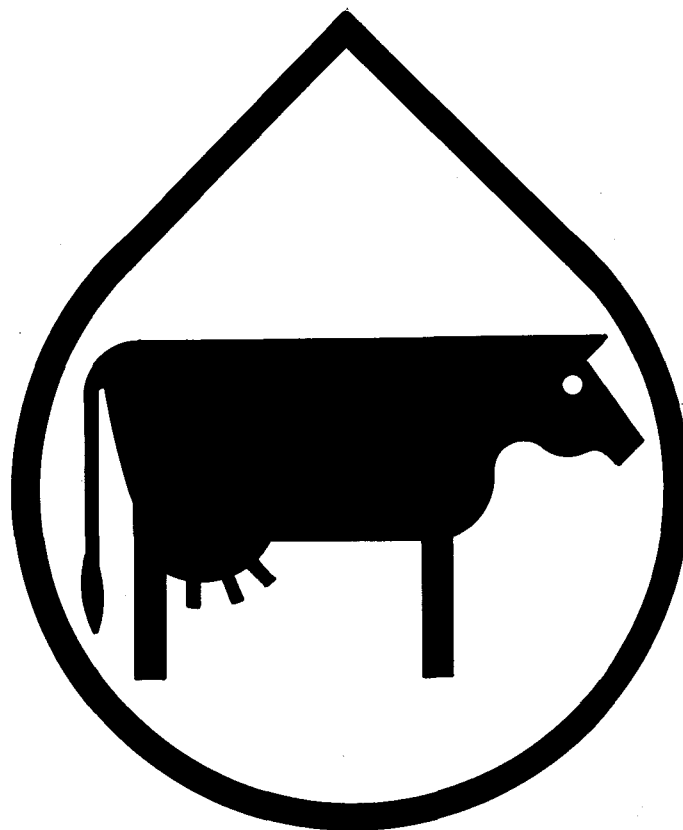


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Increasing Dairy Efficiency

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INCREASING DAIRY EFFICIENCY

M.J. Gamroth

To meet the challenge of declining net incomes, dairy farmers must become more competent and efficient financial managers. Improved financial management includes tighter production cost control, better records and accounts, more effective personnel management, and (perhaps) increasing income through off-farm employment, diversification, or direct sales.

This publication discusses three of these factors: cost control, getting the most from your employees, and better records.

Work to lower your costs

The average cost of producing 100 pounds of milk increased from slightly more than \$5 in 1968 to about \$14 in 1985. Individual farm production costs range from \$9 to \$16 per hundred pounds. This range shows that many dairies can improve their efficiency by lowering costs.

The answer: Get more milk per cow. Low production means higher costs for each hundredweight produced. You can produce the same amount of milk with fewer cows. Cow quality, management, feed, labor, records, and a sound health program all contribute to efficient production.

Improve cow quality

Keep good cows and measure their production. A systematic weighing and testing program is the only way to separate good from mediocre cows. Know your cows and strive for genetic improvement.

DHI records are the best available. They provide information on your cows' genetic merit and on the improvement you're making in your breeding program.

Breed good cows. Study the USDA Sire Summary and carefully select the best bulls you can afford from those available through artificial insemination. Select semen from bulls that have large positive predicted differences (PD's) for milk production and income (PD\$) and repeatability over 70 percent. Selecting bulls in the top 10 to 20 percent of summaries will assure you the best sires. Keep only heifers from your best cows for replacements.

Michael J. (Mike) Gamroth, Extension dairy specialist, Oregon State University. This publication replaces Fact Sheet 189.

Cull low producers. Low producers waste feed, labor, and space, while they add to the surplus milk supply. Many producers find that removing the lowest 10 percent of the cows will not affect gross income because they feed and manage their remaining cows better. Too many dairies have grown during the past 10 years by keeping some cows that aren't paying their way.

Improve your management

Proper management ensures a full return for the dollars invested in feeding and breeding programs. Management, feeding, and herd environment are more important than genetics in separating high-profit from nonprofit dairy farmers.

Management is simply making decisions about business and cow care. Adequate information, common sense, and clear thinking are basics to good management.

Prevent health problems. Maintain a sound herd health program by arranging periodic visits by a veterinarian to keep mastitis, infertility, and other potential health problems from becoming serious in your herd. The somatic cell count program of DHIA is an excellent aid to early diagnosis of subclinical mastitis problems in your herd.

Maintain your equipment. Ensure proper milking equipment operation through routine maintenance and service.

Follow this checklist:

Daily:

- * Look for cracked hoses, air tubes, liners.
- * Check for liners twisted in the shells.
- * Open plugged bleeder holes.
- * Tighten loose vacuum pump belts.
- * Check vacuum pump oil level.
- * Do the pulsators click regularly?
- * Any air leaks in the system?
- * What's the vacuum level at the gauge?
- * Is there more liner "squawking" than normal?

About every 2 weeks:

- * Change liners.
- * Rinse air lines; clean drain valves.
- * Clean pulsators; check opening and closing action.
- * Wipe off vacuum gauge and check vacuum recovery.
- * Check teat ends for unhealthy skin and inversion.

Six weeks to 2 months:

- * Check wire connections on pulsators.
- * Any rusted parts in the system?
- * Are pipeline joints tight?
- * Compare DHIA somatic cell counts or CMT scores to previous tests.
- * Culture milk from problem cows or the bulk tank.

As necessary:

- * Rebuild or replace pulsators.
- * Change gaskets.
- * Service vacuum regulator.
- * Replace old vacuum gauge.
- * Have system checked by a qualified technician.

Use tender, loving care. Cows, like other animals, respond favorably to gentle care and routine feeding and milking.

Feed your cows well. As long as a favorable price relationship exists between milk and feed, it pays to feed good cows liberally. Effective feeding programs are built around high-quality forage:

- * Good forages save grain.
- * A regular forage analysis is a must.
- * Harvest hay prebloom for greatest feed value.
- * Silage or haylage can replace most of the hay for dairy cows.
- * Cut early and store correctly for quality.
- * It pays to wilt, if possible.
- * Byproducts such as beet pulp, sweet corn silage, and cannery waste are often excellent feed buys.

Feed grain to fresh cows to challenge production. After peak production, adjust grain intake to milk production, using DHI feeding recommendations or another feed guide. Fat cows are potential culls. Feed the energy-rich feeds in the right amounts, to the right cows, and more than once a day.

Common feeding problems to overcome:

- * Feeding too little grain in early lactation.
- * Feeding too much grain in late lactation or to low producers.
- * Not feeding enough or feeding too much protein to high producers.
- * Overfeeding the dry cows.
- * Wasting expensive protein feeds.

Manage your personnel more efficiently

Eliminate tedious, repetitive jobs by using machinery to make dairy farm work more satisfying to capable people. Plan chore routine to save steps and time. Design and locate buildings and corrals to reduce hours of work. Follow these ideas to get the most from your employees:

1. Treat employees with dignity and understanding. Use first names often. Treat them equally, but reward outstanding work. Assign dignified titles--no one is a hired hand.
2. State the conditions of employment and job responsibilities in writing. Discuss these terms with employees and their spouses. An employee can't be satisfied if his or her family is not.
3. Let employees know how they're getting along. Schedule early performance evaluations, recognizing good work and tactfully suggesting improvements.

4. People tend to join a bandwagon and abandon a sinking ship. Keep a neat, orderly farm and maintain an optimistic, businesslike attitude.
5. Use constructive criticism, not harsh words. Criticize privately; praise publicly.
6. Give jobs with a definite end-point when possible. It helps the sense of accomplishment.
7. Encourage ideas and suggestions. Give credit for worthwhile ideas and give reasons for rejecting others. Listen to any suggestion.
8. Offer advancement in money, position, responsibility, prestige.
9. No one knows exactly how you want the job done. Accept the responsibility for training your employees and the blame when it's not done correctly.
10. A thank you for a job well done will stimulate employee loyalty and performance.
11. People like to be requested, not told to do something. A request is generally more challenging than a direct order.

Improve your records

Production records are necessary for herd improvement and proper feeding. Breeding and calving records assist herd management and reduce calving intervals. Farm business records help pinpoint both efficient and inefficient areas; they're the basis for a more profitable business.

Ask your Extension agent to help you record information necessary to analyze your dairy operation.

How does your dairy balance out?

Measuring your dairy herd's performance against some goals will help find your management weak points. If you finance your dairy with 12 percent interest money for 20 years and produce 16,000 pounds of milk per cow:

Each cow can carry \$2,935 of debt when milk is \$12.50 per cwt
but only \$2,043 when milk is \$11.50.

However:

Each cow can carry \$2,487 of debt when milk is \$11.50--and annual costs per cow are down \$100.

With our current milk price, it's critical to reduce costs or to increase income at least \$100 per cow.

Some measures of where you are

The annual income from your dairy, divided by the fair market value of your dairy facility times 100, should be more than 30 percent:

Gross annual income / Fair dairy value X 100 = greater than 30%

Operating expenses, including interest, divided by your dairy income, should be less than 75 percent (less than 60 percent excluding interest):

$\text{Expenses} + \text{Interest} / \text{Gross income} \times 100 = \text{less than } 75\%$
 $\text{Expenses} - \text{Interest} / \text{Gross income} \times 100 = \text{less than } 60\%$

Income per cow must be more than \$2,000, and income over feed costs should be \$900 to \$1,100.

Pounds of milk shipped for each adult worker, including the dairy operator, should exceed 650,000.

Each adult worker should generate at least \$80,000 of total income.

Reaching your goals

Specific goals

If you're not up to par or want to improve, even though you're doing well on the guidelines listed above, the following specific goals should improve income or reduce costs.

1. First-lactation heifers should produce at least 13 times their body weight. If they don't, your genetics or feeding may be weak. If they do but income is still too low, maybe your heifers are too small to enter the milking herd. Examine your heifer raising program (Holsteins should weigh at least 1,200 pounds at calving; Jerseys, at least 900).
2. Second-lactation animals should produce 2,000 pounds more than their heifer goal.
3. Third-lactation cows should yield more than 4,000 pounds over their heifer goal.
4. Peak milk production should be more than 60 pounds per day for heifers and more than 80 pounds per day for cows.
5. Age at first calving should be about 24 months. Each additional calf should add about 13 months to the total. Average age in a high-producing herd will usually be 48 to 52 months.
6. Days dry, 55 to 70
7. Days in milk (average), 165 to 170
8. % Days in milk, 85 to 90
9. Days to first breeding, 55 to 60
10. Services/conception, 1.5 to 1.7
11. % declared pregnant monthly, 8 to 9%
12. Cull rate, less than 30% for infertility, greater than 50% low production
13. Calf mortality, less than 8%
14. Somatic cell count, less than 200,000 per ml.
less than 4 on the L2 score
less than 15% over 300,000
15. Bacteria counts, less than 10,000 on Standard Plate Count
less than 20,000 on the Preliminary Incubation Count
16. Your calving interval should be around 13 months for the herd.
Remember: The calving interval began more than 1 year ago. It's better to watch the "days open" for information on how your current fertility program is going.
17. Cost of breeding should be \$20 to \$24 per cow. Some bulls may cost more; but in a recent survey evaluating bulls on PD and type, the "best 20" in the country cost only \$11 per ampule.

Computer programs to aid you

ODEAR and other computer programs are available to dairy operators through their county Extension agents. Each participant receives a report summarizing the annual physical and financial information for his or her business and compares it with goals for a profitable dairy farm.

Remember: Successful managers...

- * Evaluate their business. They set goals, do paperwork, look for good and bad points.
- * Control their debt. They pay as they go; list everything they own and whether they need it; reorganize debt, if necessary, to meet payments.
- * Control costs. They take discounts when possible, look at cost vs. benefit.
- * Evaluate living standards. They control family spending, too.
- * Cull livestock. They don't keep cows on just so the milk check is larger (maybe a smaller milk check with fewer costs is the way to go).
- * Get their quality bonus. It's free money.
- * Evaluate family contributions. They need their commitment and support.
- * Consider off-farm income. They think of their own needs, not tradition.
- * Stay informed. They're active in their dairy associations; they use their Extension Service.



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