

DAIRYING AS A FACTOR IN ARIZONA AGRICULTURE

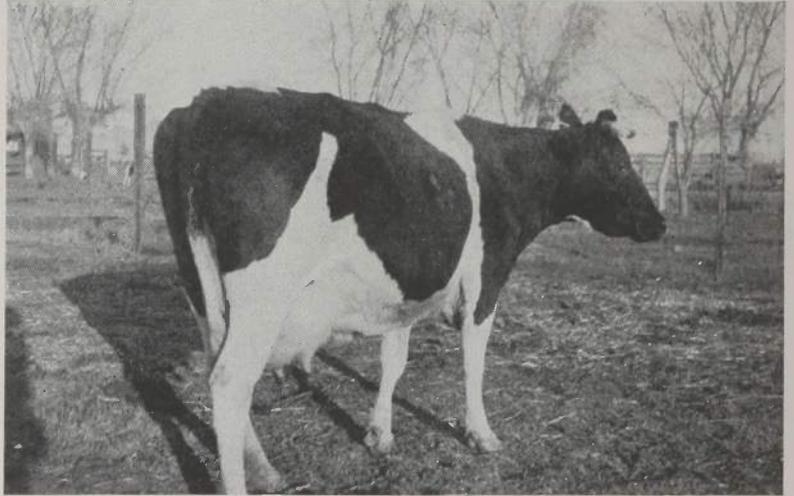
By A. G. CARNS, '26

Eliminate the "Boarder" Cow From Your Herd—Good Dairy Cows Have Proved Money Makers For Arizona Dairymen

DAIRYING in Arizona is practiced mainly in the southern valleys including the Salt River Valley, the Yuma Valley, the Santa Cruz Valley and to a small extent the Graham and other valleys. Thus a consideration of these valleys especially the larger ones will provide a basis for judgment as to the importance of dairying in Arizona Agriculture.

Green Feeds The Year Round

The first question to be answered is, do these valleys have suitable physical factors for the dairy industry? The warm to moderate climate with only a short period of excessive heat and no extreme cold is an almost ideal temperature condition for dairying. Such a climate is of great benefit to the dairyman both from the standpoint of raising feed and of tending the herd. Seldom is there a time in any of the southern valleys when green feed cannot be grown twelve months of the year. With the exception of a few weeks in the coldest part of the year the pastures will provide green feed every month, and the dairy cow may be seen grazing somewhere at all times. This is made possible because alfalfa grows seven to eight months of the year and barley will grow during the balance of the year with the exception of a few weeks. Of course the pasture will only supply a part of the necessary feed in the winter and will have to be supplemented with hay, silage, or concentrates, or a combination of two or more of the latter feeds. The point is, —there is always green feed and this is of great benefit to the dairyman in that it saves much labor in harvesting and storing these feeds for winter. Consequently this factor makes for cheaper production as far as harvesting and feeding these crops is concerned. This pasture situation is very rare in other dairy sections of the U. S. and this is one reason why Arizona farmers should consider dairying as a major industry. Another benefit derived from our desirable climate is that it facilitates the tending of the herd. There are few days in the year that the Arizona Dairyman has to even think about protection from



Lady Janette Beauty, 420283, Pure Bred Holstein Cow. Owned by B. Coman, Phoenix. She Showed a Profit of \$356.00 Over Feed Costs in 1924 With a Production of 18,211 Pounds of Milk.

storms much less to build tight barns, thaw out water pipes, and other precautions that the dairyman of colder climates must take. There is little need for the dairyman to suffer from weather conditions in southern Arizona especially if he has as much as a shed roof over a row of stanchions.

Irrigation Expensive

Although the climate is our greatest physical asset it is not all. The soil is very fertile in the greater part of these valleys especially in the Yuma and Salt River Valley, where some of the largest alfalfa yields of the U. S. have been grown. Alfalfa is equal to any roughage in feed value and it exceeds by far all other crops in length of time of growing season. So with a combination of a good soil conditions and of a suitable climate Arizona is particularly well adapted for dairying, excepting for one factor, and that is rainfall. The irrigation in these valleys is essential to combine the good climate with the good soil but is also the basis of the real problem of dairying in Arizona. The expense of irrigation greatly offsets the benefits of the climate and soil factors. We can produce an excess of growing feed luring our long growing season and save money in harvesting, but the production of this excess feed is a much added expenses. This leads to the second and most important

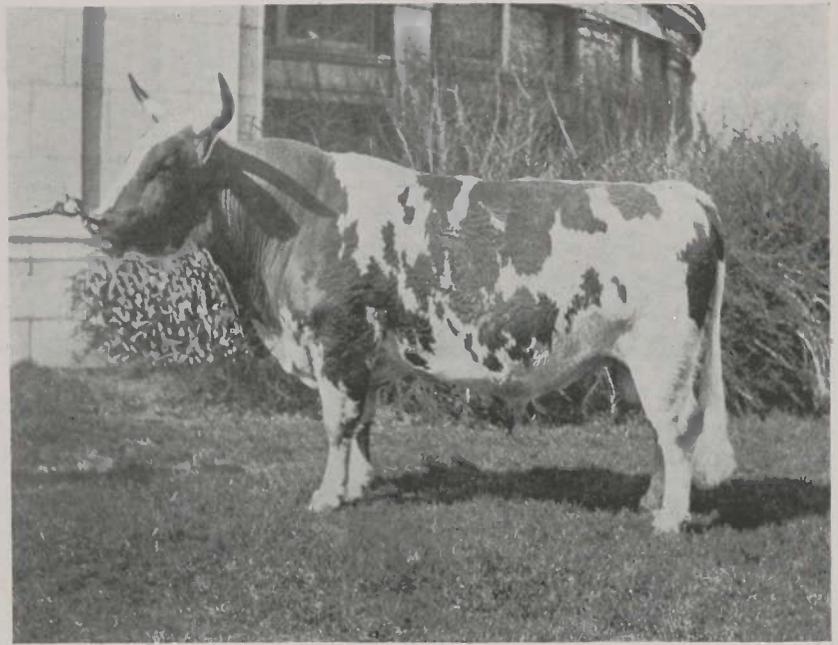
factor influencing dairying in Arizona, and which greatly determines the importance of the industry in our agricultural system.

Expense of Feed and Labor

Without doubt we have the suitable climatic and soil factors for dairying, but it is necessary to determine whether or not we can make it a paying business. Can dairying be made profitable under an irrigation system. If so what production is necessary to make the business pay? These are some of the questions that have to be answered before we can say definitely what part dairying should have in our Agriculture. In order to consider these questions in a logical order it will be best to begin at the bottom by figuring the average cost of producing milk for creameries, ice cream factories and condensory trade, since 75% of the milk produced in Arizona is for these purposes. Figures show that the average cost of feeding a dairy cow a month is close to six dollars per head throughout the year. The average cost for labor of tending (including milking, feeding and other essentials of caring for the herd) is 3 dollars per head per month for the year. This makes a total of 9 dollars for expense of feeding and labor. Naturally these figures will vary considerably for different dairymen depending upon

efficiency of management, soil factors, etc. Also these figures will not apply to a wholesale delivery trade. We now have a cost basis upon which to work and can estimate what a cow will have to produce to meet expenses and to pay a profit on the investment. The average price paid for milk for creamery and condensory trade is 40c per butterfat pound for the year. This means that the dairy cow will have to produce 22¼ pounds of butter fat per month to pay the expense of her keep. The Dairy Testing Association of Maricopa County shows by investigation that a dairy cow should produce approximately 250 pounds per year to meet expenses. The average feed cost for these dairies is a little above the feed cost of the average dairyman of the whole valley, but they both indicate fairly close what the dairyman must accomplish in the way of production to make his business profitable.

There are, however, some minor factors that sometimes add to the profit of dairying. One is the increase of the herd. The average cost of raising a heifer calf to the production stage is about \$2.50 per month or \$30 per year, which makes a total of 60 dollars if she comes fresh at the end of two years. If she is a good heifer she should be worth 80 to 90 dollars which will leave 20 to 30 dollars for labor and investment. The profit of increase just as the profit of production depends upon the quality of the stock. As to the calf problem, many dairymen veal their calves and others get rid of them in some other way as soon as possible. A common mistake made by dairymen is to hold such animal until they will bring more gross but less net than if vealed. At any rate the feed should be put into the cows which will return a greater profit. Another possible source of profit to those dairies that separate their milk is the skim-milk that may be fed to poultry. Skimmilk is estimated to be worth 1c per gallon as feed, this means a gross sum of \$1.25 on a four gallon cow or a net return of 75c per month per cow, figuring cost at 50c per month (Labor—1 hr. @ 30c, separator expense 20c—50c.) It is therefore evident that we need cows that will produce more than 225 or more pounds of butter fat a year to be profitable in Arizona,



An Ayrshire Bull That Shows Breeding and Quality

A Stabilizing Factor

There is another factor however that should not be overlooked in considering dairying as a part of our agriculture. We need this industry to stabilize the whole farming business. Dairying provides a slow but safe investment that steadies and secures farming from absolute failures. There is seldom a time when good dairy cows are not good security for large loans. The good dairy cow will always do her part in all weather if the dairyman will do his. It is not desirable that everyone should go into this business any more than it is desirable that everyone go into cotton or lettuce production. The number of cows in the state is about ¼ the number of a few years ago when we had approximately 58,000 producing cows, so there is room for more good cows at this time. The dairy business was the salvation of many farmers in the days just after the War, and has always proved a steady and reliable factor in our agriculture.

What are some of the needed adjustments and improvements in the business? One of the most important needs is better stock. All herds should have a good, tested, pure bred bull. It is not enough that he merely have his papers. Sometimes a poor individual may come from a good line of stock or because of physical defects he may otherwise prove to be a poor breeder. He may not transmit the good characters to his progeny, which fact can only be de-

termined after he has been tried. Dairymen can help each other considerably in this matter by means of organized bull associations and also by mutual agreement if in no other way. It is to the interest of all good dairymen to demand that only good bulls shall be sold. They can not prevent the selling of poor individuals but they can do much to prevent the buying of such animals by organizing together for that purpose. But there is also a pressing need for better cows that can only be obtained in a reasonable length of time by a process of selection. Figures show that the average production per cow in Maricopa County, and it is fairly representative of the State, is not over 180 pounds of butterfat per cow a year, which is 18 pounds a month considering 10 months as the milking period. It will prove more profitable to sell a poor producer for meat than to keep her on expensive feed. Selection is being practiced by many dairymen but it is not being done rapidly enough. A few good cows on the same feed that has been provided for many poor or even average cows will save labor, money and will yield a larger net return.

This brings up another needed adjustment, and that is a change in feeding practice. Wherever one goes he can see dairymen who are short of feed and who have a consequent surplus of unprofitable cows. Quite often a farmer will have cows that would yield him a profit if he would properly

(Continued on Page 17)

BEEKEEPING POSSIBILITIES

(Continued from Page 3)

occasionally a small surplus in the most favorable years. The dry bahada slopes or mesas, covered with creosote bush, widely but erroneously known as "grease-wood", are not favorable locations, since this shrub yields but little nectar and the honey is of poor quality, strong and dark. Mesquite and cat's-claw blossom almost simultaneously in April, May, or June, according to altitude and season. They are commonly said to bloom again, producing a second flow in July-August rainy season, but in several years of observation the author has failed to note either an abundance of bloom, or an important honey-flow at this time.

In the Salt River Valley cotton and alfalfa honey are produced, although the region about Yuma produces more of the latter, since it is an alfalfa seed-producing area. Alfalfa in the arid southwest when cut for hay is mowed before any considerable blossoming occurs. Sweet clover growing is in its infancy, but offers lucrative possibilities to the Arizona beekeeper where irrigation is possible. Bees from the University Farm near Tucson were located one season in close proximity to several acres of sweet clover, from which they garnered a crop of honey at a time when there was little other nectar available. This honey was of disappointingly strong flavor, and of amber color, probably another instance comparable to alfalfa honey, which is darker and stronger in the arid regions than in moister climates.

As in any other locality, some seasons are much better than others, though complete failures are rare, and perhaps need never occur with the beekeeper who knows his job and his locality, so as to have his colonies ready for the one best bet, the mesquite-cat's-claw flow. An average production of 80 pounds per colony has been estimated, but probably 60 pounds is a safer estimate. Nevertheless, those beekeepers who use the most modern methods can secure better than 100 pounds per colony.

It should be noted that all the estimates offered above are with reference to extracted honey production. This region is not well adapted to the commercial production of comb honey, though some fine comb honey is at times secured. A small amount of chunk honey is produced and market-

ed locally. Some of the more important sections of the state not now well stocked with bees are the Santa Cruz and Rillito Valleys, and Pantano Wash, and their tributaries, in Pima and Santa Cruz counties; the San Pedro Calley in Cochise and Pinal counties—stocked in the Benson and St. David portion, but not elsewhere to any extent; the upper Gila Valley, incompletely occupied in Pinal, Graham, and Greenlee counties. A great area along the Colorado River from Needles to the Yuma irrigation project would yield quantities of honey, but has the disadvantage of remoteness from market. The Salt River Valley irrigation project is rather well stocked, but still offers some good locations in the outlying districts and along the Hassayampa, as at Wick-
 enburg.

There are doubtless also untouched possibilities in the northern and higher regions of the state, but the seasons are shorter and wintering problems enter. Beekeeping will succeed in many places there, but it will require much better methods to secure adequate returns.

There is but little foulbrood in the state, very extensive areas being entirely free from it, and indications are good that it will be completely eradicated.

Poultry feed troughs should be placed high enough in the pens to keep the fowls from standing in them while eating. Do not feed so much that any will be left in the trough at the next feeding.

DAIRYING AS A FACTOR

(Continued from Page 5)

feed and care for them. Also in order to be absolutely sure what a cow is yielding it is necessary that her milk be weighed and tested, and her cost of keep be figured. This is the great value of a Testing association to the farmers. The need, then, is more efficient management coupled with more applied scientific principles. In these days of high costs of labor and of marketing a dairyman needs to be a business man as well as a farmer and this calls for an adequate record of his business and a check on every item of expense and of returns. A little bookkeeping along with other farm operations will often mean the difference between success and failure. If records of the business are kept the dairyman can then safely practice good breeding, selection, and all other profitable operations because he knows where he stands and where he is headed.

In view of such facts it seems evident that dairying can be made profitable in Arizona, and furthermore that the business should be an important part of our farming if we are to have a stable and well balanced system of agriculture.

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