PROGRESSIVE DAIRY OPERATORS

2013 Dairy Farm Labour and Calf Management Survey

In early 2013, the Progressive Dairy Operators surveyed members about the labour required to operate their farm, and the wages paid to employees. In a second part of the survey, questions were asked about the feeding, management and health of the pre-weaned calves on the farm

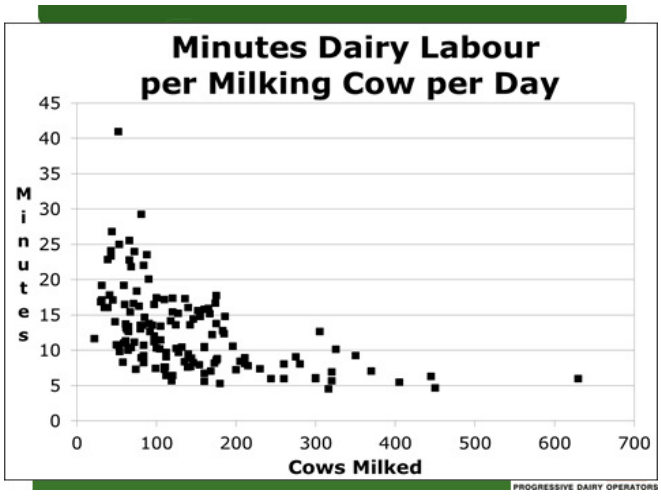
A summary of the results

We received survey replies from 154 farms. The average farm milked 136 cows, with a range of 22 to 630 cows milked on the day the survey was completed. A total of 774 workers were involved with the operation of the farms, including 331 arm's length employees, 158 non-owner family members, and 285 owners.

Labour per Cow per Day

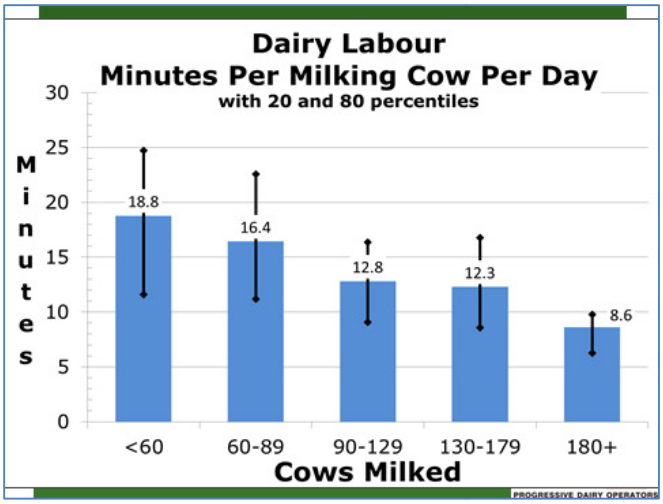
The 154 farms averaged 13.5 minutes of labour required per milking cow per day.

There was a wide range in the daily labour requirement between farms. The 20 and 80 percentile ranges were 8.4 and 17.8 minutes of labour required per milking cow per day respectively.



The graph to the right shows the daily labour per milking cow for each of the farms.

Larger farms tended to have lower labour minutes per cow. Farms that milked less than 60 cows averaged nearly 19 minutes per cow per day of labour, while farms milking more than 180 cows required less than 9 minutes per cow per day of labour.



Reported Daily Labour per Cow

Herd Size	Farms	Ave. Cows Milked	Ave. Minutes per Cow per Day	Minutes / cow / day 20th percentile	Minutes / cow /day 80th percentile
<60	24	45.3	18.8	11.6	24.7
60-89	35	73.8	16.4	11.2	22.6
90-129	33	109.4	12.8	9.1	16.3
130-179	30	156.2	12.3	8.6	16.8
180+	32	282.4	8.6	6.3	10.1
All	154	136.4	13.5	8.4	17.8

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Arm's Length Employees

The average wage paid to arm's length employees was $15.53 per hour. The wage rate at the 20th and 80 percentiles was $12.00 and $18.69. Not surprisingly, herdspersons were the highest paid, averaging $18.77 per hour. The small sample size for "calf feeders" makes the result for that position unreliable.

Wages Arm's Length Employees

	Number	$ / Hour	$ / hour 20th percentile	$ / hour 80th percentile
Herdsperson	40	18.77	16.00	21.27
Feeder	24	16.97	13.90	20.21
Milker	124	15.84	12.50	18.00
Herd worker	64	14.88	12.00	17.12
Labourer	59	13.41	11.00	15.39
Calf Feeder	14	12.90	10.25	15.60
All	331	15.53	12.00	18.69

Total includes 6 employees described as other

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Weekly Hours Labour Arm's Length Employees

	Number	Hours / week	Hrs / week 20th percentile	Hrs / week 80th percentile
Herdsperson	40	50.0	42.0	60.0
Feeder	24	35.0	18.4	50.0
Milker	124	19.7	7.0	35.2
Herd worker	64	33.5	15.4	46.8
Labourer	59	25.1	8.0	45.0
Calf Feeder	14	27.1	9.4	48.0
Total	331	29.0	9.0	50.0

Total includes 6 employees described as other

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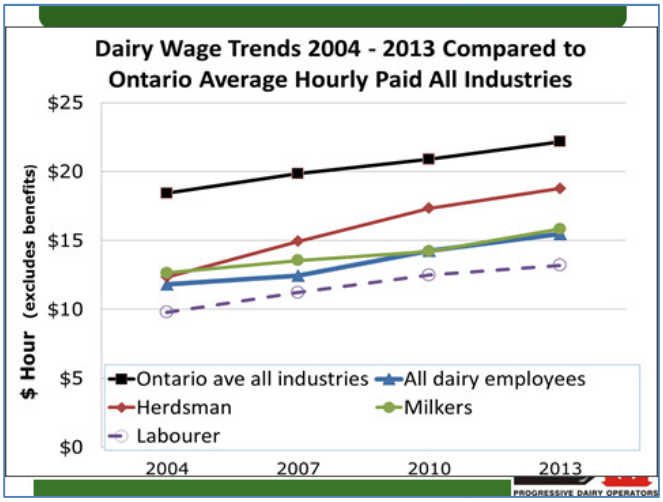
Arm's length employees worked an average of 29 hours per week. Herdspersons averaged 50 hours a week. Milkers had the lowest average hours per week, reflecting the fact that many were hired to milk a few milkings a week. The herdsperson position appeared to be almost always a full time position. For all the other positions, there was a clear split, between part time employees and full time employees filling the positions.

Vacation and benefits were calculated for employees that worked 24 or more hours per week. On average, arm's length employees received 1.5 weeks of paid vacation and statutory holidays. Benefits were value at $0.81 per hour. In both cases, herdspersons received more than the average of all dairy farm employees.

This is the 4th dairy farm labour survey that the Progressive Dairy Operators has completed. The first was in 2004. The survey has been done every 3 years since then. Between 2004 and 2013, Statistics Canada reports that the average Ontario wage for all industries rose by $3.75 /hour. The wage rate in the PDO surveys rose by $3.68 /hour. Pay for the herdsperson position increased by $6.40 / hour in the period. Wages for milkers and labourers increased an average of $3.19 and $3.41/ hour respectively. Data was not collected for feeders, calf feeders and herd workers in 2004.

Meat and milk were the most commonly reported benefit. Christmas bonuses, gasoline and the free use of farm equipment were often identified. Herdspersons often received housing or reduced rent and utilities for the housing.



Vacation and Benefits for Arm's Length Employees 24+ hours per Week

	Weeks Vacation	Ave. $ Value of benefits / hour (excluding vacation)
Herdsman	2.1	1.13
Feeder	1.2	0.51
Milker	1.1	0.56
Herd worker	1.4	0.76
Labourer	1.3	0.79
Calf Feeder	0.4	0.78
Average	1.5	0.81

On average, employees had worked on the farm for a little less than 4 years. Nearly a quarter of the employees (22%) had been employed less than 1 year on the farm, while 7% had been employed on the farm more than 10 years.

Years of Employment
Arm's Length Employees

Years Employed	
< 1 year	22%
1-2	32%
2-5	27%
5-10	12%
10-20	5%
20+	2%
average	3.8 years

Non Owner Family Members

Family members tended to receive lower pay than arm's length employees. The average wage was $14.23 / hour. For family members, milkers received the highest wage rate.

Non-owner family members that were identified as herdspersons or feeders averaged a few more hours of work per week than arm`s length employees. For other positions, family members averaged less hours of work per week.

Non-owner family members included younger family members still in school. Responses made it clear that many were in their early teens. The survey did not ask the age of the family members.

Wages Family Non-Owner Employees

	Number	$ / Hour	$ / hour 20th percentile	$ / hour 80th percentile
Herdsperson	30	13.62	8.04	18.00
Feeder	11	10.99	7.69	15.47
Milker	27	17.02	11.26	18.00
Herd worker	44	14.52	10.00	18.98
Labourer	25	12.40	10.00	15.16
Calf Feeder	14	9.17	4.44	13.38
Total	158	14.23	9.69	17.82

Total includes 7 employees described as other

Weekly Hours Labour
Family Non-Owner Employees

	Number	Hours / week	Hours / week 20th percentile	Hours / week 80th percentile
Herdsperson	30	49.9	39.0	66.0
Feeder	11	38.4	20.6	52.0
Milker	27	14.7	3.6	20.0
Herd worker	44	22.0	6.4	35.6
Labourer	25	17.6	4.0	22.0
Calf Feeder	14	19.1	8.8	23.2
All	158	25.9	6.0	50.0

Total includes 7 employees described as other

Family members received about the same amount of paid vacation as the arm`s length employees. For some reason, herdspersons received less, while labourers and calf feeders tended to receive more vacation than their arm`s length counterparts.

Family members that worked 24 or more hours per week received higher benefits than arm's length employees

Vacation and Benefits for Family Non-Owner Employee 24+ Hours / Week

	Weeks Vacation	Ave. $ Value of benefits / hour (excluding vacation)
Herdsman	1.2	2.67
Feeder	1.3	0.65
Milker	0.8	0.74
Herd worker	1.4	3.60
Labourer	1.9	1.33
Calf Feeder	2.0	4.87
Average	1.4	2.57

Hours for Owners

The average hours of work for owners were about the same as reported for the herdspersons, but the range was wider, with the 20and 80 percentiles reported at 25 and 70 hours.

Weekly Hours Labour Owners

	Number	Average Hours / week	Hours / week 20th percentile	Hours / week 80th percentile
Owners	285	48.5	25.0	70.0

Calves

Calves on Liquid Feed

The average operation in the survey had 19.4 calves on milk or milk replacer. The typical herd reported an average of one calf on liquid feed for every 7 milking cows.

Herds that milked less than 130 cows had a higher percentage of heifers on milk/replacer.

Calves on Liquid Feed

Cows Milked	Farms	Ave. Cows	Heifer Calves	Bull Calves
<60	24	45	6.7	1.2
60-89	35	74	9.4	1.4
90-129	33	109	12.9	1.9
130-179	30	156	17.0	5.4
180+	32	282	31.5	7.3
All	154	136	15.9	3.5

A few herds indicated that they relied on someone else to raise their calves.

Thirty-four percent of farms reported that the oldest calf on milk was between 42 and 56 days of age, 30% of the farms had the oldest calf between 57 and 70 days of age, and 23% reported the oldest calf was over 70 days of age.

Age of Oldest Calf on Milk

Days of Age	Farms
< 42	13%
42-56	34%
57-70	30%
71-84	10%
85-108	10%
109+	3%

Primary Calf Feeder

The average age of person primarily responsible for calf feeding was 38. 90% of the primary calf feeders on the farms were between the ages of 20 and 59, with nearly even distribution across the age range. Calf feeders were 69% male and 31% female.

Age of Primary Calf Feeder

Average Age	38.0
<20	6%
20-29	26%
30-39	20%
40-49	21%
50-59	22%
60-69	3%
70+	1%

Primary Calf Feeder

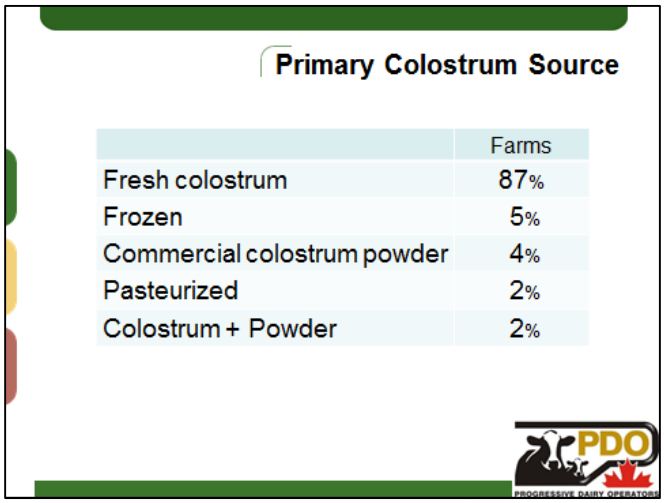
Male	69%
Female	31%

New Born Calves

Farms spent an average of 20.9 minutes with a new born calf, with a range of 10 minutes and 30 minutes reported for the 20 and 80 percentile farms.

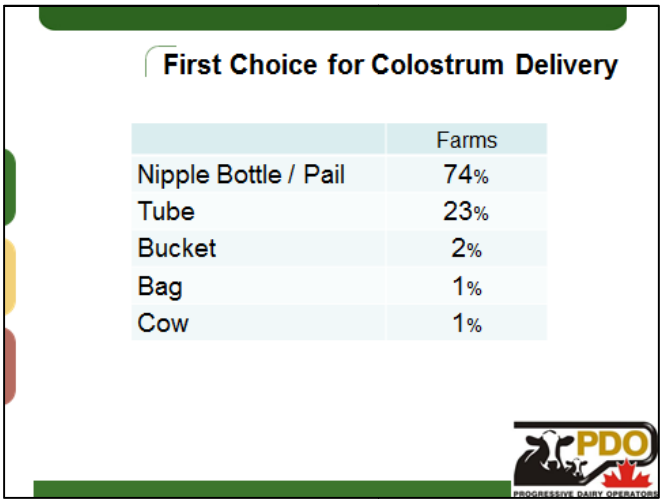
Colostrum

Eighty-seven percent of farms reported that they relied on fresh colostrum to feed a new born calf, with a much smaller percentage indicating that they used frozen colostrum, commercial colostrum powder, pasteurized colostrum or a mixture of colostrum and powder. The first choice for 74% of farms was to feed the colostrum using a nipple bottle or pail, while 23% indicated that they used a tube for the first feeding of colostrum.



Primary Colostrum Source

	Farms
Fresh colostrum	87%
Frozen	5%
Commercial colostrum powder	4%
Pasteurized	2%
Colostrum + Powder	2%



First Choice for Colostrum Delivery

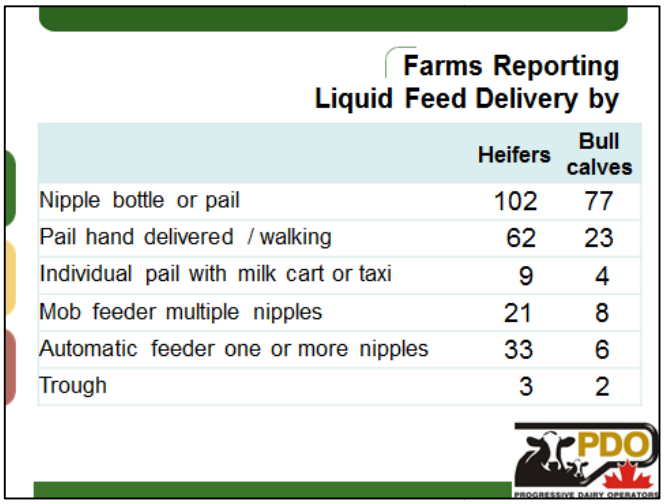
	Farms
Nipple Bottle / Pail	74%
Tube	23%
Bucket	2%
Bag	1%
Cow	1%

Primary Liquid Feed

A little more than half of the farms reported that they used fresh milk to feed calves. 65% of the milk was considered sellable, with the balance non-sellable.

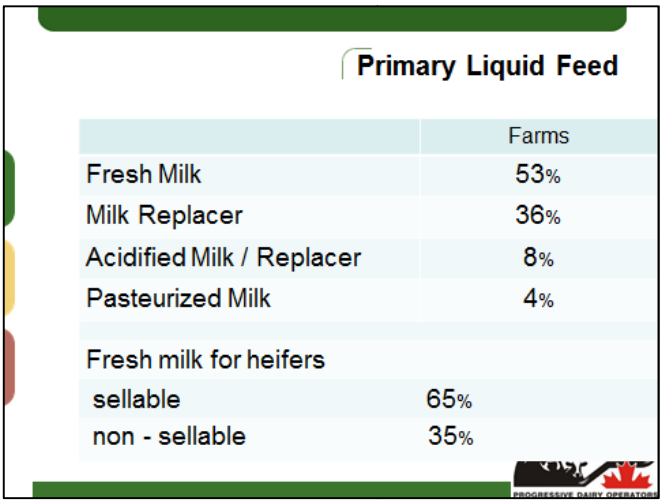
Milk replacer was the primary liquid feed used by 36% of the farms, while 8% reported using acidified milk or replacer, and 4 % used pasteurized milk.

Many farms reported using more than one feeding method for the calves. Nipple bottles or pails were the most common choice, followed by pail feeding. Group feeding, either by automated feeders, mob nipple feeders, or troughs, was also commonly reported.



Farms Reporting Liquid Feed Delivery by

	Heifers	Bull calves
Nipple bottle or pail	102	77
Pail hand delivered / walking	62	23
Individual pail with milk cart or taxi	9	4
Mob feeder multiple nipples	21	8
Automatic feeder one or more nipples	33	6
Trough	3	2



Primary Liquid Feed

	Farms
Fresh Milk	53%
Milk Replacer	36%
Acidified Milk / Replacer	8%
Pasteurized Milk	4%
Fresh milk for heifers	
sellable	65%
non - sellable	35%

Housing for Pre-Weaned Calves

The use of group pens has become fairly common, with over half of the farms reporting the use of group pens for heifer calves. Hutches were used on almost as many farms for the heifer calves, followed by the use of side-by-side pens for the heifers.

Bull calves were most commonly housed in side–by-side pens, followed by hutches.

For operations using group housing, the calf groups tended to be small, with an average of 6 calves in a group. Pen size was 12 or less calves for 93% of the groups. 57% had 2-5 calves.

Housing for Pre-Weaned Calves
Heifer (H) and Bull (B) Calves

	Hutches		Side by Side Stalls		Groups	
	H	B	H	B	H	B
Farms	73	39	57	46	85	26
Calves on reporting farms average	11.9	4.0	9.3	5.4	12.8	7.6

Pre-Weaned Group Sizes

Average Group	6.0
Calves in group	
1	2%
2-3	27%
4-5	30%
6-8	21%
9-12	12%
13-18	5%
19-30	2%

Age Range of Groups

Age Range (Days)	
< 7	26%
7-14	26%
15-21	14%
22-30	16%
31-45	10%
45+	7%

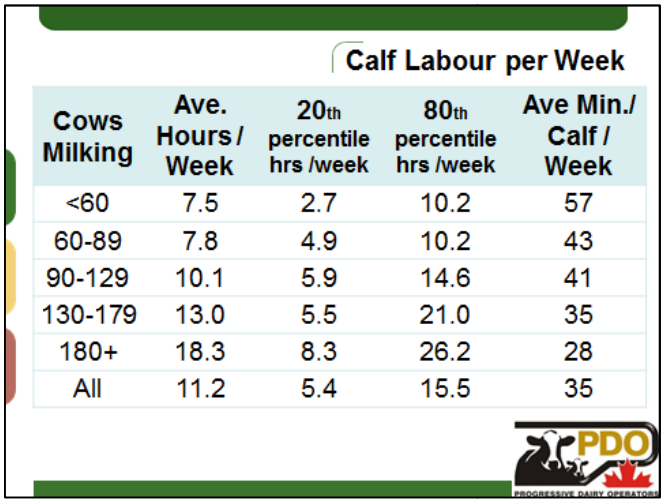
Producers tended to keep the age range in group pens fairly narrow. The age range between the youngest and oldest calf in the group was reported as 7 days or less for 26% of the calf groups, with another 26% of the groups reported with an age range between 8 and 14 days. At the other end of the spectrum, 7% were reported with an age range over 45 days.

Labour Time for Calves

The average farm in the survey reported 11.2 hours of labour per week for pre-weaned calves. As the number of milking cows increased, the time per calf tended to decrease. An average of 35 minutes of labour per week per calf was reported. Farms with under 60 milking cows averaged 57 minutes per calf, while farms with over 180 cows milking averaged 28 minutes of labour per week per calf.

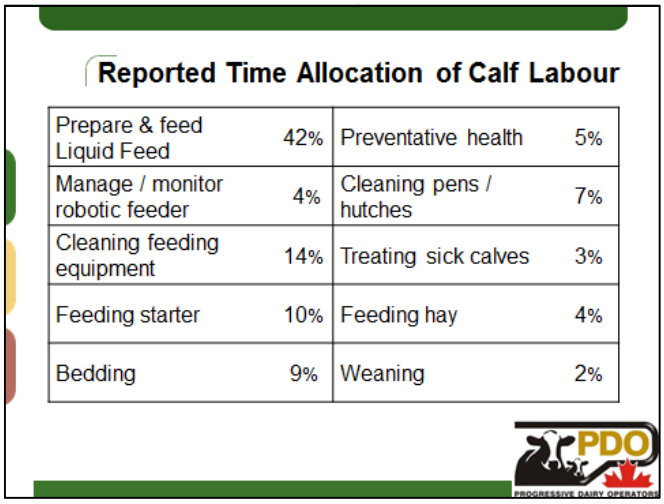
Feeding was by far the greatest time requirement for pre-weaned calves. The preparation and feeding of the liquid feed took 42% of the time committed to the pre-weaned calves. Another 14% of the time was used cleaning feeding equipment. Feeding calf starter and hay was 14% of the time as well, while bedding was 9%, preventative health and treating sick calves totalled 8% of the time.

Cleaning pens and hutches was calculated at 7% of the time spent of pre-weaned calves. Many reported that when hutch or pen cleaning was done, it took a significant amount of time, but that major cleaning usually occurred once every month to once every 3 months.



Calf Labour per Week

Cows Milking	Ave. Hours / Week	20th percentile hrs /week	80th percentile hrs /week	Ave Min./ Calf / Week
<60	7.5	2.7	10.2	57
60-89	7.8	4.9	10.2	43
90-129	10.1	5.9	14.6	41
130-179	13.0	5.5	21.0	35
180+	18.3	8.3	26.2	28
All	11.2	5.4	15.5	35



Reported Time Allocation of Calf Labour

Prepare & feed Liquid Feed	42%	Preventative health	5%
Manage / monitor robotic feeder	4%	Cleaning pens / hutches	7%
Cleaning feeding equipment	14%	Treating sick calves	3%
Feeding starter	10%	Feeding hay	4%
Bedding	9%	Weaning	2%

Housing System and Labour Requirements

Farms were sorted into different groups for those that reported at least 65 of their calves using one housing system. The housing system choices were hutches, side by-by-side pens or group pens. For calves in group pens, they were identified as using automatic feeders or not having automatic feeders.

The time required per week was highest for calves in hutches, with a median requirement of 49 minutes per calf per week. There was a wide range between farms using hutches, with the 20th and 80 percentile farms reporting 31 and 86 minutes per calf per week.

Farms with group housed calves had a median labour requirement of 25 minutes per calf per week, with the 20th and 80th percentile farms at 14 and 42 minutes per calf respectively.

Feeding milk or milk replacer required a median of 35 minutes per calf per week on farms using hutches, while the group housed calves required 13-14 minutes per calf per week for both the calves on automated feeders and the calves on mob feeders.

Minutes per Calf Weekly Total Labour
More than 65% Calves in One System on Farm

	Median	20 Percentile	80 Percentile
Hutch	49	31	86
Side by Side Pens	30	21	45
Groups with Auto Feeder	25	14	43
Groups without Auto Feeder	25	13	43

Weekly Minutes per Calf Feeding Milk/Replacer
More than 65% Calves in One System on Farm

	Median	20 Percentile	80 Percentile
Hutches	35	17	58
Side by Side Pens	16	11	23
Groups with Auto Feeder	13	7	19
Groups without Auto Feeder	14	6	28

Includes feeding milk/replacer, mixing, preparing, cleaning feeding equipment, monitoring, calibrating

Calf Health

62% of the farms reported that they maintained accurate health records for calves, while the 38% indicated that they did not have accurate records. Both groups reported death loss for calves before 24 hours of age was 5-6%.

The reported death loss for calves between 24 hours of age and weaning averaged 3% in this survey. That is about half of the death loss for calves that age reported in other studies.

The farms with accurate health records reported higher incidences of scours.

Fifty-six percent of farms reported that they had treated more calves for scours than pneumonia, while 31% of farms treated more calves for pneumonia than scours.

Reported Health

Accurate health records?	Est. death loss before 24 hours	Est. death loss 24 hours to weaning	Treated for scours	Treated for pneumonia
Yes	6%	3%	19%	10%
No	5%	3%	13%	11%

Scours > pneumonia	56%
Pneumonia > scours	31%
Same	13%

Reported Health vs. Housing Type

	Age Oldest Calf on Milk (days)	Death loss before 24 hours	Death loss 24 hours to weaning	Treated scours	Treated pneumonia
Hutches	59	6%	2%	17%	4%[a]
Side by side pens	56	5%	3%	17%	9%[a,b]
Group with auto feeder	59	6%	5%	16%	16%[b]
Group no auto feeder	63	5%	3%	20%	15%[b]

Housing did not appear to any impact on reported death loss, or the rate of reported scours.

However, pneumonia was less common on farms using hutches for pre-weaned calf housing, while calves in group housing were more likely to have respiratory problems reported in this survey. That has been found in many other research projects.

In this survey, farms that reported that they had older calves on milk or milk replacer tended to have higher incidence of scours. That situation has not been commonly reported in research. It is unclear why it occurred in this survey. It may be the result of the farms with higher levels of health issues, keeping calves on milk/replacer longer to try to help the calves recover.

Reported Health vs. Oldest Calf on Milk

Age of Oldest Calf on Milk	Est. death loss before 24 hours	Est. death loss 24 hours to weaning	Treated for scours	Treated for pneumonia
<42	5%	2%	6%[a]	7%
42-56	6%	3%	16%[b]	10%
57-70	6%	3%	19%[b]	10%
71+	5%	4%	27%[b]	14%

Thank you to all the producers who were willing to share their farm information and took the time to compete this survey.