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# Dairy guidelines

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GET THEM MILKING YOUNG!!

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A number of questions are raised by the wise dairymen when he is confronted with the idea of getting heifers into the milking parlor by 23 months of age. They are: (1) What does it cost me to raise heifers? (2) Does it pay to feed a little better to have them come into production earlier with enough size? (3) How do I feed heifers to get them into production most economically? Although the precise answers to each of these questions differs among farms, there are a number of considerations that have to be considered on any farm. Furthermore, any dairyman is ahead dollar-wise to have those heifers milking as soon as they are large enough.

## The Cost of Raising Heifers.

The cost of feed accounts for a little more than 1/2 the actual cost of replacements. An example of estimated costs for growing heifers to 23 months of age is shown in Table 1. This example is based on the assumption that 20 animals are being reared together. If fewer than 20 animals are involved, labor and overhead costs per calf are higher. This would increase rearing costs.

Suppose the practice has been followed of freshening heifers at 27 months. How much more does that add to the cost before returns are realized? An estimation of this cost is shown in Table 2. Calving at 27 months usually initiates production near the end or after the milk base period. This may result in additional hidden losses. However, heifers fresh at 23 months should, on the average, help the base period production.

Table 1. Cost of Raising Replacements to Freshen at 23 Months

<u>Feed</u>			
Hay-----	6500#	@ \$40/ton	= \$130.00
Grain-----	2000#	@ \$3.25/cwt	= \$ 65.00
(or)			
Corn Silage-----	15000#	@ \$10/ton	= \$75.00
Grain-----	1500#	@ \$3.25/cwt	= \$48.75
Pasture			= \$ 42.00 \$42.00
Milk Replacer			= \$ 6.00 \$ 6.00
<u>Total Feed</u>			\$243.00 \$171.75

Other Costs

Labor 40 hrs. @ \$1.25-----	\$ 50.00
Building & Equipment-----	\$ 17.00
Bedding-----	\$ 15.00
Vet & Medicine-----	\$ 5.50
Breeding-----	\$ 7.00
Insurance-----	\$ 1.60
Registration-----	\$ 4.00
Water & Lights-----	\$ 2.50
Interest \$155 @ 6% - 23 mo.-----	\$ 17.83
Death Losses-----	\$ 5.00
Miscellaneous-----	\$ 4.00
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23 mo.	Total \$129.43

Feed + Other = \$372.43 or \$301.18 plus initial  
value of calf

Table 2. Cost for Delaying Freshening 4 Months

4 Mo. Maintenance (feed)	\$36.00
Labor	\$ 7.50
Housing, Bedding	\$ 6.00
Interest	\$ 6.00
<u>Ins., Utilities, Misc.</u>	<u>\$ 1.40</u>
<u>Total</u>	<u>\$56.90</u>

If freshened at 23 months, what returns can be expected by 27 months of age? If a modest 12,000# record is assumed, a yield of 6,000# would be expected during the first 4 months of lactation. At 3.87/cwt.\* of milk over feed cost, this amounts to \$232.20. Labor and other costs equal approximately \$43.40. A net gain of \$188.60 is realized. Furthermore, you avoid any of the expenditures shown in Table 2 (\$56.90) resulting in total gain of \$245.50 by 27 months.

How Should Heifers Be Fed To Have Them Freshen By 23 Months?

Calves and heifers should be fed to grow steadily, but should never be fattened. Present information indicates that fattening during growth reduces the potential for milk production later. To grow to an acceptable calving weight by 23 months, large breeds must average 1.5#/day, intermediate size breeds, 1.25#/day, and small breeds 1.13#/day. It is desirable to obtain a steady increase in growth daily and at a fairly constant rate, at least, until the animal is bred. Growth will be slower from that point to freshening, but should be steady. A suggested program for rearing replacements is shown in Table 3.

Table 3. Suggested Program for Rearing Replacements

0-3 day	Colostrum	3#/day
3 day to 6 wk.	Milk Replacer Calf Starter Hay or Silage	3#/day to appetite
6 wk. to 6 mo.	Conc. (herd ration) Hay or Silage	3#/day to appetite
6 mo. to 20 mo.	Conc. (herd ration)  Pasture, Hay or Silage	1-3#/day depending on quality and quantity of forage to appetite
3 mo. before freshening	Conc. Pasture, Hay or Silage	3-4#/day to appetite
2 mo. before freshening	Conc. Pasture, Hay or Silage	6-8#/day to appetite
1 mo. before freshening	Conc. Pasture, Hay or Silage  4# Extra concentrate for growth during lactation	9-12#/day to appetite

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\*Average return above feed costs in Virginia according to DHIA, 1968.

Growing animals would seldom require more than 3 lbs. of concentrate daily. When on good pasture or fed good high quality corn silage, 1 lb. per day is probably adequate to get acceptable growth. When fed hay, usually 2 lbs. of grain per day will be needed.

The feeding of urea-treated corn silage to heifers can have a real economical advantage. Studies at V.P.I. indicated that heifers gained as well when fed small quantities of ground corn with urea treated corn silage as other heifers fed soybean oil meal and regular corn silage. Treatments and performance are shown in Table 4. Ground shelled corn did not improve gains except when fed with urea treated silage. Concentrate that is fed with regular corn silage should be high in protein (at least the protein level of herd ration). Two pounds of herd ration with corn silage should result in satisfactory gains (1.6-1.8 lbs/day).

Table 4. Supplemented Corn Silage for Growing Dairy Heifers<sup>1/</sup>

<u>Treatment</u>	<u>Initial Wt. (lbs.)</u>	<u>Silage D.M.<sup>2/</sup> Intake lb/100 lb.</u>	<u>Avg. Daily Gain</u>
Corn Silage	532	2.25	1.33
Corn Silage (urea, 10#/ton)	528	2.24	1.23
Corn Silage + 1.65# ground corn	531	1.97	1.15
Corn Silage (urea, 10#/ton + 1.65# ground corn	535	2.13	1.82
Corn Silage + 1.65# Soybean meal	533	2.08	2.03

1/ 6 Holsteins and 1 Guernsey in each group

2/ Silage was 32-35% dry matter. Actual silage intake per animal averaged 40-45#/day.

Time for Breeding

Size should be the criteria for breeding rather than age. Assuming animals are expected to freshen by 23 months, Holsteins and Brown Swiss should weigh at least 750 lbs. Guernseys and Ayrshires 625 lbs., and Jerseys 550 lbs. by 14 months of age.