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RAISING DAIRY REPLACEMENTS: PRACTICES AND COSTS NEW YORK, 1990

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BY JASON KARSZES AND B. F. STANTON*

As the dairy industry becomes more competitive and farms increase in size, heifer management may not receive the attention it deserves. Cost savings and increased efficiency may deserve greater attention. An effort was made to investigate management practices now being followed in raising dairy replacements on farms participating in New York's Dairy Farm Business Management Summary program (Smith, et. al.). All participants in the project were asked to answer a series of questions about their current practices in handling their dairy replacements using a mailed questionnaire. The response rate was 56 percent. Only farms with 80 or more milking cows were included in this survey.

All of those surveyed were also asked to provide information about individuals who were contracting to raise dairy heifers on some kind of arrangement. This source plus contacts with county extension staff provided a list of the individuals who were operating dairy replacement enterprises. A mailed questionnaire was developed to ask these individuals about their practices and experiences with this enterprise. The response rate was 74 percent.

As a final component of this study, personal interview records were obtained from a selected sample of individuals with contracts to grow dairy replacements for others. Estimates of costs for these enterprises were obtained as well as greater detail on the procedures followed with individual groups on these farms. Both costs and returns were calculated.

This report provides a preliminary summary of the results obtained from these studies. It provides a way to report to participants in the various parts of the study group averages and initial findings. Their cooperation and willingness to share experiences is appreciated. The variability in the way dairy replacements are handled is given special recognition in this report. A further report analyzing alternative practices and suggesting some of the more successful ways of managing these operations will be issued in the next six months.

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Two or more types of housing were used for heifers on 73 percent of the farms. The housing systems used and the percentage of farms using each system are:

Housing System	Percent
Bedded Pack	52
Open Pasture	10
Tie Stall, Stanchions	37
Raised Platform, no Stalls	7
Other	17

The average farm uses straw or old hay for bedding. The types of bedding material and the percentage of farms that use each type of material for at least one group are:

Bedding Material	Percent
Straw, Old Hay	58
No Bedding	31
Sand	28
Wood Shavings	17
Sawdust	16
Other	3

More than one bedding material was used on farms with different housing systems.

FEEDING

The average weaning date is eight weeks. The range of weeks reported and the percentage of farms that wean at that time are:

Weeks	Percent
3 - 4	4
4 - 6	17
6 - 8	35
8 - 10	28
10 - 12	12
12 or longer	4
	100

Seventy percent of the farms balance rations for energy, protein, and other factors for their dairy replacements. A consultant assists in balancing the ration on 52 percent of the farms. Eighteen percent of the farms balance the ration themselves.

All of the farmers fed grain to their heifers during some stage of their growth. Eighty-nine percent fed hay, 88 percent fed silage, and 76 percent fed some haylage to the dairy replacements. Sweepings from the milking cow feed bunk are fed to the dairy replacements on 27 percent of the farms.

Feed additives, in addition to forages and grain, were used on 96 percent of the farms. The feed additives that are used and the percentage of farms using them are:

Feed Additives	Percent
Bovatec	70
Rumensin	28
Salt	82
Minerals	83
Other	6

Pasture was used as a source of feed on 57 percent of the farms. Fifty-six percent of the farms supplement the pasture with grain, 69 percent supplemented with hay, and 79 percent with corn silage.

Health and Culling

Essentially all of the farms reported using some health management practices. The health management practices used and the percentage of farms using them are:

Health Management Practice	Percent
Pregnancy Check	73
Worming Program	63
Fly Treatment	42
Lice & Grub Treatment	40
Lepto Vaccination	76
BVD Vaccination	76
Dehorning	98

Only 26 percent of the farms had culled or sold heifers during the previous year. The beef auction was used to market culled heifers in 68 percent of the cases. Twenty-five percent of the farms used a cattle dealer as their outlet for culled heifers; nine percent sold to other dairy farms. The culling reasons reported and the percentage of farms that gave these reasons are:

Culling Reasons	Percent
Health	58
Size	16
Pedigree	21
Overcrowding	17
Surplus Animals	23
Need The Money	13

The average number of animals culled in a year is 3 out of 129, or 2.3 percent. Eight percent of the farms purchase heifers each year. The average purchase reported on these farms is 10 animals a year averaging 19 months of age and 910 pounds in weight.

Breeding

Artificial insemination was used on 90 percent of the farms to breed at least some of their animals . Fifty-three percent also reported using a bull to breed a part of their animals. Forty-two percent used both artificial insemination and a bull. Ten percent of the farms just used a bull and 47 percent used only artificial insemination.

The average age of calving is 25 months and the average weight reported is 1135 pounds.

Survey of Heifer Management Practices of Custom Growers in New York State, 1990

The primary focus of this part of the study is on the management practices used by custom growers to raise dairy replacements, post weaning. Forty-six farms were identified by New York State extension agents as having custom operations where 50 or more dairy replacements were raised. Thirty-four of these farms participated in the mail survey; this is a summary of the data collected.

Farm Description

The custom grower of dairy replacements averages 136 heifers on the farm during the year. On 32 percent of the farms, raising heifers was the primary farm enterprise. Twenty-six percent of the farms were primarily cash crop operations and raising heifers was a secondary enterprise. Eighteen percent of the farms were dairy farms. On 24 percent of the farms, the operator worked full-time off the farm, and the heifers were not a primary source of family income.

On 41 percent of the farms, the majority of the animals are owned by one or more dairy farmers. Fifty-nine percent of the farms own more than half of the animals they are raising. The average age and weight of the animal when it arrives on the farm is nine months and 492 pounds. The average age and weight of the animal when it leaves the farm is 24 months and 1143 pounds. This represents an average growth rate of 1.43 pounds per day over a 15-month period.

Grouping and Housing

The average farm housed the heifers in four different groups, post weaning. The number of groups used and the percentage of farms using each number of groups are:

Number of Groups	Percent
1	19
2	19
3	19
4	9
5	19
6	6
7 or more	9
	100

Facilities, number of animals in the total enterprise, and interests of the operator influence the decision on number of groups to manage.

Weight of the animal is the primary determinant in deciding into which group the animal is placed on 94 percent of the farms. Sixty-six percent use age of the animal and 55 percent use the number of animals in the group as additional mechanisms to determine groupings.

Two or more types of housing system are used on 48 percent of the farms for their animals. The types of housing systems and the percentage of farms reporting the use of each are:

Housing Systems	Percent
Freestall Barn	35
Bedded Pack	68
Open Pasture	3
Tie Stall or Stanchion Barn	23

The average farm uses straw or old hay for bedding. The types of bedding material used and the percentage of farms that use each type of material in one or more facilities are:

Bedding Material	Percent
Straw, Old Hay	68
Sawdust	25
Wood Shavings	7
Sand	7
No Bedding	7
Other	7

Feeding

Sixty percent of the farms balance rations for energy, protein, and other factors for their dairy replacements. A consultant assists in balancing rations on 36 percent of the farms. Twenty-four percent of the farms balance the rations themselves.

Feed additives of some kind were used in addition to forages and grain on most of the farms. The feed additives used and the percentage of farms using them are:

Feed Additives	Percent
Bovatec	65
Minerals	76
Rumensin	6
Salt	82
Other	21

Grain and corn silage was fed to the heifers during some stage of growth on 96 percent of the farms. Seventy-two percent of the farms fed hay, and 60 percent fed haylage.

Pasture was used on 59 percent of the farms. Supplementing the pasture with grain occurred on 40 percent of the farms, 40 percent fed hay, and 55 percent supplemented with corn silage.

HEALTH AND CULLING

Some health management practices were reported on 94 percent of the farms. The health management practices used and the percentage of farms using them are:

Health Management Practices	Percent
Pregnancy Check	71
Worming Program	74
Fly Treatment	47
Lice & Grub Treatment	24
Lepto Vaccination	76
BVD Vaccination	76
Dehorning	82

During the year, one or more heifers were culled or sold on 56 percent of the farms. All of these farms sent animals to an auction market at one time. Six percent of the farms also used a cattle dealer as their outlet for culled heifers. The culling reasons and the number of farms that cull because of it are:

Culling Reasons	Percent
Health	67
Reproductive problems	94

The average number of animals culled in a year is 4 out of an average total of 136, or a culling rate of 2.9 percent.

BREEDING

Artificial insemination was used to breed at least some of the animals on 72 percent of the farms. Sixty-four percent of the farms reported using a bull to breed part of their animals. Thirty-six percent used both artificial insemination and a bull. Thirty-six percent of the farms used only artificial insemination and 27 percent used only a bull.

EXPENSES TO RAISE DAIRY REPLACEMENTS IN NEW YORK STATE, 1990

The following information is a summary of expenses to raise dairy replacements, post-weaning. The expense information was collected from 18 dairy and custom farm operators and includes all expenses, post-weaning, incurred in raising these dairy replacements. The farms were selected from a list of farm operators identified by New York State extension agents as being custom growers of dairy replacements.

The first column is the average cost per day per animal associated with 12 different cost areas. The second column represents a middle range of costs that were reported. Half of the farms are included within this range. There were 25 percent of the farms with higher values and 25 percent with lower values for each item.

	Average	Range
Number of Animals	178	103 - 228
Weeks on Farm[1]	83	81 - 95
	Cost Per Day Per Animal	
Feed	$ .87	$ .74 - 1.00
Bedding	.04	.02 - .07
Health	.02	.01 - .03
Breeding	.04	.01 - .06
Labor	.24	.10 - .35
Trucking	.01	.00 - .01
Machinery Operation	.04	.01 - .06
Machinery Overhead	.04	.01 - .04
Building Operation	.02	.00 - .04
Building Overhead	.07	.03 - .09
Death Loss	.00	.00 - .00
Interest on Investment	.02	.01 - .02
Total Cost per Day per Animal	$1.42	$1.24 - 1.52

[1] This number represents how long the animal is a part of the heifer-raising enterprise. It does not represent how long the animal is raised until it calves. The majority of these farms are custom growers of heifers and the animal is sold or sent back to the owner before it calves.

Summary of Expenses Paid and Rates Charged by Custom Growers of Boarded Dairy Replacements in New York State, 1990

The following information is a summary of the costs paid by 15 farm operators in 1990 to raise boarded dairy replacements and the rates charged for this service. This summary does not included expenses paid by the owners of the animals or expenses paid before the dairy replacement is weaned. The farms were selected from a list of farm operators identified by New York State extension agents as custom raisers of dairy replacements.

The first column is the average cost per day per animal associated with 12 different cost areas. The second column represents a middle range of costs that were reported. Half of the farms are included within this range. There were 25 percent of the farms with higher values and 25 percent with lower values.

	Average	Range
Number of Animals[2]	162	103 - 228
Weeks on Farm[3]	81	73 - 95
Rate received per Day per Animal	$1.24	1.15 - 1.30
	Cost Per Day Per Animal	
Feed	$.79	$ .65 - .98
Bedding	.04	.02 - .07
Health	.01	.00 - .02
Breeding	.01	.00 - .01
Labor	.24	.10 - .33
Trucking	.00	.00 - .00
Machinery Operation	.05	.02 - .07
Machinery Overhead	.03	.01 - .03
Building Operation	.02	.00 - .03
Building Overhead	.07	.03 - .08
Death Loss	.00	.00 - .00
Interest on Investment	.02	.01 - .02
Total Cost per Day per Animal	$1.29	$1.10 - 1.47

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[2] This is the total number of animals in this heifer-raising enterprise including owned animals. The average number of boarded animals is 118 with a range from 45 to 150.

[3] This is the length of time the animal is on the farm and includes the animals that are owned by the farmer. The average length of stay for boarded animals is 60 weeks with a range from 41 to 81 weeks.

Explanation of Expenses

The expenses shown only include the costs paid by the operator. Expenses, such as semen costs, paid by the owner of the animal are not included.

Expense

Feed expense is the cost of the feed that is fed to the group based on the average amount fed per day. The cost is determined by the market value of home grown feeds and the price paid for purchased feeds. This number also includes the cost of nutrient testing of home grown feeds and consulting cost for balancing rations, if provided by the farmer.

Bedding

Bedding expense is the cost of the bedding used for the group. This cost is determined by the number of times the group is bedded, the amount of bedding used each time, and the purchase price, or market value, of the bedding.

Health

Health expense is the cost of all health-related expenses that can be attributed to the group. These expenses can include vaccinations, worming programs, and pregnancy checks. This expense does not include health expenses that are attributed to one animal, such as an infected foot. The expenses included are those that are used on all animals or were commonly incurred.

Breeding

Breeding expense is the cost of getting the animal pregnant. This number consists of breeding costs associated with artificial insemination along with the costs of a bull. The artificial insemination costs consists of the average semen cost and service fee weighted by the conception rate. The cost of the bull is determined by the original cost of the bull along with the amount per day that it cost to maintain the bull on the farm.

LABOR

Labor expense is the cost of the labor that is used during the year in the heifer enterprise. The cost is based on the number of hours per day spent on the different groups of heifers and the hourly wage rate, including all benefits. For unpaid family labor and owner labor, a wage rate based on a New York study of agriculture wage rates is used.

SHIPPING

Shipping expense is the cost of picking up and/or delivering animals. This cost is based on the number of trips made, the miles round trip, and a round trip charge per mile.

MACHINERY OPERATION

Machinery operation expense is the cost of the equipment associated with the feeding, bedding, and cleaning of the heifers. The costs includes the cost of fuel, oil, and repairs. The cost per day is the same for all groups if total figures are used. The cost per day is different if data on costs for individual pieces of equipment were obtained.

MACHINERY OVERHEAD

Machinery overhead expense is the fixed costs associated with the equipment used in the heifer enterprise. These costs are the depreciation and the insurance on the equipment. The cost per day is the same for all groups.

BUILDING OPERATION

Building operation expense is the repair costs of maintaining buildings, fences, etc. The cost per day is the same across all groups.

BUILDING OVERHEAD

The building overhead expense is the fixed costs associated with the buildings used by the heifer enterprise. These costs include depreciation, taxes, and insurance. The cost per day is the same across all groups.

Death Loss

Death loss expense is the cost of the time and money that was invested in an animal that died on the farm. This number is based on the number of days the animal was on the farm and the cost per day for the groups on the farm. The expense is assigned to the animals in the group in which the death occurs.

Interest on Investment

Interest on investment expense is the interest cost for the capital that is invested in the animals over time. It is based on a annual rate of return, the beginning value of the animal, and the average investment into the animal for the time it spends in each group.

Pasture Feed Cost Breakdown

If pasture is used for feeding purposes, the feed savings due to pasture is determined. The feed savings is the difference between feed cost/day/animal when the animal is on pasture vs. not on pasture. This calculation assumes that the animal maintains the same rate of gain under both feeding programs.

Other Agricultural Economics Extension Publications

No. 91-3	The National Dry Onion Market: A Monthly Analysis of New York State's Competitive Position in Eastern Markets	Enrique Figueroa
No. 91-4	Property Tax Relief from New York's Farmland Assessments and Agricultural Buildings	Richard N. Boisvert Nelson L. Bills Exemptions in the 1980's
No. 91-5	Dairy Farm Cash Flow, Debt Repayment Ability and Financial Analysis	George L. Casler
No. 91-6	Agricultural District Legislation in New York, as Amended through 1990	Kenneth Gardner Nelson Bills
No. 91-7	CAPVEST A Computer Program to Analyze Profitability and Financial Feasibility of Major Capital Investments	George Casler Eddy L. LaDue
No. 91-8	Dairy Farm Worker Training at Tompkins Cortland Community College	Thomas R. Maloney Timothy S. San Jule
No. 91-9	Dairy Farm Business Summary Western Plain Region 1990	Stuart F. Smith Linda D. Putnam
No. 91-10	Dairy Farm Business Summary Eastern Plateau Region 1990	Robert A. Milligan Linda D. Putnam Carl Crispell Gerald A. LeClair A. Edward Staehr
No. 91-11	Dairy Farm Business Summary Northern New York 1990	Stuart F. Smith Linda D. Putnam Patricia A. Beyer J. Russell Coombe Anita W. Deming LouAnne F. King Gerke H. vanderZwaag George O. Yarnall