Staff Contribution 7-23

Miscellaneous Staff Contribution of the Department of Agricultural Economics

Purdue University Schl. of Agric.
Lafayette, Indiana

For information concerning additional available publications write: Librarian, Department of Agricultural Economics

7-23

WHY FARM PRODUCTION OF MILK VARIES*

By Charles E. French and Douglas C. Kranz

Milk production does not vary widely, but it does vary. Milk surpluses have focused attention on this question of why milk production varies.

Recent research at Purdue has taken the authors out on 97 Fort Wayne, Indiana, area dairy farms. Here we studied this problem with the men operating these farms.

The Fort Wayne farming area is diversified and the dairy enterprises are relatively small. The average herd had 13 cows. Most of the farms had stanchion barns and few had bulk tanks or pipeline milkers. Yet, this market should give some guidance for many other markets.

Grade A milk supplies in a market such as Fort Wayne, can have about five broad sources of variation: number of Grade A farms, number of cows per farm, production per cow, amount of milk used on these farms, and amount of Grade A milk coming into Fort Wayne from other areas. The last of these was not covered by the research reported in this article, but let us take a look at each of the others. Of course, seasonal variation occurs, but let's talk essentially about year-to-year variation.

1. Number of Farms:

These Fort Wayne area farmers tended to look at dairying from a long-run point of view. The average producer has been dairying for more than 28 years. More than half of the producers indicated that they planned to continue dairying indefinitely. Steady income was given as their main reason for dairying. Two-thirds of them expected the long-run economic outlook for dairying to be "average" or "good."

However, not all producers were planning to stay in dairying; 35 producers said they expected to be out of dairying within 10 years. Since only 14 of these will be 65 years of age by then, some apparently were expecting to go into other lines of work.

Only three of the Grade A producers in the Fort Wayne market indicated any thought of switching back to selling ungraded milk or cream. However, a recent study in Detroit indicated that we can expect ungraded producers to continue to shift to Grade A outlets.

The number of producers on the Fort Wayne market over the last 20 years has increased slightly more than two per cent per year. Except for this year-to-year increase, little variation in total number of producers has occurred. Yet, shifting on and off of the market by individual producers has been extensive. Only 86 per cent of the producers on the market in 1955 had been on the market 12 of the last 18 months. Only 60 per cent of the farmers interviewed in 1955 had been on the market in 1951.

During a recent year, 456 producers left the Fort Wayne market; degrading for health reasons accounted for 218 of these. A study in Detroit found that one-fifth of the producers in that market changed their status in one year. Between January, 1954, and July, 1956, 3,056 producers are reported to have left the Chicago milkshed.

*Published in Milk Plant Monthly, October, 1957, pp. 47-49.

Twenty-three of the 97 Fort Wayne producers indicated that they had considered in the past, or were currently considering a switch to another market. However, 69 said that they definitely would not consider changing markets. Higher price was generally given as the incentive for considering a switch.

2. Number of Cows Per Farm:

Again, these farmers tended to look to the long-run in considering herd size. Thirty-six expected to increase herd size during the next five years. All who expected to be in dairying in 1965 planned to have larger herds; in many cases they expected to double their present number. However, none of these producers expected to have more than 50 cows in 1965.

Twenty-five producers said that they expected to reduce herd size, with 16 of them expecting complete dispersal of their herds within five years. These were generally the smaller producers. Thus, the decision was to get larger herds or to get out of dairying.

Despite herd size increases on many farms, herd dispersals and some herd size reductions nearly offset this. Consequently, the 97 farmers were expecting to have only 33 more cows five years from now than currently. They expected considerably fewer farmers.

Many of these farmers paid little attention to prices in determining herd size. Nineteen indicated that prices influenced them to change herd size during the relatively favorable dairy prices in 1950-51, and 19 indicated that prices influenced them during the relatively unfavorable dairy price situation of 1953-54.

Many producers made no herd size changes, and several said flatly that they never paid any attention to prices in determining herd size.

Producers were asked if they would change herd size if milk prices were increased $1.00 per cwt. while all else remained unchanged. Even then, only 21 said that they would change herd size, all by increasing them. Producers were then asked what they would do if milk prices dropped $1.00 per cwt. and all else remained the same. Twenty-eight said they would reduce herd size and one said he would increase. Sixty-three said they would make no changes, and five weren't sure.

Producers were asked what problems would be confronted if they attempted to alter herd size. About one-half said they could not reduce herd size because they needed a steady income and did not want to switch to other enterprises. Also, several said that they did not have alternative uses for their buildings or equipment.

Many producers indicated little trouble in increasing herd size. Forty-one said that they would need to make material changes in order to add any cows at all, but forty-three said that they could add at least five cows with no basic changes at all. Twenty-three said that they could add up to 10 more cows with no basic changes on their farms. Lack of building space was the main limit to increased herd size. Capital and labor scarcities were also mentioned.

3. Production Per Cow:

Long-run factors dominated changes in production per cow. For example, the average Indiana cow has increased production 188 pounds per year since 1945. Fort Wayne dairymen indicated that artificial breeding had increased their average production per cow. Seventy-three of these farms had been using artificial breeding for an average of 2.7 years. They had about seven artificially sired cows per herd.

Most expected continued improvement in production per cow for some time yet as a result of artificial breeding. Most farmers gave "better breeding" or "convenience" as their reason for using artificial breeding; whereas, only a relatively small number mentioned "cost" as a reason.

Production per cow seemed to be even less influenced by price than did herd size. Only about 15 per cent of the producers said they actually tried to change production per cow because of prices. Seven said they never paid any attention whatsoever to prices in regard to production per cow.

The producers were asked whether a $1.00 per cwt. increase in milk price would cause them to change production per cow. Forty-seven said that they would under those circumstances try to increase production per cow. However, they said lack of availability of good cows and feed supplies would probably handicap them. Many producers indicated that they thought their current production per cow was at the most profitable level for them.

4. Milk Used on Farms:

The proportion of milk used on farms in Indiana declined from about 18 per cent of production in 1939 to eight per cent in 1955. Most of this decline was in milk consumed on farms as milk, cream or butter. However, the part fed to calves also declined. Thirteen of the producers indicated that they were now buying milk from a store or retail truck route. Most of these indicated that they did this to prevent disease. Few other producers indicated any interest in taking milk regularly from a retail truck route.

Only five producers watched price relationships in determining whether or not to veal calves. Thirty-eight said they never considered prices when deciding whether or not to veal, and 54 said that they never vealed calves. Some said that they vealed during the season of heavy field work and price had nothing to do with it.

In 1939 approximately six per cent of the milk produced in Indiana was retailed by farmers; currently they retail only about one-half of one per cent. Thus, this was a minor item in determining total supplies.

In nearly all areas of analysis, long-run considerations affected milk supplies more than did short-run ones. However, many changes, when they did occur, were rather drastic, such as complete dispersal.

Price relationships did not figure heavily in short-run production adjustments. Undoubtedly, lack of price and production knowledge helps explain this. Thirty of the producers readily admitted that they did not understand how milk prices were calculated in their market. Twenty-four producers knew within 10 cents per hundredweight the price they received during the last pay period. Only 34 producers were able to give, with some certainty, their approximate average production per cow in their herds.

Many farmers probably had goals other than profit. Many herds appeared smaller than would be most profitable for these farms. Yet, the farmers were reluctant to increase herd size sufficiently to utilize currently available facilities.

These producers indicated plans to increase herd size significantly during the six months following the interview. However, a check six months later showed no significant change in herd size had occurred.

Producers expected widely different prices for the future. For example, the most probable price expected six months hence ranged from $3.25 to $5.00. When asked to give the most probable maximum and minimum prices they should expect six months hence, the range was from $2.25 to $6.00 per cwt.

Such price uncertainty undoubtedly helps explain the lack of regard for price in making short-run production changes.