shorthorns, which came first in the catalogue, made some excellent records in quantity of milk, and a noticeable fact in all the classes was that the cows which won the prizes by inspection were not in the money list in the milking test. The first prize winner, judged by conformation and the indications for dairy work, was Mr. G. H. Proctor's Bella, of Scotch breeding, a big-framed cow, carrying thick flesh and a shapely udder indicating a capacity of two to three gallons, but in the milking test her average daily yield of milk was 44 lbs. 8 oz., while Lord Rothschild's Lady Somerset Waterloo 2nd, who was not placed by inspection, gave in the trial a daily milk yield of 52 lbs. 4 oz., the period of lactation being the same within two days, both having dropped their last calves in September last. The unregistered Shorthorns did splendidly. Mr. Birdsey's Southcott Bell won 1st prize in the test, with an average of 55 lbs. 7 oz. milk daily, and his Beauty, who got nothing by inspection, was second in the milk test. She gave 58 lbs. 9 oz. milk in one day and an average of 55 lbs. In the Jersey class the first prize cow by inspection was Mrs. Greenall's Mabel 23rd, in her 12th year, but she was not placed in the test, in which Mr. Howard-Vyse's Madeira 6th was first. She gave 41 lbs. 8 oz. per day, and her milk was very rich, yielding 2 lbs. 9¾ oz. butter, a ratio of milk to butter of 16.09. In the Guernsey class Mr. Plumtree's Lady Ashurst made the best showing, yielding 35 lbs. 12 oz. milk, and 1 lb. 9 oz. butter, a ratio of 22 43. The champion of the show, however, was the cross-bred Guernsey-Shorthorn cow, Nancy, owned by Mr. G. Long. She gave 68 lbs. 8 oz. milk in a day, an average of 63 lbs. 1 oz., and a butter yield of 2 lbs. 11¾ oz., a ratio of 25.05. This beautiful cow is illustrated in this issue, and is a model dairy cow in form as well as in performance. She won the championship at the same show last year, and repeated the record this year.

Farm Dairying.

[By Miss Christina Stewart, Oxford Co., Ont., winner of 1st prize in Buttermaking Competition, Toronto Industrial Exhibition, 1899.]

A great deal has already been written on this subject, but I will try to describe as briefly as possible my plan of home buttermaking.

The Cow and Cleanliness.—In this, as in all other matters, to deal with our subject intelligently we must begin at the beginning. In this case this means the cow, whose food and drink should be wholesome and pure. Then in milking, and throughout the entire process of making, cleanliness should be strictly observed, as it is one of the chief essentials to good butter.

Setting the Milk.—As soon as possible after milking I strain the milk into deep cans, and set them in water at a temperature of 40 degrees for 24 hours; then skim off the cream, and while gathering it, stir it whenever fresh is added, keeping this sweet until 24 hours before churning.

Ripening the Cream.—Having obtained sufficient cream for churning, great care should be observed to ripen it properly; and just here I may state that a dairy thermometer is an indispensable article for the production of fine butter. I heat the cream up to 70 degrees, and keep it at that temperature till 24 hours before churning, stirring frequently so as to have all evenly ripened, then cool down to 52 degrees in summer and 58 degrees in winter.

Churning.—I strain the cream through a perforated dipper into a well-scalded and cool Daisy churn, in winter putting in coloring to the amount of one drop of liquid coloring to three pounds of cream. The operation of churning takes from 45 to 60 minutes, and when the butter is half the size of a grain of wheat, I let it stand for a few minutes till all the granules rise to the top, then drain off the buttermilk through a perforated dipper.

Washing the Butter.—Strain into the churn as much water, at a temperature of about 46 degrees, as there was cream at first, turn 12 or 15 times, then drain off all the water. If the butter is for immediate consumption, one washing would suffice, but for package, two washings would be better.

Salting.—Then I take the granulated butter out with a wooden ladle and place in a tub and weigh; remove to the butter worker, and sift through a perforated dipper good dairy salt to the amount of ¾ of an ounce per pound of butter, for prints, and ⅞ of an ounce per pound for package. Then work, using a gentle pressure, as it is best to preserve the grain, being careful also not to overwork it, but working by a certain number of revolutions. Then put in pound prints. I wrap them round neatly with good parchment paper that has previously been drawn through cold water.

Marketing.—I sell my butter to private customers, and to A. Beattie & Co., Stratford, and also ship some small packages to a private customer in Montreal, in all cases getting the highest market price.

If all these foregoing remarks be carefully followed I feel assured that nothing but the best of butter will be the result of all efforts.

The Color of Milk.

The color of milk is due to the butter-fat which exists in it in a state of suspension. The rest of the solid matter contained in butter—on an average of about 8 per cent.—exists in a state of solution. The butter-fat of the milk is present in the form of very small globules, and it has been advanced by such a well-known authority as Fleischmann that if it were possible to remove all the butter-fat globules from milk the remaining liquid would be almost colorless and transparent. This is the reason why very poor milk is so apparently "thin" and watery.