

IMPROVING DAIRY HERDS

Eldred Roberts, '31

Sufficient Balanced Ration Necessary For High Production; Culling Is Necessary To Improve Herd; Good, Purebred Bull Asset To Dairy

OURS is a world of improvement. This is shown by the business man, the engineer, and the farmer. So it is quite natural that the dairyman should fall into this present day universal trend of mankind. We have many cows today that have produced over one thousand pounds of butterfat in one year and these are the results of good management as voiced by culling, feeding, and breeding.

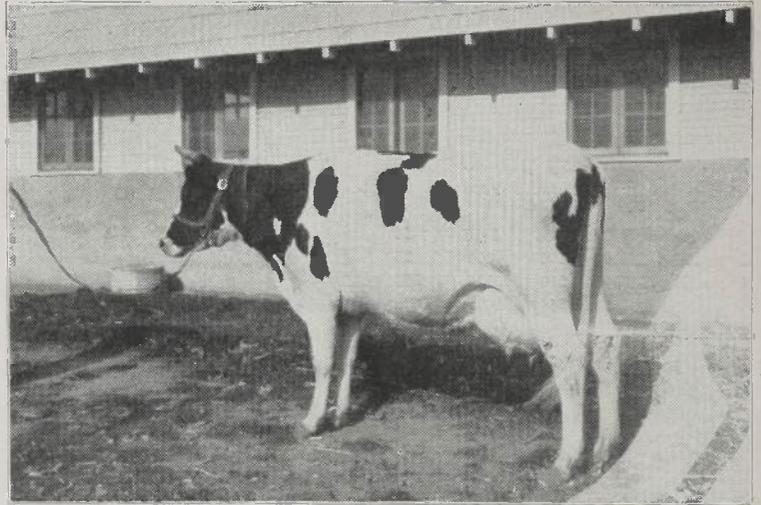
The average production of butterfat per cow in the United States is one hundred and seventy-five pounds from four thousand five hundred pounds of milk. This is not a very high average and shows the great need for dairy herd improvement. There are many cows below this mark upon which the necessity for improvement is even greater, as they are not paying for their care and may be classed as boarders.

Culling is one of the big steps in bringing up the average of the herd. This is logically done by the use of production records. To obtain production records one must weigh the milk from each milking of each cow and test it monthly. By testing the milk of the individual cow an accurate record of the butterfat production of each cow can be obtained. One of the most convenient methods to test one's cows is through a cow testing association in which the tester comes around once a month and tests the herd. In this manner an accurate test is to be had, and it will be done every month. Almost every herd has its low producers, and these are brought to light by the use of production records.

May I quote an example from the annual report of the Maiden Rock Cow Testing Association of Pierce County, Wisconsin, for 1926-27, showing the benefits derived from continuous testing? This herd was high herd of the association and is now composed of fourteen grade Holsteins. These figures are for yearly averages.

Year	No. Cows	Pounds Milk	Pounds Butterfat	Per cent Fat
1st	12	8641	317.0	3.67
2nd	12	9790	365.2	3.73
3rd	13	10003	386.1	3.86
4th	15	11424	414.9	3.63
5th	14	11552	433.6	3.75

This shows a gradual yearly in-



Purebred Holstein-Friesian Cow

crease in milk and butterfat production and shows that it is not the number of cows but the quality of the cows.

It must be remembered by the dairyman that a cow cannot produce large amounts of milk and butterfat without receiving sufficient feed. Up to a certain point a cow will use the feed for body maintenance, beyond that point it will use the feed for milk production until the cow has reached its limit, and then she will begin to put on fat. Hence it is well to neither underfeed nor overfeed a dairy cow. One must study his cows individually to properly know how to feed them. Many cattle are fed collectively instead of individually, and in this manner the low producers are overfed and the high producers underfed. Milk records are the key to knowing the high and low producers and they should be fed accordingly when grain feeds or concentrates are used. Grain feeds are a necessity to high producing cows to keep them in condition. But these should be used to an extent as they return milk to an advantage as shown by the milk records.

Home grown grains used in a practical ration are found to be the most economical to feed. Many feeders have made the mistake of trying to feed too high priced grains for feeds.

The more home grown feeds that can be used in the balanced ration

the cheaper the ration will be. Economy of production is not to be overlooked even with increased production.

There are four factors the well-fed dairy cow must have. They are:

1. An abundance of feed.
2. A succulent feed.
3. A properly balanced feed.
4. A palatable feed.

Alfalfa in Arizona is a valuable feed for providing a succulent feed and roughage. It also contains considerable protein. Alfalfa hay is considered to be the best kind of hay obtainable anywhere. The cow should have all the pasturage and hay that she can consume. But besides the roughage cows that are expected to produce highly should be fed concentrates. All the feed consumed by the cow should be considered and the ration balanced as near as possible. Often it is well to change the feed occasionally to give the cows more variety. Variety makes the ration more palatable. In summing up the point of feeding it is an apparent fact that dairy cattle must be fed to produce.

It has been said that the production of a herd can be raised twenty-five per cent by close culling and twenty-five per cent by proper feeding. But improvement through breeding is a larger field yet. Often the bull is classed as fifty per cent of

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the herd. If he is from a good family of high producing cows and shows individuality himself it is fairly certain that he is going to be an asset to the herd. Good pure-bred bulls raise the production of the daughters over their dams, as can be shown by the production records.

Too often the bull is bought and used for the mere fact that he is a purebred. He may be faulty in conformation and he may come from a line of purebred cattle that are not a high producing strain. There are many of these bulls that are in reality nothing but purebred scrubs. This type of sire is a knock to the dairy industry. He is not only doing a great deal of damage to the herd in which he is used, but he is perhaps sending to the butcher a good bull that is worthy of being a herd sire.

The herd bull should be well taken care of in all ways possible. He should not be let to run with the herd if definite breeding dates are to be kept. It is always more satisfactory if the dairyman knows the breeding dates as he can then turn dry his cows in time to give them a sufficient rest before calving. It is not always advisable to keep the bull in such a small pen where he can not exercise himself, for exercise is necessary and the dairyman does not exercise him as often as he needs it. He should be fed enough to keep him in good condition but not fat, and green feed and hay occasionally are good for the bull. A clean, thrifty condition of the herd sire is desirable.

An example of good breeding and feeding of home grown grains to an advantage is shown by the records of Noble's Golden Bessy, a purebred Jersey in the herd of Chesney Farm, Glendale, Arizona. In her first lactation period of three hundred and sixty-five days "Betsy" made 10,508 pounds of milk and 543 pounds of butterfat, and in her second lactation she produced 12,144 pounds of milk and 625 pounds of butterfat. This gives her 22,652 pounds of milk and 1,168 pounds of butterfat for her first two lactations of 365 days each. She holds the Arizona State Records of the Jersey breed for milk and butterfat production in the 365 day division, Junior Two Year Old and Junior Three Year Old. She was also the high cow of the Maricopa County Cow Testing Association for the year 1926-1927. This cow has been han-

dled under ordinary conditions with no special attention.

Business methods in dairying are rewarded as in everything else and the man that uses the records to know his herd, feeds his cows properly, and keeps a good herd sire is the man that is building a dairy herd worth while.

**NEBRASKA COW PRODUCES
1,375 POUNDS BUTTER YEARLY**

Beauty Girl Gerben Re-Becky, a Holstein-Friesian cow owned by the University of Nebraska, North Platte, Nebraska, has for the third time produced more than 1,000 pounds of butterfat in 365 days. This most remarkable cow last freshened at the age of eight years eleven months eighteen days and thus finishing her record at almost ten years of age. She is credited as having produced 30,137.5 pounds of milk containing 1,104.54 pounds of fat, equivalent to 1,375.6 pounds of butter. She thus attains the great honor of being the second Holstein-Friesian cow in the world to produce 1,000 pounds of butterfat in three successful lactations, her average for the three periods being 30,354 pounds of milk and 1,072.13 pounds of butterfat.

The sire of this splendid animal is King Piebe Pontiac Segis 17403 and the dam is Gerben Re-Becky Segis 352807.

Her largest fat production in short time tests is 31.795 pounds of fat from 714 pounds of milk in seven days and 117.408 pounds of fat from 3,132.8 pounds of milk in 30 days. Her best long time record is 1,106.62 pounds of fat from 32,173.8 pounds of milk.

FEEDING VALUE OF ALFALFA

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The crude protein contained in Sample No. 1 exceeds that in Sample No. 2 by 56 percent which gives the higher quality hay a value of \$21.85 per ton on the crude protein basis. The digestible crude protein in Sample No. 1 exceeds that in Sample No. 2 by 72 percent which gives it a value of \$24.08 per ton on that basis. Thus it will be seen that with these two samples of hay, assuming a fixed price of \$14.00 per ton for the poorer of the two and using the differences in leaves, crude protein and digestible crude protein only, there is a difference of approximately \$2.00 per ton between the leaf and crude protein bases.

The objection that none of these

factors can be used accurately in determining the selling price of alfalfa because of the difficulty of determination is a proper one. At the same time, it is well to recall that alfalfa meal is customarily sold on a protein basis at the present time and that it is usually held to fairly accurately describe the quality of the product. For years, the protein content has been an important factor in determining the price of the bread wheats in many markets. Although the actual protein content of hay probably cannot be used, its relation to the leaf content and other factors determining the quality of the product should be well understood.

SUCCESSFUL DATE PACKING

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of quality are taking an increasingly large part in the menu of the household, as dates are becoming better known.

The following table showing the annual production over an eight year period gives an idea of the growth of the industry.

Total Receipts	
Year	Pounds
1920.....	3,500
1921.....	35,240
1922.....	85,874
1923.....	159,192
1924.....	196,389
1925.....	211,985
1926.....	454,000
1927.....	626,000

The growth and success of this organization is due primarily to the fact that it is a cooperative organization. The growers by their organization, have established a trade name, which is a great asset. By giving only fruit of quality to the public they have established a market for their produce.

**RIPENING FRUIT WITH
ETHYLENE**

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uses for it will be found in the next few years. It may make possible the shipment of large quantities of tropical fruits every year, thereby opening up a practically new field. Predictions as to its future use are at present nearly all speculation. From recent indications, however, it is likely that the use of the gas at the present time is not a "drop in the bucket" to what it will be in the future.

If sheets are alternated each time after they are laundered, paying no attention to top and bottom, they will wear longer and the strain will be distributed.