

are, no doubt, descended from the aboriginal stock of Britain. The cows are fair milkers, and the steers famous in harness.

Partridge Cochín Cockerel.

Faith of Oaklands—The celebrated Jersey cow.

ARTHUR R. JENNER FUST.

BUTTER-MAKING FOR BEGINNERS.

T. D. CURTIS.

DAIRY APPARATUS.

Write to reliable dealers for lists of dairy implements, with prices. Study the lists, and note the different articles and styles of each. Then visit as many noted dairymen as you can; see what they use, how they use the different implements, how their dairy rooms are fitted up, and with what conveniences, their mode of handling milk, cream and butter, the quality of their goods, and all the details. Time spent in this way will be well repaid. Note every particular so as to compare the work of each with that of the others; see wherein improvement can be made, and adopt the best methods of each. After this, make up your mind what you need for your dairy, considering size and all the conditions and circumstances. Go to the dealer in whom you have the most confidence, consult him freely, listen to all his explanations and suggestions, use your own judgment, and buy accordingly. As a rule, buy the simplest articles; they are less liable to get out of repair. Avoid all rough surfaces and sharp angles, where dirt may collect or ferments may be retained. Simplicity and neatness are important points in everything pertaining to the dairy.

THE HERD

should be composed of healthy, thrifty animals, giving a good flow of rich milk. Full-bloods will be too expensive for practical dairying, unless you wish to couple with it fancy breeding. Grades are usually available at reasonable prices. There may be some difficulty in getting just what you want, but buy the best you can. Then buy the best pure-blood bull you can get, of the breed which you prefer. Never use any other, and continue to use the same breed, unless there are very strong and convincing reasons to believe that a cross will be advantageous. In crossing, still adhere to pure blood, and get the best male, with the best pedigree, that you can—for blood surely tells in the dairy, and it will tell for good or evil, according to your selection.

CLEANLINESS

is indispensable in the dairy. The cows must have clean food and clean water, and plenty of both, without working too hard or going too far to get them. Labor saved to the cow adds to the amount of the milk product. The milk is elaborated from the food and water consumed by the cow, and partakes more or less of their qualities. Good milk never came from poor food and foul water. Let the milking be done in a cleanly manner, and in a sweet atmosphere. Foul air inhaled by the cow will impart taint to the milk. Clean the udder before milking, so as to keep all filth out of the pail. Once in the milk, no strainer will take out what is dissolved. Milk readily absorbs odors, and more especially if it stands in an atmosphere warmer than itself. Everything which the milk touches must be carefully rinsed, then washed in water as warm as the hands can bear, but no warmer. Clean soap will do no harm. Some use soda in the water; but borax or ammonia is better. When washed, scald every article with water boiling-hot, and follow by giving it a good airing. A sun bath is a good thing. Milk things treated in this way, have a smell that is grateful to the olfactories and a certificate of cleanliness.

HANDLING MILK.

Set your milk for cream-raising as soon as possible after it is drawn from the cow, and before it has time to cool. Every degree of temperature lost is a waste of the force that separates the cream from the milk. The cream rises fastest when the temperature is falling; slowly when the temperature is stationary, and little, if at all, when the temperature is rising. The watery and caseous portions of the milk, being better conductors of heat, cool and shrink faster than the fat globules. This makes the fat so much the lighter relatively, and hence it rises more rapidly, by force of gravity, as a balloon rises through an atmosphere denser than the gas with which it is filled. Agitation of milk has been found to retard the separation of the cream, though all other conditions remain the same. Hence milk should be agitated as little as possible before setting for cream-raising. The fat globules in milk have been found to range from one fifteen hundredths to one three-thousandths of an inch in diameter. The larger ones rise the most readily, churn the most easily, and make the best quality of butter. In some European countries two qualities of butter are made from the same milk, by skimming off the first cream that rises to make the first quality; and the cream that subsequently rises to make the second quality. The time is coming when the dairymen will look for and breed for large butter globules, and those of uniform size. The beginner, who is likely to be young, should take in these facts and be prepared to avail himself of any advantages in this direction. The dairyman of the future must be wide-awake and progressive. Skill, judgment, and deftness are of paramount importance.

HANDLING CREAM.

In the old method of shallow setting in pans, it was the custom of the best butter-makers to skim as soon as there was the least sign of acid; generally, the skimming was done daily. The cream may be safely taken off at any time when it is found to be fully separated. The skimming should always be done before the milk "loppers," and so as to have the cream as free as possible from caseous matter. Keep the cream in a clean, sweet place, and give it frequent stirrings to expose all portions of it to the air, and make it of uniform consistency and condition. In shallow setting and a gradual fall of the temperature, the cream will rise slowly and be dense and sometimes, if the air is too dry, leathery. In such case, it is well to run it through a fine sieve to reduce and dissolve all lumps which might otherwise remain solid, and make white specks in the butter. In deep setting, the cream is always more liquid, contains more milk and caseous matter, and is less dense. It needs more airing than cream raised by shallow setting, and seldom makes good-flavored and good-keeping butter if churned sweet. Well-aired cream from shallow setting may be churned sweet, and make deliciously flavored butter, having good keeping qualities. But few are in the habit of churning cream sweet, and the public are habituated to the taste of sour-cream butter. Some even want it to have a fresh butter-milk taste. This requires that a large amount of butter-milk should be retained in the butter, and it is not safe to make such butter, unless it is to be immediately consumed, as it will keep sweet but a short time. But butter churned from slightly-soured cream and well washed, has a fine flavor, keeps well, and generally brings the highest price; hence, it is best to churn the cream as soon as it takes on a slightly acid taste. It should never be allowed to sour enough to cause a coagulation of the cream and a separation of the whey from the solids—a practice followed in some of the Western creameries. Never put a fresh lot of cream into the cream jar just before churning. The chances are that it will not churn as soon as the other, and will