

HOARD'S DAIRYMAN

Continuing Market Study

AUDIENCE PROFILE

MILKING EQUIPMENT

FEEDS & CROPS

FIELD EQUIPMENT

HOUSING & EQUIPMENT

HERD HEALTH



2023



2023 Hoard's Dairyman Continuing Market Study

Welcome to the 2023 Hoard's Dairyman Continuing Market Study – our 70th annual research study of the American dairy farm market.

This study is designed to provide marketers with essential performance data, market trends and product planning intelligence. Users will notice a slight difference in the format of this booklet this year, but the same content will be found inside allowing for seamless historical trend analysis.

The study's sample is based on 3,000 random producer names selected from the Hoard's Dairyman subscriber database. Three versions of the questionnaire are developed to provide for a broader market analysis. To assure reliability of the sample, page 1 of the questionnaire is identical for each of the three versions. You'll find a sample of each survey in the back of this report for your reference.

Be sure to contact your Hoard's Dairyman representative with any questions about this year's study.



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U.S. dairy 2022 statistics

Hard-charging Texas takes aim at third-place Idaho among all states for total milk production.

If national dairy championships were awarded based on growth in milk production, the “National Championship Game” would have featured just two champions since 2015 — the “Aggies” of Texas and the “Badgers” of Wisconsin. During that eight-year span, Texas took home five “Golden Milk Pitchers” and the Badgers placed the other three awards in their trophy case.

At the beginning of the eight-year run in 2015, Texas stood in a distant sixth place for national milk production behind the likes of California, Wisconsin, New York, Idaho — the new dairy kid on the block — and Pennsylvania. In those days, Gem State dairy farmers were just beginning to jostle with the Empire State for third place. At the close of 2022, Idaho could clearly see the hard-charging Texas Aggies in its rear-view mirror as a mere 104,000 pounds of milk separate the two states. That’s nearly the amount of new milk Texas added in the past year.

Going back to 2015, the Lone Star State’s milk production totaled 10.3 billion pounds while Idaho netted 14.1 billion pounds. Fast-forward to the present: Texas added 6.2 billion pounds of new milk for a growth rate of 60.5% to reach 16.5 billion pounds. That new milk growth in the past eight years would be the equivalent of adding the entire output of No. 10 Washington. To be fair, Idaho was not standing still during that eight-year span as it grew milk production by 18.8% to reach 16.6 billion pounds.

These dynamics helped propel milk produced per person in Texas from 426 pounds to 550 pounds in a six-year window, with the latest 550-pound figure shown on the map. Even though the state’s milk production climbed by 124 pounds per person in recent times, Texas retailers must still purchase dairy products from other states to meet its consumers’ needs. That’s because 9% of all U.S. citizens live in the second-most populous state in the nation. If Texas keeps up these rapid growth rates in milk production, however, it could become a net dairy product exporter in very short order. Meanwhile, aforementioned Idaho and Wisconsin rank first and second for milk per person at 8,575 and 5,411 pounds, respectively.

When it comes to milk per person, South Dakota stands solidly in third place. The Upper Midwest state expanded by a chart-topping 550 pounds of milk per person, reaching 4,573 pounds per resident. This was fueled by 24,000 additional cows that yielded 559 million pounds of new milk this past year. The new cows were tied for first place with Texas, while the new milk was second only to the Lone Star State. It should be noted that milk per person also climbed a chart-topping 529 pounds in 2021.

Nationally, cow numbers slid by 0.5% to settle at 9.4 million head. These cow numbers are an annual average of a snapshot in time. While all regions showed a loss in cow numbers, the Southeast had the highest percentage reduction in its dairy herd at 1.8%, as it shed 8,000 cows. In the past five years, the region has sold off 15.8% of its dairy herd. The Northeast was the other region that posted a substantial loss in its dairy herd, dropping by 1.2% or 17,000 cows. Meanwhile, the Midwest and West shrunk their milk cow numbers by 0.3%. The Midwest accounts for 36.1% of the nation’s dairy herd, while the West is home to 45.1% of all milk cows.

Average U.S. milk per cow set a new record of 24,087 pounds — an amount that would have led the individual state rankings as recently as 2009. Nationally, the one-year gain was 138 pounds. Michigan, at 27,430 pounds per cow, had the highest state average for the fifth year in a row. Given the high-end production among the top milk-per-cow states, only 14 of the nation’s 50 states ranked higher than the national average of 24,087 pounds.

California, which for many years was a fixture at or near the top of the list for milk per cow, did not make the top 10 for the seventh year in a row, likely due to a continued shift toward Jerseys.

U.S. milk output climbed 0.1% to reach a record of 226.5 billion pounds in 2022. That 169 million pounds in new milk last year pales in comparison to the previous two decades when the average growth had been 3 billion pounds. Last year’s small gain was paced by Midwest dairy producers who grew the milk supply by 0.4%. The West came next at 0.1%, while the Northeast essentially hovered at minus 0.4%. The Southeast was down 1.1% in 2022 and off 15.8% over the past five years.

Top 10 dairy states in 2022

Most cows		Most milk (millions of lbs.)		Most milk per cow (lbs.)		Most cows per herd	
California	1,722,000	California	41,787	Michigan	27,430	New Mexico	2,618
Wisconsin	1,272,000	Wisconsin	31,882	Colorado	25,922	Arizona	2,463
Idaho	656,000	Idaho	16,628	Wyoming	25,763	Texas	2,019
Texas	646,000	Texas	16,524	Texas	25,579	Colorado	1,864
New York	624,000	New York	15,660	Idaho	25,348	Wyoming	1,860
Pennsylvania	468,000	Michigan	11,740	New York	25,096	Florida	1,617
Minnesota	453,000	Minnesota	10,477	Wisconsin	25,064	Idaho	1,600
Michigan	428,000	Pennsylvania	9,949	Nebraska	24,842	Nevada	1,600
New Mexico	288,000	New Mexico	7,148	New Mexico	24,819	California	1,544
Washington	259,000	Washington	6,239	Nevada	24,813	South Dakota	1,161
Most milk per herd (lbs.)		Most new cows		Most new milk (millions of lbs.)		Most new milk per cow (lbs.)	
New Mexico	64,981,818	Texas	24,000	Texas	925	Massachusetts	1,389
Arizona	59,650,000	South Dakota	24,000	South Dakota	559	New Hampshire	1,264
Texas	51,637,500	Georgia	10,000	Iowa	232	Connecticut	994
Colorado	48,309,091	Iowa	8,000	Georgia	230	Kentucky	839
Wyoming	47,920,000	Idaho	4,000	Idaho	216	Texas	500
Idaho	40,556,098	California	2,000	Wisconsin	174	Delaware	482
Nevada	39,700,000	Colorado	2,000	New York	120	North Carolina	460
California	37,477,130	Kansas	1,000	Kansas	44	North Dakota	453
Florida	32,216,667	Oregon	1,000	Colorado	39	Michigan	328
South Dakota	26,845,161	Wyoming	800	Wyoming	19	New York	311

DAIRY LIVESTOCK NUMBERS – 2022

Average animals per farm and percent of farms reporting

	2022	2020	2018	2016	2014	2012
Milk cows (average animals)	643	461	460	255	279	234
Percent reporting	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Replacement heifers (average animals)	426	328	362	195	196	176
Percent reporting	85.3%	93.1%	90.9%	93.6%	93.3%	92.6%
Dairy bulls (average animals)	18	7	12	9	6	6
Percent reporting	28.0%	31.3%	31.2%	31.6%	35.8%	37.2%
Calves under 2 months (average animals)	61	48	67	39	37	27
Percent reporting	76.6%	86.2%	84.0%	85.3%	86.0%	81.1%
Dairy Steers (average animals)	89	70	97	45	73	37
Percent reporting	27.4%	29.9%	27.5%	23.1%	27.9%	28.7%
Calves for veal (average animals)	164	27	27	44	19	30
Percent reporting	5.1%	3.8%	3.8%	3.2%	3.4%	2.6%

**PERCENT OF FARMS REPORTING
NUMBER OF COWS OWNED**

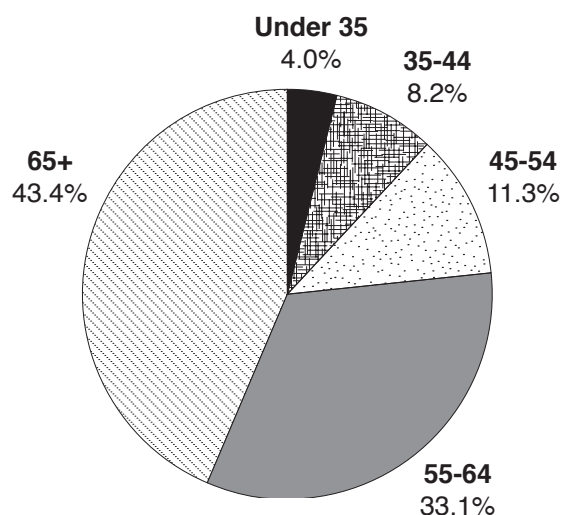
(435 responses)

	1,000+	500-999	250-499	100-249	Under 100
2022	16.6%	17.7%	12.8%	28.1%	24.8%
2020	8.6%	12.1%	15.8%	46.2%	17.3%
2018	10.2%	8.8%	19.5%	50.4%	11.1%
2016	4.1%	4.9%	8.4%	29.5%	53.1%
2014	6.5%	5.1%	10.2%	28.8%	49.4%
2012	4.2%	4.2%	6.9%	27.2%	57.5%

Based on 276 respondents,
90.6 percent were **male** and
9.4 percent were **female**

AVERAGE AGE OF OPERATOR

(Based on 435 respondents)

**Hoard's Dairyman Subscribers'
Approach to New Technologies**

(Based on 389 respondents)

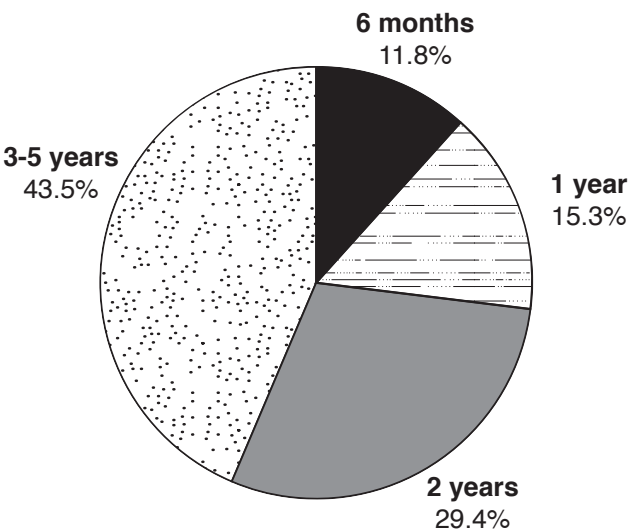
Early adopter/trailblazer.....	4.1%
Early majority, but need clear ROI before considering	33.9%
Need to see effectiveness in use on other farms.....	37.5%
Skeptical until proven otherwise	24.4%

DAIRY EXPANSION PLANS OF *HOARD'S DAIRYMAN* SUBSCRIBERS

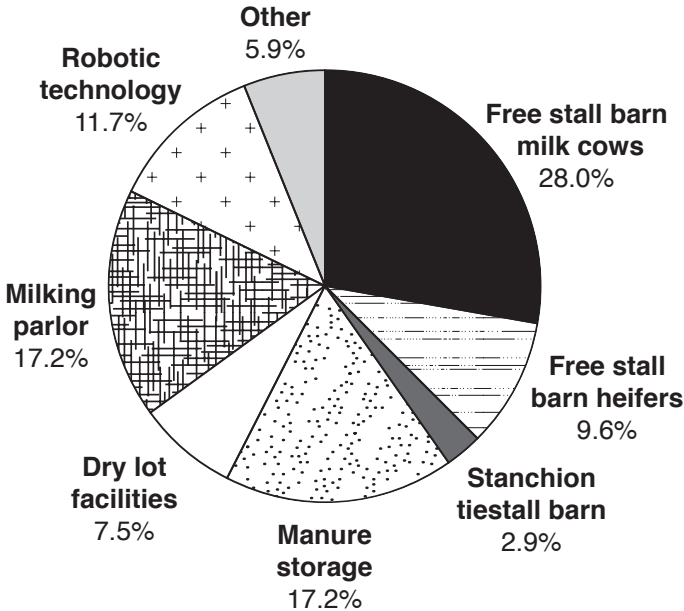
(418 responses)

22.2% reported they plan to expand their dairy operation in 2023.

When will you expand?



What will you expand?



If you're planning on adding cows in 2023, how many will you be adding?

Less than 10	5.7%
10 - 19	11.4%
20 - 49	20.0%
50 - 99	20.0%
More than 100	42.9%
Average number of cows to be added	181

In 2022, **92.0%** reported their farm as **conventional**, with **4.6%** reporting their farm as **organic**.

Percent of operations reporting increase in herd size

	Increased herd size from 2 years ago	Increased herd size from 5 years ago
Operations with 200 or more cows	76.1%	82.6%
Operations with less than 200 cows	57.0%	58.3%

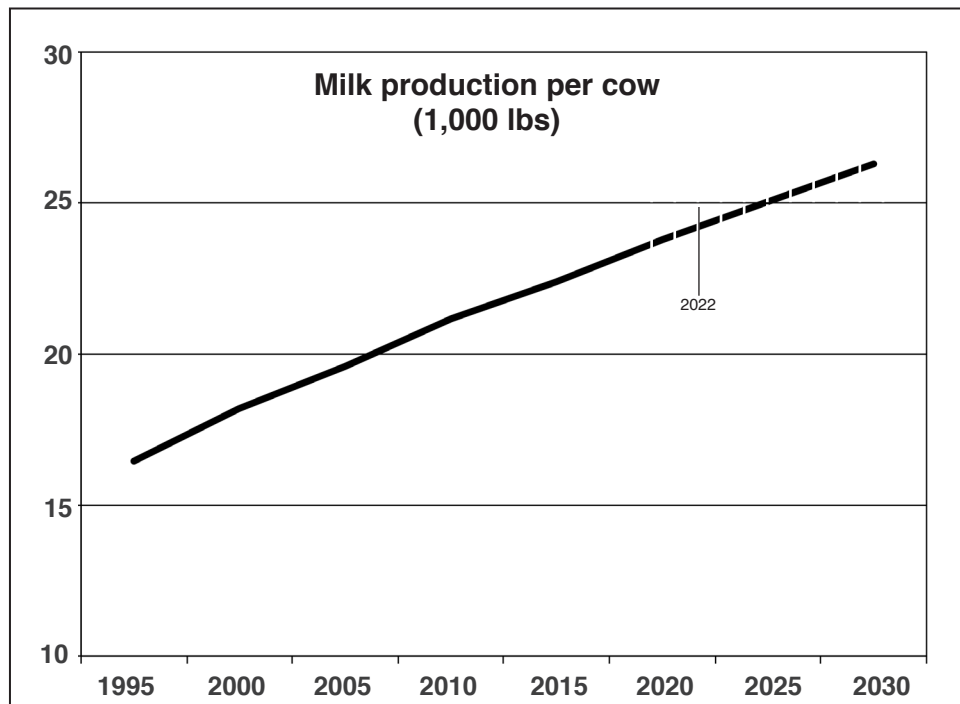
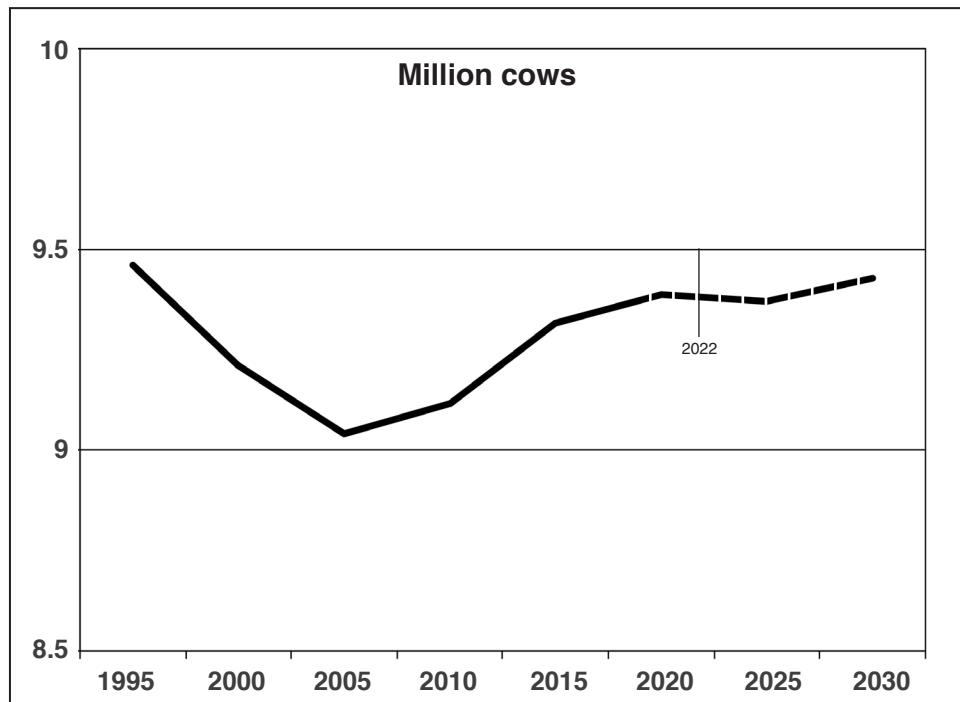
Number of milkings per day

milking 2x a day.....	64.6%	depends on stage of lactation.....	2.8%
milking 3x a day.....	28.1%	other	4.5%

AVERAGE PRICE PER CWT. – 2022

(Based on the average annual mail box price – all Federal Milk Marketing Orders)

	2022	2020	2018	2016	2014	2012
Average price per CWT	\$24.64	\$16.96	\$15.72	\$15.95	\$24.04	\$18.59

USDA Long-term Projections*U.S. dairy herd and milk production per cow**

*Projections for 2021 to 2030 come from USDA's Long-term Projections Report

DAIRY MANAGEMENT SOFTWARE PROGRAM

In 2022, **58.1%** reported routinely using a **dairy management software program**.

TYPE OF DAIRY MANAGEMENT SOFTWARE PROGRAM USED

(Based on 259 responses)

DairyComp 305.....	42.1%
DHI+	15.4%
PC Dart.....	15.1%
Alpro/DeLaval	8.5%
Dairy Plan/GEA.....	4.6%
BoviSync.....	1.5%
Scout	0.8%
Herd Pro	0.4%
Other.....	11.6%

Importance of Feed Management Software Program Features

(Based on 513 responses)

Dry matter ration adjustment	23.8%
Dry matter intake	21.8%
Driver/feeder accuracy (report card).....	18.7%
Inventory management.....	17.5%
Feed efficiency reports	13.3%
Other.....	4.9%

PERSONAL DIGITAL COMMUNICATION USAGE – 2022

(Based on 435 respondents)

76.9% reported having **sufficient internet connectivity** on their farm.

In 2022, **51.8%** reported visiting **social networking sites**.

Social Network Sites Visited in 2022

Facebook.....	81.4%
YouTube	51.9%
Instagram.....	19.0%
Snapchat	17.6%
TikTok	13.8%
Twitter	6.7%
Pinterest	4.8%
LinkedIn	3.8%
Other.....	2.4%

31.3% reported **streaming television programming** and
29.0% reported **streaming audio programming** (radio, podcasts, etc.).

MILKING EQUIPMENT OWNERSHIP – 2022

(Based on 146 respondents)

	2022	2020	2018	2016	2014	2012
Parallel or herringbone parlor	73.8%	66.1%	75.1%	56.4%	66.1%	51.1%
Average stalls	23.7	21.8	25.6	21.9	19.6	18.8
Stanchion/tie stall barn pipeline	21.5%	15.8%	13.7%	32.4%	27.0%	40.7%
Average units	6.6	10.6	9.5	6.4	2.7	6.5
Rotary parlor	3.1%	4.7%	3.4%	--	--	--
Average stalls	65.0	37.8	55.3	--	--	--
Robotic milking system	4.6%	10.5%	5.2%	1.8%	1.3%	0.7%
Average units	3.0	3.0	4.3	3.6	2.4	2.0

Brands of Parlor Systems
Owned in 2022

(Based on 115 responses)

DeLaval	30.4%
GEA	27.0%
BouMatic.....	19.1%
Germania.....	11.3%
Universal.....	3.5%
BECO	2.6%
Lely	1.7%
Waikato.....	0.9%
Other.....	3.5%

Brands of Stanchion/Tie Stall
Pipeline Detachers Owned in 2022

(Based on 46 responses)

DeLaval	39.1%
GEA	32.6%
BouMatic.....	10.9%
Universal.....	6.5%
Germania.....	4.3%
BECO	2.2%
Waikato.....	2.2%
Other.....	2.2%

Milking System Location

(Based on 146 respondents)

	2022	2020	2018	2016	2014	2012
Located in parallel parlor	34.2%	33.5%	40.3%	20.0%	22.2%	17.0%
Located in herringbone parlor	34.2%	29.0%	32.6%	28.7%	32.5%	28.5%
Located in stall barn	15.1%	17.0%	13.6%	38.9%	29.5%	42.9%
Located in flatbarn parlor	2.7%	1.7%	4.7%	2.5%	5.1%	4.8%
Located in rotary parlor	2.1%	4.0%	3.0%	1.1%	1.3%	0.3%
Located in side-opening parlor	1.4%	1.1%	1.3%	1.5%	2.6%	2.6%
Located in other place	2.7%	10.2%	4.7%	4.7%	6.0%	3.8%

MILKING EQUIPMENT PURCHASES

(Based on 146 respondents)

	2022	2020	2018	2016	2014	2012
Milking parlor	3.4%	1.7%	2.1%	2.2%	2.6%	2.2%
Stanchion pipeline	1.4%	0.0%	0.8%	0.0%	0.9%	0.3%
Robotic milking system	0.7%	1.1%	1.3%	0.7%	1.3%	--
Bucket milker (new)	0.0%	3.4%	2.5%	1.1%	2.6%	1.6%
Milk transfer unit (new)	0.7%	1.1%	1.7%	1.8%	2.1%	0.6%
Bulk milk tank (new)	2.1%	1.7%	2.1%	0.7%	0.4%	1.0%
Bulk milk tank (used)	2.7%	3.4%	4.2%	3.6%	2.6%	3.2%
Vacuum pump	8.2%	7.4%	10.2%	9.1%	12.8%	7.7%
Pulsators	12.3%	9.7%	9.7%	11.6%	13.7%	11.5%
Average number of pulsators	23.3	20.8	14.3	11.4	14.9	9.5
Claws	6.2%	6.8%	8.1%	8.0%	14.1%	11.5%
Average number of claws	9.5	17.6	15.4	13.0	11.6	8.1

DAIRY CLEANERS AND SANITIZERS

(Based on 140 respondents)

In 2022, **97.5%** reported purchasing dairy cleaners or sanitizers –
45.7% spent an average of **\$2,004** each month.

Frequency of Sanitizing Milk System

Daily.....	68.7%	Every other day	5.1%
Twice weekly	5.9%	Weekly	4.2%
Twice daily	5.1%	Other.....	11.9%

Source of Purchase for Cleaners and Sanitizers

(Based on 118 respondents)

	2022	2020	2018	2016	2014	2012
Milking machine dealer/routeman	72.9%	67.9%	67.0%	62.5%	65.0%	55.5%
Direct-to-farm independent routeman	20.3%	31.3%	28.4%	32.9%	26.7%	33.9%
Fleet or dairy supply store	10.2%	4.6%	8.5%	11.1%	9.7%	13.8%
Bulk/direct from manufacturer	0.8%	0.8%	1.7%	1.9%	1.0%	2.1%
Print catalog	0.8%	0.8%	1.7%	0.5%	0.5%	0.7%

In 2022, **71.1%** reported milkers were required to **wear gloves**.

SOURCE OF PURCHASE FOR MILK FILTERS

(Based on 130 responses)

	2022	2020	2018	2016	2014	2014
Milking machine dealer/routeman	62.3%	53.2%	59.2%	46.3%	48.7%	45.9%
Direct-to-farm independent routeman	16.9%	28.1%	25.0%	23.1%	23.5%	26.7%
Fleet or dairy supply store	14.6%	15.1%	9.8%	22.3%	19.5%	18.8%
Print catalog	3.8%	2.9%	3.3%	4.4%	2.7%	3.1%
Bulk/direct from manufacturer	2.3%	0.7%	0.5%	0.4%	0.4%	1.7%

CATTLE IDENTIFICATION METHODS USED

(Based on 140 respondents, **100.0% reported**
using cattle identification for record keeping and breeding)

Ear tags/No RFID	62.8%
RFID ear tags	22.8%
Neck chains/tags	5.5%
Tattoo	2.8%
Hot branding	1.4%
Ankle tags	0.7%
Other	4.1%

42.8% reported using **Electronic Cow Identification**

Purpose of Electronic Cow Identification

Heat activity	73.2%
Recording daily milk	66.1%
Detect and monitor treated cows	50.0%
Rumination	48.2%
Sort cows for special care	35.7%
Calf health	10.7%
Other	7.1%

35.8% reported using **Animal Activity Monitoring**.

52.1% used activity monitoring on cows, **2.1%** on heifers,
and **45.8%** on both cows and heifers.

INFLATIONS

(Based on 140 respondents)

In 2022, **68.6%** reported purchasing an average of **89.3 sets** (four) of inflations.
53.3% reported using **round liners**; **20.8%** reported using **triangular liners**,
and **25.8%** reported using **square liners**.

Source of Purchase for Inflations

(Based on 122 respondents)

	2022	2020	2018	2016	2014	2012
Milking machine dealer/routeman	75.4%	63.2%	68.7%	61.4%	60.2%	55.0%
Direct-to-farm independent routeman	15.6%	27.8%	20.3%	23.3%	24.5%	24.2%
Fleet or dairy supply store	4.1%	3.8%	4.9%	9.9%	7.9%	12.8%
Bulk/direct from manufacturer	1.6%	3.0%	2.2%	1.3%	1.4%	1.7%
Print catalog	3.3%	2.3%	2.2%	2.7%	4.2%	3.0%

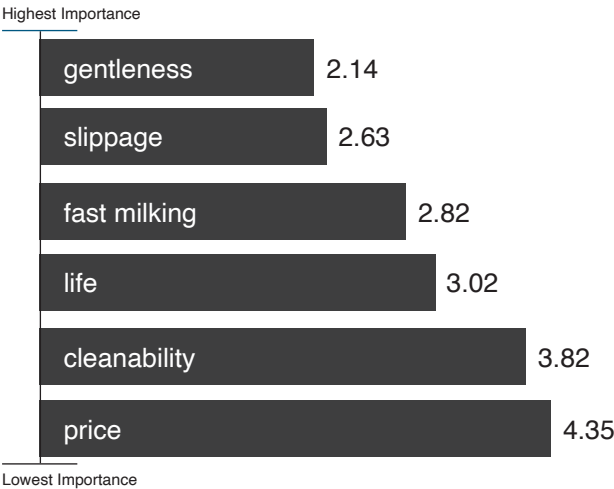
Brands of Inflations Purchased

(Based on 140 respondents)

	2022	2020	2018	2016	2014	2012
DeLaval	27.0%	18.3%	25.4%	24.2%	20.6%	21.2%
GEA	16.4%	18.3%	19.2%	15.4%	17.5%	14.7%
IBA	12.3%	16.9%	15.3%	18.1%	18.0%	13.1%
BouMatic	14.8%	16.2%	14.1%	8.8%	7.9%	11.4%
Milk-Rite	9.0%	12.0%	8.5%	11.0%	12.3%	16.7%
Conewango	13.1%	11.3%	9.6%	13.7%	10.5%	11.4%
Other	7.4%	7.0%	7.9%	6.2%	6.1%	8.2%

Most Important Purchase Concern

(Based on 149 respondents and ranked by mean value from 1 to 6, with 1 being “most important”)



Who makes the brand/purchasing decision for inflations

Farm owner	73.2%
Equipment dealer	14.8%
Herdsman	8.5%
Herd milker	2.8%
Veterinarian	0.7%

Reason for changing brand of inflation

Performance	39.7%
Equipment dealer	28.6%
Udder health	22.2%
Price	15.9%
Durability	4.8%
Veterinarian	3.2%
Other	3.2%

COMMERCIAL FEEDS PURCHASED AND FEEDING PRACTICES

(Based on 295 respondents)

	2022	2020	2018	2016	2014	2012
Average annual expenditure	\$982,661	\$320,877	\$369,708	\$169,497	\$216,577	\$168,583
Percent reporting	39.7%	49.3%	42.6%	46.0%	47.1%	48.0%

Commercial Feeds Purchased for Lactating Cows

Blend of vitamins and/or minerals	61.9%	Distillers Grains	25.0%
Protein meal (soybean meal, etc).....	52.3%	Protein concentrate or liquid supplement	25.0%
Complete dairy feed or dairy concentrate.....	49.6%	Whey	12.7%
Commodity farm-delivered by-products.....	31.9%	Ready-to-use commercial dry premix.....	11.2%
Dry and freshening ration	29.6%	Other.....	7.3%

Primary Brand of Feed Purchased for Lactating Cows

Bid out	17.9%	Vita Plus	4.2%
Cargill	11.3%	ADM.....	1.3%
Land O'Lakes Feed	11.3%	Agri-King.....	0.8%
Purina	10.4%	Renaissance.....	0.4%
Hubbard.....	4.2%	Other.....	43.3%

Feed Additives Normally Used in Cows' Rations

Minerals	51.2%	Probiotics/direct-fed microbials.....	10.8%
Vitamins.....	39.7%	Anionic products/salts.....	10.2%
Fat	38.0%	Niacin.....	9.2%
Buffers	38.0%	OmniGen	7.8%
Bypass protein.....	27.8%	Yeast culture	7.5%
Yeast.....	24.7%	Choline	6.1%
Mycotoxin binder	21.7%	Preservatives for 1 time per day feeding	2.0%
Ionophore (Rumensin).....	19.3%	Don't use	4.1%
Lysine	15.6%	Other.....	5.1%
Methionine	14.9%		

Balanced Feed Ration

(Based on 295 respondents)

Who balances your feed ration?

Independent nutritionist	54.6%
Feed company.....	27.1%
Do it myself.....	10.2%
Veterinarian	2.0%
Other.....	2.4%

How often do you have your ration balanced?

Weekly	17.0%
Monthly	43.1%
Quarterly.....	18.6%
Yearly.....	2.4%
As needed	3.6%
At feed/roughage change	2.0%
Other.....	13.4%

Who decides which brand or ingredients are used in your ration?

Independent nutritionist	56.5%
Feed supplier.....	29.0%
Do it myself.....	24.5%
Veterinarian	6.3%
Other.....	3.3%

Balanced Feed Ration (cont'd)

In 2022, 41.2% reported balancing their ration for essential amino acids

Rumen protected Lysine products used

USA Lysine (Kemin Industries)	45.7%
Bovi-Lysine (QualiTech)	34.8%
AjiPro-L (Ajinomoto Heartland)	17.4%
MetaboLys (HJ Baker)	4.3%

Rumen protected Methionine products used

Smartamine (Adisseo)	48.4%
AminoShure-M (Balchem)	21.0%
MetaSmart (Adisseo)	14.5%
Mepron (Evonik)	12.9%
Alimet (Novus)	9.7%
MFP (Novus)	9.7%
Novimet (Innovad)	3.2%
Timet (VetAGro)	1.6%

What minerals do you use in your feeding program?

calcium	29.5%
selenium	29.2%
phosphorus	23.7%
magnesium	22.4%
potassium	20.7%
sodium	20.0%
anionic salts	18.3%
zinc	16.9%
manganese	14.6%
iron	13.2%
copper	12.9%
cobalt	11.9%
sulfur	11.9%
chromium	9.2%
don't use	2.7%
don't know	21.4%
other	8.8%

What organic minerals do you use in your feeding program?

zinc	17.6%
selenium	14.2%
magnesium	5.8%
copper	4.4%
manganese	3.4%
cobalt	2.7%
don't use	5.4%
other	1.7%

Which company/brand of organic zinc supplement do you use?

Zinpro	10.2%
Alltech	2.7%
QualiTech SQM	1.0%
Kemin	0.7%
don't know	6.1%
don't use	3.7%
other	1.4%

Which company/brand of organic selenium supplement do you use?

Alltech	4.1%
Diamond V	2.7%
Phibro	2.4%
Balchem	0.7%
don't know	9.2%

Total amount spent for minerals in 2022, \$156,746.
16.7% reported using organic minerals.

Balanced Feed Ration (cont'd)**73.2% USE PROBIOTICS / DIRECT-FED MICROBIALS****Brands of Probiotics/Direct-fed Microbials**

Probios	50.0%
Bio-Vet.....	21.4%
Bovamine.....	14.3%
Generic rumen enhancer.....	7.1%
Priority One.....	4.8%
TechMix Rumen Yeast.....	4.8%
Top Gun	4.8%
Opti-DFM	2.4%
Other.....	9.5%

93.2% reported using fresh cow products such as calcium or propylene glycol.

Form of fresh cow products used

Bolus.....	34.0%
Liquid.....	28.2%
Intravenous.....	20.6%
Pastes.....	8.1%
Capsules.....	5.3%
Gels	3.8%

73.3% reported using a calcium bolus or capsule.

Brand of calcium bolus or capsule used

Bovicalc (Boehringer Ingelheim).....	65.5%
Cal-C-Preme (IBA)	11.9%
YMCP Vitall (TechMix).....	8.3%
RumiLife CAL 24 (Genex)	6.0%
QuadriCal (Bio-Vet)	4.8%
First Choice (MLS).....	2.4%
DairyCal (Radix)	1.2%

Of those **USING FAT**, **28.9%** used oil seeds, **7.4%** used rendered fat (tallow, lard, yellow grease), and **54.5%** used inert fat (bypass or protected).

Calf and Heifer Feeding Practices – 2022

(Based on 140 respondents)

In 2022, **83.1%** reported purchasing a **calf starter** (dry feed); **60.3%** said they fed a **calf milk replacer**; **30.9%** reported using a **colostrum substitute**; **25.0%** reported using a **colostrum supplement**, and **11.2%** reported using a **seasonal milk replacer or starter**.

How often do you feed milk/milk replacer to baby calves?

2 times per day	88.4%	depends on weather	0.9%
3 times per day	6.3%	other	4.5%

How much milk/milk replacer do you feed per feeding?

2 quarts	41.7%	5 quarts	2.6%
3 quarts	35.7%	other	2.6%
4 quarts	17.4%		

Brand of Calf Milk Replacer Fed in 2022

Land O'Lakes	31.6%	Strauss	5.3%
Purina	5.3%	IBA	3.5%
Vita Plus	7.0%	Renaissance	3.5%
Cargill/Nutrena	7.0%	other	40.4%

What is the one most important reason for choosing this brand of replacer?

performance	21.9%	nutritionists recommendation	5.1%
convenient to purchase	16.1%	research	5.1%
mixability	13.9%	product specifications or guarantee	4.4%
brand reputation	10.2%	medication	3.6%
cost per bag	6.6%	protein source	5.8%
service provided	5.8%	other	1.5%

Brand of Calf Starter Fed in 2022

Home mix	17.3%	Vita Plus	6.2%
Purina	16.0%	Cargill/Nutrena	3.7%
Custom made/local feed mill	12.3%	CP Feeds	2.5%
Land O'Lakes	7.4%	other	34.6%

In 2022, **20.7%** reported using a **pasteurizer** or **UV purifier** to feed milk to their calves.

58.7% reported **feeding waste milk** to their calves. Of these, **38.6%** reported the **waste milk is pasteurized**, **11.7%** reported **enhancing** their pasteurized milk, and **8.2%** reported **pasteurizing their colostrum**.

In 2022, **8.8%** reported owning an **automated calf feeder**.
1.4% reported purchasing an **automated calf feeder** in 2022.

Calf and Heifer Feeding Practices (cont'd)

Feed Additives Used in Heifer Rations

Rumensin	31.9%
Bovatec.....	15.3%
Deccox.....	6.1%
Aureomycin.....	4.1%
don't use	16.3%
other	3.1%

Supplements Used in Transition
Cows To Prevent Milk Fever

low potassium hay/roughage.....	25.3%
BoviKalc™	22.1%
BioChlor™	7.9%
Animate™	7.4%
Transition™ Bolus	7.4%
SoyChlor™	4.7%
other anionic mineral supplement.....	8.2%
other calcium supplement.....	7.1%
other	10.0%

In 2022, **27.8%** reported feeding a **commercial protein supplement** to heifers.

TMR (Total Mixed Ration)

	2022	2021	2020	2019	2018	2017	2016	2015
Percent reporting	87.0%	91.1%	85.9%	91.8%	88.4%	82.1%	71.5%	62.6%

In 2022, **0.8%** reported using a robotic **TMR mixer/feeder**.
0.0% reported planning to purchase a robotic **TMR mixer/feeder** in 2023.

In 2022, **3.7** reported using **robotic feed pushers**.
8.4% reported planning to purchase a **robotic feed pusher** in 2023.

ROUGHAGE FEEDING METHODS

USE OF HAY CROP	2022	2020	2018	2016	2014	2012
Percent of farms chopping any hay	63.1%	60.8%	65.6%	62.2%	60.2%	56.1%
percent of hay chopped	76.4%	77.3%	74.7%	72.8%	72.0%	66.7%
Percent of farms baling any hay	60.7%	68.2%	67.7%	76.2%	74.9%	78.5%
percent of hay baled	50.3%	48.2%	50.5%	54.3%	56.7%	62.2%
Made large round or square bales	72.1%	79.4%	80.1%	77.2%	78.1%	77.5%
of those, percent using a bale wrap or wrapper	57.6%	61.1%	59.8%	65.5%	58.3%	58.5%
made high moisture wrapped bales	33.1%	41.5%	38.5%	43.0%	40.8%	42.4%

26.3% reported **baling** all hay and **29.6%** report **chopping** all hay.
11.3% reported making **sorghum forage**.

How often do you test forage quality

monthly	32.0%	every 6 months	3.9%
when forage changes	29.3%	other	17.8%
every 3 months.....	17.0%		

INOCULANT USAGE

(Based on 295 respondents)

In 2022, **22.5%** reported using mold inhibiting inoculant on bales.**Time of year making inoculant purchasing decisions**

(Based on 174 respondents)

January-February	28.2%	July-August.....	7.5%
March-April	23.0%	September-October	4.6%
May-June.....	14.4%	November-December	22.4%

Reason for inoculant application

(Based on 270 respondents)

Less heating	37.8%	Fiber digestibility	13.7%
Dry matter recovery	27.4%	Other.....	4.8%
Protein quality.....	16.3%		

SILAGE ADDITIVES

(Based on 146 respondents)

	2022	2020	2018	2016	2014	2012
Average expenditure	\$9,799	\$4,823	\$6,863	\$2,813	\$4,042	\$2,454
Percent reporting expenditure	22.6%	33.5%	33.9%	32.4%	35.9%	34.6%
Of those –						
Percent for hay silage	81.1%	78.4%	79.9%	67.5%	74.1%	67.1%
Percent for corn silage	85.6%	90.1%	94.8%	87.9%	84.6%	85.0%
Percent for high-moisture corn	30.0%	23.4%	29.9%	26.1%	30.8%	28.1%
Percent for baled hay	16.7%	5.4%	10.4%	17.2%	11.9%	20.4%
It acted primarily as:						
bacterial inoculant	57.3%	67.3%	74.8%	67.7%	70.7%	65.9%
acid preservative (such as propionic acid)	24.7%	18.6%	14.8%	16.8%	17.7%	22.4%
an enzyme	16.9%	13.3%	10.3%	14.3%	10.9%	10.0%
source of nutrients	1.1%	0.9%	0.0%	1.2%	0.7%	1.8%

BRANDS OF SILAGE ADDITIVES USED IN 2022

(Based on 102 respondents)

Silo-King/Agri-King	16.7%	Biotol/Lallemand	3.9%
Pioneer	13.7%	Bonsilage-Provita	2.9%
Silo Guard.....	7.8%	Ecosyl.....	2.9%
Promote/Cargill.....	6.9%	Silage Pro	2.9%
Crop Cure	5.9%	Land O'Lakes	2.0%
IBA.....	4.9%	other	25.5%
Vita Plus	3.9%		

FEED STORAGE

(Based on 146 respondents)

	2022	2020	2018	2016	2014	2012
Vertical sealed storage units						
Percent reporting	21.2%	27.3%	28.8%	26.5%	27.8%	22.4%
Average per farm	2.1	2.2	2.7	2.6	2.2	2.0
Drive-over piles						
Percent reporting	19.9%	25.6%	25.4%	16.4%	17.1%	9.3%
Average per farm	3.2	2.6	2.9	2.1	2.5	2.3
Staved vertical conventional silos						
Percent reporting	23.3%	26.7%	28.4%	44.4%	41.0%	50.0%
Average per farm	2.2	2.3	2.2	2.2	2.3	2.3
Poured concrete vertical conventional silos						
Percent reporting	11.6%	13.1%	10.2%	13.5%	16.2%	11.9%
Average per farm	2.2	2.1	1.8	2.0	1.7	2.2
Bunker silos						
Percent reporting	35.6%	36.9%	40.3%	31.6%	33.8%	22.8%
Average per farm	4.4	3.3	3.9	3.0	2.8	2.8
Covering bunker silos	83.1%	95.6%	97.9%	96.6%	98.7%	95.8%
Horizontally sealed storage bags						
Percent reporting	27.4%	29.5%	35.2%	40.4%	35.5%	37.5%
Average per farm	10.1	7.8	8.1	5.4	6.1	5.4
Baleage (individually wrapped silage bags)						
Percent reporting	20.5%	24.4%	16.9%	28.0%	29.9%	23.7%
Average per farm	563.8	346.7	490.6	376.1	378.0	339.5

Of those reporting covering their bunker silos, **52.9%** reported using **white plastic**, **44.2%** used **oxygen limiting plastic** and **2.9%** used **reusable tarps** to cover their bunkers.

BRAND OF PLASTIC USED TO COVER BUNKER SILOS

Silo-Stop	50.8%	Passion Films	1.7%
Raven	16.9%	other	35.6%

In 2022 **34.4%** used **Up North** brand of sealed storage bags, **31.1%** reported using **Ag Bag** brand, **6.6%** used **AgriPac** brand, **6.6%** used **Siloflex** brand, and **21.3%** used **other** brands of storage bags.

BRAND OF BAGGING EQUIPMENT USED

Ag Bag	44.8%	Roto-Press	5.2%
Versa	19.0%	Other	19.0%
Kelly Ryan	12.1%		

WHAT INFLUENCES THE TYPE OF FEED STORAGE SYSTEM USED

Ease of operation	72.3%	Ease of expansion	19.3%
Feed quality	57.1%	Recommendation	0.8%
Feed storage loss	31.1%	Other	9.2%

FARM ACREAGES AND CROPS

(Based on 435 respondents)

	2022	2020	2018	2016	2014	2012
AVERAGE FARM ACREAGE (includes rented land)	1,121.2	997.3	929.8	585.4	656.8	500.6
Grew GMO Seed						
Percent reporting	58.9%	64.7%	66.7%	--	--	--
Average acres	860.8	502.0	596.9	--	--	--
Grew non-GMO seed						
Percent reporting	25.7%	27.1%	24.3%	--	--	--
Average acres	530.6	300.6	328.3	--	--	--
Dry Hay						
Percent reporting	54.7%	59.9%	61.4%	70.7%	68.2%	73.6%
Average acres	178.3	101.3	125.1	82.9	101.6	78.9
Hay for silage (haylage)						
Percent reporting	69.4%	74.3%	69.7%	72.8%	70.2%	64.9%
Average acres	380.5	252.6	238.8	157.1	159.7	144.3
Any corn						
Percent reporting	83.2%	87.3%	85.6%	84.3%	86.1%	82.4%
Average acres	543.7	440.3	430.6	244.3	305.4	197.8
Corn for grain						
Percent reporting	63.2%	55.7%	60.4%	63.2%	62.1%	60.3%
Average acres	282.5	246.2	265.3	161.2	196.5	129.9
Corn silage specific						
Percent reporting	81.1%	80.0%	75.7%	73.9%	73.1%	68.5%
Average acres	374.0	269.6	261.0	126.2	176.7	140.8
Wheat						
Percent reporting	29.4%	31.5%	26.7%	23.1%	26.3%	--
Average acres	282.5	165.5	172.7	104.4	138.4	--
Soybeans						
Percent reporting	36.1%	38.4%	41.5%	38.8%	38.1%	33.4%
Average acres	250.9	280.5	238.5	181.9	178.1	111.1
Pasture						
Percent reporting	43.4%	52.8%	48.4%	64.3%	61.7%	64.4%
Average acres	144.9	99.1	111.9	78.7	105.3	94.6
Cover Crops						
Percent reporting	61.1%	66.2%	--	--	--	--
Average acres	275.2	204.2	--	--	--	--

Types of cover crops planted in 2022

Rye	60.2%	Mixture	13.4%
Wheat	32.1%	Clover	7.3%
Triticale	24.4%	Other	7.3%
Oats	15.4%		

In 2022, **37.5%** reported using a custom operator to harvest their crops.

ALFALFA AND ALFALFA MIXTURES

(Based on 435 respondents)

	2022	2020	2018	2016	2014	2012
Percent growing alfalfa	76.8%	76.9%	76.1%	81.6%	78.2%	77.8%
Percent growing alfalfa mixture	38.2%	40.3%	38.7%	47.3%	39.2%	43.8%
Average acres	163.4	157.9	151.5	80.4	95.4	71.5
Percent growing straight (no grass) alfalfa	43.7%	40.7%	40.4%	40.9%	44.5%	39.2%
Average acres	286.0	155.0	209.2	123.6	150.6	117.2
Percent growing alfalfa seeded without cover crop	12.4%	13.6%	12.1%	13.7%	12.6%	12.4%
Average acres	220.9	73.8	108.5	53.1	67.8	76.0
Percent growing Roundup Ready alfalfa	15.6%	14.2%	12.6%	9.2%	11.0%	5.2%
Average acres	382.3	180.4	223.1	156.3	114.7	55.6
Percent growing reduced-lignin alfalfa (GMO)	6.7%	8.1%	8.9%	--	--	--
Average acres	407.8	193.6	175.8	--	--	--
Percent growing high-quality alfalfa (non-GMO)	9.2%	7.9%	8.8%	--	--	--
Average acres	282.1	122.7	136.9	--	--	--
How many acres did you plant –						
Spring	86.1	70.4	64.3	46.4	47.9	35.7
Percent reporting	45.5%	49.1%	43.8%	50.5%	51.1%	47.3%
Fall (August - September)	92.5	65.6	68.9	67.7	51.9	46.4
Percent reporting	15.4%	16.9%	12.4%	14.4%	13.7%	13.1%
Percent irrigating alfalfa	11.0%	10.2%	8.1%	5.8%	7.6%	5.5%
Expenditure for alfalfa varieties	\$9,413	\$6,239	\$6,421	\$3,273	\$4,423	\$2,738
Percent reporting	36.8%	39.9%	36.3%	40.5%	38.6%	38.6%
Percent buying premixed pasture seed	8.7%	12.7%	6.8%	14.1%	15.7%	19.8%
Type: combination	65.8%	63.9%	70.5%	69.8%	68.2%	75.6%
all legume	5.3%	1.6%	2.3%	4.7%	3.6%	2.6%
all grass	28.9%	34.4%	27.3%	25.5%	28.2%	21.8%
Percent treating alfalfa for weeds	33.0%	38.1%	30.0%	23.4%	29.9%	23.8%
Percent treating alfalfa for insects	47.7%	58.0%	46.3%	40.8%	46.1%	51.6%

In 2022, 9.5% reported growing alfalfa with the HarvXtra trait.

BRANDS OF ALFALFA GROWN IN 2022

(Based on 378 brand responses)

Pioneer	24.9%	America's Alfalfa	1.9%
Dairyland Seed	17.2%	Brevant	1.9%
Croplan by Winfield	12.4%	NexGrow	1.3%
W-L Research	7.4%	Barenbrug	1.1%
DeKalb	7.4%	S&W	0.5%
Alforex	3.4%	Other	20.6%

7.8% said they were a farmer/dealer for alfalfa seed.

ALFALFA AND ALFALFA MIXTURES (cont'd)**Source of Purchase of Alfalfa Seed**

(Based on 328 responses)

farmer/dealer	42.4%	ag supply store	17.4%
direct from company	21.0%	feed mill	5.2%
cooperative	20.1%	other	2.7%

Person responsible for purchasing decisions for alfalfa seed

(Based on 362 responses)

owner/operator	90.6%	lender	0.3%
crop consultant	5.0%	other	0.9%
seed dealer	3.4%		

SEED CORN PURCHASES

(Based on 435 respondents)

	2022	2020	2018	2016	2014
Average expenditure	\$57,284	\$42,021	\$34,192	\$21,915	\$27,619
Percent reporting	44.6%	49.9%	53.0%	52.9%	45.1%
Percent planting same hybrid variety of corn for grain and silage	35.1%	46.0%	36.6%	44.1%	44.9%

BRANDS OF CORN GROWN IN 2022

(Based on 621 brand respondents)

Pioneer	25.0%	Croplan by Winfield	6.3%
DeKalb	16.6%	Beck's	3.7%
Dairyland Seed	7.4%	Channel	3.2%
Brevant	6.8%	Master's Choice	2.7%
NK/Syngenta	6.8%	other	21.6%

SEED CORN PLANTINGS IN 2022

Average acres planted corn for grain	282.5
Percent reporting	63.2%
Average acres planted corn silage specific	374.0
Percent reporting	81.1%

BMR CORN PLANTINGS IN 2022

Average acres of BMR corn planted	346.2
Percent planting BMR corn	20.5%

TRACTOR OWNERSHIP

(Based on 149 respondents)

	2022	2020	2018	2016	2014	2012
Any tractors	98.7%	96.3%	99.1%	95.4%	97.9%	95.7%
2 or more	98.6%	94.8%	96.4%	91.6%	95.6%	95.5%
3 or more	91.2%	92.3%	90.6%	89.0%	91.7%	88.0%
4 or more	82.3%	78.7%	81.7%	76.7%	81.1%	76.6%
Average per farm	8.6	7.8	7.8	6.4	6.8	5.4

HORSEPOWER OF TRACTORS OWNED – 2022

Under 80.....	25.2%
81-120	26.7%
121-160	25.4%
Over 160.....	22.7%

TRACTOR OWNERSHIP BY BRAND – 2022

John Deere	36.0%
Case/IH	25.0%
New Holland.....	11.3%
Massey Ferguson	7.0%
Kubota.....	5.7%
AGCO.....	5.3%
McCormick	1.7%
other	8.0%

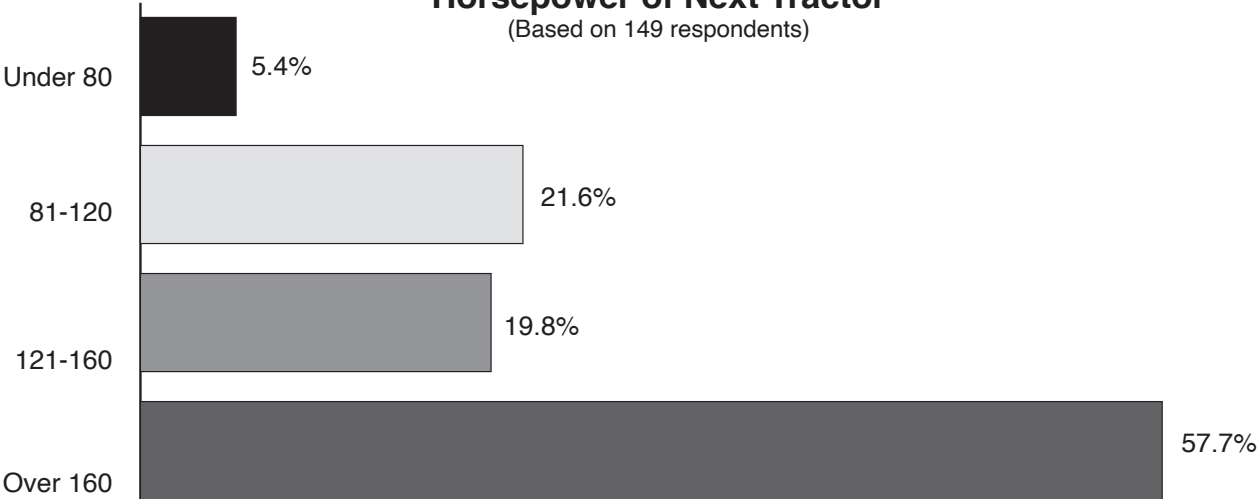
TRACTOR BUYING INTENTIONS

(Based on 149 respondents)

	2023	2021	2019	2017	2015	2013
New tractor	2.0%	2.5%	0.4%	1.3%	2.1%	1.7%
Used tractor	12.8%	15.5%	8.0%	6.7%	7.7%	7.2%
May buy	60.4%	54.0%	61.1%	58.8%	63.1%	57.8%

Horsepower of Next Tractor

(Based on 149 respondents)



TRACTOR PURCHASES

(Based on 149 respondents)

2022	2020	2018	2016	2014	2012
58.4%	39.8%	30.5%	35.3%	46.4%	35.1%

Tractors Purchased

	2022	2020	2018	2016	2014	2012
New	13.4%	8.7%	5.8%	5.0%	15.0%	9.8%
Percent of new with front-wheel assist	95.0%	92.9%	84.6%	91.7%	100.0%	100.0%
Used	24.8%	26.7%	13.3%	12.2%	22.3%	12.6%

Brands of NEW Tractors Purchased in 2022

John Deere	52.4%	Massey Ferguson	9.5%
Case IH.....	14.3%	Kubota	4.8%
New Holland	14.3%	other	9.5%

FARM EQUIPMENT OWNERSHIP

(Based on 149 respondents)

	2022	2020	2018	2016	2014	2012
Large round baler	45.0%	50.3%	42.0%	43.7%	51.9%	46.3%
Large square/rectangular baler	20.8%	18.6%	16.4%	6.3%	12.9%	6.6%
Manure spreader	91.3%	90.7%	90.7%	88.2%	89.7%	87.1%
conventional	63.8%	74.5%	76.5%	69.3%	73.8%	68.1%
impeller/side discharge	53.0%	39.8%	43.0%	37.0%	36.5%	30.7%
liquid tank	29.5%	39.1%	14.2%	12.6%	20.6%	17.0%
Forage harvester	72.5%	72.7%	69.0%	65.1%	73.0%	65.8%
self-propelled	60.2%	56.4%	46.8%	31.6%	35.9%	28.8%
pull-type	43.5%	48.7%	64.8%	74.2%	71.2%	76.0%
Mower-conditioner-windrower	81.9%	86.3%	85.8%	84.0%	88.0%	81.0%
self-propelled	45.0%	30.4%	39.2%	29.5%	33.7%	22.0%
pull-type (disc/rotary)	43.6%	62.1%	69.6%	70.5%	67.3%	63.8%
Hay rake	76.5%	80.1%	76.1%	82.4%	83.7%	81.3%
wheel rake	41.6%	58.4%	56.2%	55.9%	51.1%	43.7%
parallel bar	26.8%	28.6%	26.1%	30.3%	30.5%	33.6%
rotary	32.2%	34.8%	46.1%	48.3%	39.1%	40.8%
Tedder/hay merger	54.4%	36.6%	35.0%	20.6%	25.8%	11.8%
Telehandler	11.4%	6.8%	7.1%	2.1%	7.7%	1.1%
Self-propelled utility loader (skid steer loader)	87.9%	90.7%	89.8%	79.0%	76.8%	71.3%
Payloader	32.9%	23.0%	23.0%	11.8%	--	--
TMR Mixer	91.8%	94.3%	96.6%	77.5%	77.4%	69.6%

In 2022, **71.7%** reported owning 2 or more self-propelled skid steer loaders.**NUMBER OF SKIDSTEER ATTACHMENTS OWNED**

1-2	17.2%	5-6	25.0%
3-4	25.9%	7+	31.9%

FARM EQUIPMENT OWNERSHIP BY BRAND IN 2022

Manure Spreaders

Conventional

with horizontal beaters	13.4%
with vertical beaters	12.1%
with spinner discharge beaters	4.0%
Kuhn Knight	41.7%
New Holland	18.5%
H & S	9.3%
Meyer	9.3%
New Idea	6.5%
Deere	2.8%
Other	12.0%

Impeller/side discharge –

Kuhn Knight	76.2%
Meyer	9.5%
New Holland	9.5%
Other	4.8%

Mower/Conditioner/Windrowers

Self-propelled –

Deere	33.8%
New Holland	31.0%
Case IH	7.0%
Massey Ferguson	7.0%
Hesston	5.6%
Krone	4.2%
MacDon	1.4%
Other	9.9%

Pull-type (disc) –

New Holland	35.3%
Deere	32.4%
Massey Ferguson	8.8%
Case IH	5.9%
Kuhn	4.4%
New Idea	2.9%
Vermeer	1.5%
Other	8.8%

TMR Mixer (brands)

Kuhn Knight	27.7%
Patz	19.2%
Penta	6.9%
Trioliet	6.2%
Supreme	5.4%
Rissler	4.6%
Jaylor	3.8%
Roto-Mix	3.8%
Lucknow	1.5%
New Direction Equipment	1.5%
Other	19.2%

TMR Mixer (types)

Trailer mount	29.0%
Stationary	4.7%
Truck mount	3.6%
Vertical	36.3%
Reel type	13.0%
Auger type	8.8%
Drum	2.6%
Other	2.1%

Skid-Steer Loader

Bobcat	23.8%
New Holland	23.2%
Deere	18.3%
Gehl	14.0%
Case IH	9.8%
Caterpillar	6.7%
Other	4.3%

FARM EQUIPMENT OWNERSHIP BY BRAND IN 2022 (Cont'd)**Forage Harvesters****Self-propelled –**

Deere.....	44.3%
Claas	32.9%
New Holland	10.0%
Krone.....	5.7%

Pull-type –

New Holland	51.1%
Deere.....	36.2%
Case IH.....	8.5%
Hesston	2.1%
Other.....	2.1%

Large Round Baler

Deere.....	37.8%
New Holland	20.3%
Case IH.....	9.5%
Vermeer.....	8.1%
Claas	6.8%
Krone.....	2.7%
Massey Ferguson.....	2.7%
Other.....	12.1%

Large Square/Rectangular Baler

New Holland	28.1%
Deere.....	25.0%
Massey Ferguson.....	25.0%
Hesston	9.4%
Krone.....	9.4%
Case IH.....	3.1%

Hay Rakes**Wheel rake –**

H & S	39.1%
New Holland	17.2%
Kuhn	7.8%
Deere.....	6.3%
New Idea	4.7%
Vermeer.....	3.1%
Frontier	3.1%
Other.....	18.8%

Parallel bar –

New Holland	52.4%
Vermeer.....	16.7%
Deere.....	16.7%
New Idea	2.4%
Other.....	11.9%

Rotary –

Kuhn	39.6%
Miller Pro	12.5%
Massey Ferguson.....	10.4%
H & S	6.3%
Vermeer.....	4.2%
New Holland	2.1%
Other.....	25.0%

Hay Merger

H&S	29.8%
Kuhn	19.0%
Oxbo	19.0%
John Deere.....	2.4%
Miller Pro	2.4%
Other.....	27.4%

BARN EQUIPMENT/SYSTEMS

VENTILATION SYSTEMS

Types of ventilation systems currently used in dairy facilities

(Based on 134 respondents)

Recirculation/stir fans (natural ventilation barn and stir fans)	40.3%
Natural ventilation only	25.4%
Combination/exhaust fans and stir fans	20.9%
Tunnel ventilation	20.1%
Cross ventilation	13.4%

What structures will ventilation be added to in future dairy projects

(Based on 39 respondents)

Heifer barn	30.2%
Calf barn	22.6%
Transition cow barn	22.6%
Parlor/holding area	13.2%
Other	11.3%

HEAT ABATEMENT SYSTEMS

In 2022, **73.3%** said they used **heat abatement** for their lactating cows, and **59.6%** used heat abatement for their dry cows.

Types of Heat Abatement Systems Used for Lactating Cows

(Based on 107 respondents)

Fans	86.0%
Soakers/sprinklers	39.3%
Shade	34.6%
Other	3.7%

Types of Heat Abatement Systems Used for Dry Cows

(Based on 87 respondents)

Fans	72.4%
Shade	46.0%
Soakers/sprinklers	18.4%
Other	2.3%

BARN EQUIPMENT/SYSTEMS**FLOORING AND BEDDING****Types of Flooring in Free Stall Alleys/Walkways**

Cut, grooved concrete	48.9%
Poured in place, grooved concrete	44.3%
Rubber mats or strips	17.6%
Ungrooved concrete	13.7%
Other	3.8%

Types of Bedding Used

Wood shavings/sawdust	39.3%
Sand	37.9%
Straw/cornstalks	35.7%
Mattresses	22.1%
Solid rubber mats	11.4%
Manure solids	10.0%
Lime	7.1%
Other	5.7%

MANURE STORAGE SYSTEMS**Type of Manure Storage System**

(Based on 127 responses)

Earthen/Concrete/Clay lined lagoon or pit	66.9%
Above-ground tank	12.6%
Slatted underground floor storage	8.7%
Anaerobic digester	3.9%
Covered enclosure	3.1%
Other	4.7%

14.4% said they plan to **buy/install** a new manure storage system in 2023.**Manure removal method—Freestall barns**

(Based on 141 respondents)

Skidsteer	56.7%
Tractor	14.9%
Alley scraper – cable	9.9%
Alley scraper – chain link	5.0%
Other	13.5%

HOUSING OF MILKING HERD

(Based on 140 respondents)

	2022	2020	2018	2016	2014	2012
Free stall barn	74.2%	70.2%	78.7%	53.6%	60.3%	48.9%
Tie stall or stanchion barn	20.3%	19.9%	16.0%	38.4%	30.8%	38.5%
Pasture (intensive rotational)	3.9%	9.9%	6.4%	11.4%	8.0%	12.0%
Pasture (non-rotational)	4.7%	2.1%	4.8%	11.4%	12.1%	14.9%
Compost or bedded pack/barn	10.9%	10.6%	8.0%	6.3%	9.4%	9.7%
Open drylots	3.1%	3.5%	3.2%	3.4%	5.4%	5.2%
Other	0.8%	0.7%	1.1%	3.8%	0.9%	1.6%

BRANDS OF FREE STALLS OWNED IN 2022

Norbco	26.2%	Albers	8.7%
J&D Manufacturing	13.6%	Own/self built	4.9%
Freudenthal Manufacturing.....	12.6%	Hatfield Manufacturing.....	2.9%
Sturdy Built	11.7%	Other/not specified	19.4%

BRANDS OF LOCK-UPS OWNED IN 2022

Norbco	24.4%	Hatfield Manufacturing.....	7.0%
J&D Manufacturing	15.1%	Albers	7.0%
Freudenthal Manufacturing.....	14.0%	Own/self built	4.7%
Sturdy Built	10.5%	Other/not specified	17.4%

28.0% of dairy producers plan to expand their free stall barns for milk cows in 2023 as reported in this year's survey.

9.6% plan to expand their free stall barns for heifers this year.

CALF HOUSING

(Based on 140 respondents)

	2022	2020	2018	2016	2014	2012
Calf barn with individual calf pens	45.7%	--	--	--	--	--
Calf hutches	44.1%	49.6%	54.1%	53.0%	57.7%	50.2%
Group housing	25.2%	16.3%	13.7%	9.5%	8.9%	10.6%
Other	4.7%	0.7%	2.2%	2.2%	0.9%	3.3%

BRANDS OF CALF HUTCHES USED TO HOUSE CALVES

Calf-Tel	62.9%
Agri-Plastics.....	15.7%
Self made	11.4%
PolyDome	10.0%
EZ Hutch.....	4.3%
J&D Manufacturing	2.9%
Sturdy Built	2.9%
Artex	1.4%
Other.....	4.3%

CALF/HEIFER RAISING

14.3% of dairy producers reported having their **calves/heifers raised by someone else** in 2022 as follows:

- **3.6%** reported birth to weaning
- **10.0%** after weaning to breeding age
- **6.4%** breeding age to near calving

HERD HEALTH PROBLEMS

(Based on 140 respondents)

	2022	2020	2018	2016	2014	2012
Bloat						
Percent reporting	20.7%	21.8%	26.5%	20.3%	25.0%	19.0%
Average cases	7.6	3.6	6.9	1.7	6.3	2.8
Hoof rot						
Percent reporting	43.6%	41.5%	57.1%	48.9%	56.9%	53.5%
Average cases	14.3	8.2	17.9	7.0	10.9	7.8
Milk fever						
Percent reporting	65.7%	70.4%	74.6%	75.5%	78.0%	76.6%
Average cases	14.8	10.9	17.2	8.5	12.4	11.2
Pinkeye						
Percent reporting	29.3%	27.5%	41.3%	25.7%	33.6%	32.9%
Average cases	16.9	18.2	25.5	6.5	7.6	7.2
Metritis						
Percent reporting	38.6%	45.8%	48.7%	45.6%	42.7%	36.4%
Average cases	33.1	18.7	25.3	14.8	16.6	14.9
Hardware						
Percent reporting	19.3%	20.4%	29.6%	32.1%	23.7%	33.5%
Average cases	4.2	2.6	4.6	2.3	2.3	2.3

(In 2022, 18.6% reported shipping an average 3.7 cows for hardware.)

IBR						
Percent reporting	0.0%	1.4%	0.5%	0.8%	2.2%	0.6%
Average cases	0.0	7.0	5.0	28.5	10.2	5.0
BVD						
Percent reporting	1.4%	0.7%	2.6%	1.3%	2.2%	1.6%
Average cases	36.0	10.0	3.6	8.0	10.8	1.8
PI-3						
Percent reporting	0.7%	0.7%	0.5%	0.8%	1.3%	0.6%
Average cases	5.0	4.0	5.0	6.5	20.0	4.5
BRSV						
Percent reporting	0.7%	1.4%	26.0%	1.3%	1.1%	0.6%
Average cases	5.0	2.5	23.8	7.3	26.3	7.5
Ketosis (Acetonemia)						
Percent reporting	47.9%	52.1%	62.4%	67.9%	59.9%	60.1%
Average cases	21.7	18.5	29.6	9.0	14.9	16.0
Displaced Abomasum						
Percent reporting	49.3%	52.1%	62.4%	51.9%	62.9%	56.6%
Average cases	8.5	6.0	9.0	4.4	8.4	5.8
Leptospirosis						
Percent reporting	2.1%	1.4%	1.6%	3.0%	2.2%	1.9%
Average cases	4.0	1.5	5.7	2.6	2.4	4.8
Winter Scours						
Percent reporting	20.0%	21.8%	29.1%	27.0%	33.6%	27.8%
Average cases	16.8	17.0	30.1	17.5	17.6	12.9
Leukosis						
Percent reporting	3.6%	8.5%	10.6%	8.0%	6.0%	4.7%
Average cases	2.2	2.9	19.4	5.7	4.7	3.3

HERD HEALTH PROBLEMS (cont'd)

	2022	2020	2018	2016	2014	2012
Laminitis						
Percent reporting	27.9%	28.2%	30.2%	32.1%	39.2%	36.7%
Average cases	24.5	16.0	12.9	11.3	14.9	13.2
Neosporosis						
Percent reporting	0.0%	1.4%	1.6%	2.1%	0.4%	0.6%
Average cases	0.0	8.0	2.7	5.0	5.0	7.0
Hemorrhagic Bowel Syndrome						
Percent reporting	12.1%	6.3%	14.3%	8.0%	11.2%	7.3%
Average cases	4.6	7.7	7.3	2.2	4.9	8.0
Pneumonia in Cows						
Percent reporting	43.6%	33.8%	51.9%	44.7%	46.1%	44.9%
Average cases	11.9	7.3	16.4	5.1	7.0	5.8
Pneumonia in Calves						
Percent reporting	47.9%	49.3%	56.6%	54.0%	58.2%	55.7%
Average cases	28.7	16.9	17.5	7.9	12.7	11.0
Histophilus somni ²						
Percent reporting	0.7%	0.0%	1.6%	0.8%	1.3%	0.6%
Average cases	5.0	0.0	17.7	5.0	2.3	1.5
Johne's Disease						
Percent reporting	12.9%	12.7	17.5%	13.5%	22.8%	19.9%
Average cases	5.8	4.8	12.3	4.1	5.6	6.0
(In 2022, 27.6% reported going through a Johne's assessment program.)						
Retained Placenta (afterbirth)						
Percent reporting	55.7%	64.8%	66.7%	70.9%	66.4%	70.3%
Average cases	22.0	24.3	31.5	13.9	17.9	13.0
External Parasites (lice, grubs, etc.)						
Percent reporting	8.6%	12.0%	15.9%	19.8%	16.8%	14.6%
Average cases	195.8	48.3	69.6	28.1	87.6	43.7
Internal Parasites (tape, lung, round worms)						
Percent reporting	2.9%	4.2%	6.3%	7.6%	6.9%	7.0%
Average cases	26.3	41.8	17.8	42.1	25.2	23.4
Abortion						
Percent reporting	57.1%	58.5%	70.4%	71.7%	65.1%	67.7%
Average cases	18.3	8.5	15.0	6.0	7.1	12.1
Cystic Ovaries						
Percent reporting	47.9%	50.7%	60.8%	63.3%	65.5%	59.8%
Average cases	25.3	17.7	33.9	12.9	20.2	17.3
Liver Abscess						
Percent reporting	5.7%	2.8%	7.4%	5.9%	6.0%	6.3%
Average cases	6.3	5.0	2.7	2.3	7.6	3.5
Lepto Hardjo-Bovis						
Percent reporting	2.9%	0.7%	2.6%	1.3%	3.0%	1.6%
Average cases	5.8	5.0	9.2	3.0	1.9	9.2
Acidosis						
Percent reporting	16.4%	12.7%	17.5%	22.8%	20.7%	19.0%
Average cases	14.5	14.7	25.1	7.4	9.3	6.6

2.1% reported an average 20.3 cases of **Cryptosporidium**. In 2022, 23.6% reported 15.7 cases of **coccidiosis in calves** compared to 31.3% reporting 14.7 cases in 2021.

HAIRY FOOT WARTS – 2022

(Based on 149 respondents)

In 2022, **57.1%** reported an average **55.8 cases** of **hairy foot warts**.**FOOT WART PREVENTION****64.0%** reported using **footbaths** on a regular basis for **prevention** of **foot warts**.**Frequency of footbaths given to prevent foot warts**

Every other day	27.9%	Every day.....	14.0%
Once a week.....	19.8%	Other.....	19.8%
Only as needed	18.6%		

Footbath ingredients used to prevent foot warts

Copper Sulfate.....	66.7%
Formalin.....	21.2%
Antibiotics	1.0%
Other.....	11.1%

Person responsible for treatment/prevention

Owner	48.9%
Herdsman	34.8%
Milker	10.4%
Other.....	5.9%

HAIRY FOOT WART TREATMENT**Source of Purchase for Hairy Foot Wart Treatments**

Route salesman.....	33.6%	Farm/feed store	14.1%	Other.....	3.1%
Hoof trimmer.....	23.4%	Print catalog.....	7.0%		
Veterinarian	16.4%	Online	2.3%		

Application Methods for Hairy Foot Wart Treatment

Footbath	40.9%	Direct spray	21.6%
Wrap	36.4%	Other.....	1.1%

Products Used for Control of Hairy Foot Warts

Copper Sulfate.....	45.6%	HoofPro+	6.3%	Oxy-Step.....	0.6%
Formaldehyde.....	16.9%	Restore Hoof	3.8%	Other.....	6.9%
Antibiotics	8.8%	New Hoof.....	1.9%		
Zinc Sulfate.....	7.5%	Hoof-Mate.....	1.9%		

In 2022, **27.5%** reported an **average expenditure** of **\$17,324** for treating lameness.**78.6%** reported **culling cows** due to **lameness**.**In 2022, 93.4% reported TRIMMING COWS' HOOVES****Person Responsible for Hoof Trimming**

Hired hoof trimmer.....	78.7%	On site employee.....	21.3%
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Frequency of Hoof Trimmer Visits to Farm

quarterly.....	22.2%	twice a month	13.9%	yearly.....	8.3%
once a month.....	22.2%	weekly.....	16.7%	other	16.7%

DEHORNING PROCEDURES

(Based on 146 respondents)

Person responsible for dehorning	Age dehorning procedure is done
Owner.....49.3%	Birth-1 month.....49.6%
Calf manager.....25.3%	1-2 months.....31.6%
Employee.....12.0%	3-4 months.....13.5%
Veterinarian.....9.3%	5-6 months.....0.8%
Other.....4.0%	

Methods Used to Dehorn

Heat/cauterization.....45.7%	Slicing/scooping.....6.7%
Caustic paste.....34.8%	other.....1.8%
Using polled sires.....11.0%	

52.4% reported using a **sedative** or **numbing agent** in their dehorning procedure.

1.6% reported **tail docking** their cows.

FLY CONTROL – 2022

(Based on 146 respondents)

74.4% report buying fly control products.

Total average **expenditure** for fly control products - **\$2,212**.

Fly Control for Livestock

Percent reporting.....	24.7%
Average expenditure.....	\$2,375

Residual Fly Control

Percent reporting.....	8.2%
Average expenditure.....	\$1,049

Source of purchase for fly control

Route salesman.....	56.7%
Retail store.....	33.0%
Online.....	10.3%
Print catalog.....	5.2%
Other.....	9.3%

Method used to control flies

Pour on.....34.9%	Wall spray.....11.0%
Fly bait.....22.6%	Cattle oilers.....6.2%
Feed through.....22.6%	Ear tags.....6.2%
Fog or mist over cattle.....19.9%	Biological (wasps).....5.5%
Aerosol.....19.2%	Dust bags.....4.8%
Fly paper (stickers).....19.2%	Vapona pest strips.....1.4%
Rely on sanitation.....14.4%	Other.....2.7%
Fly traps.....13.7%	

MASTITIS

(Based on 140 respondents)

In 2022, 91.4% reported having mastitis problems.

	2022	2020	2018	2016	2014	2012
Cows shipped due to mastitis						
Percent reporting	68.6%	64.8%	69.3%	68.8%	71.6%	67.1%
Average number shipped	24.8	16.0	27.7	8.6	10.3	9.4
Mastitis remedies for dry cows						
Percent reporting	34.3%	33.1%	33.3%	35.9%	35.8%	41.1%
Average expenditure	\$2,286	\$2,283	\$2,893	\$1,349	\$1,259	\$1,234
Treatment of dry cows						
Percent reporting	44.8%	47.6%	47.3%	45.7%	42.8%	44.5%
All quarters routinely	78.5%	84.7%	92.7%	89.0%	80.4%	79.7%
All quarters of all dry cows with mastitis history	16.8%	11.0%	5.5%	5.8%	4.6%	5.5%
Only quarters with mastitis history	4.7%	5.1%	3.0%	2.6%	4.6%	3.8%
Treat with internal teat sealant	30.8%	6.9%	29.9%	--	--	--
Do not dry treat	11.3%	6.9%	8.6%	14.0%	10.5%	9.3%
Mastitis remedies for lactating cows						
Percent reporting	39.3%	40.1%	38.6%	39.2%	43.5%	50.9%
Average expenditure	\$1,058	\$1,415	\$3,198	\$559	\$1,722	\$824

Treatment of Mastitis Cases

	2022	2020	2018	2016	2014	2012
Only dairyman or other farm worker						
Percent reporting	47.1%	40.8%	44.4%	41.4%	42.7%	44.9%
Average number of cases	48.0	26.2	69.8	33.1	20.0	24.2
Partly vet and partly dairyman						
Percent reporting	8.6%	7.0%	6.3%	11.0%	11.6%	13.3%
Average number of cases	7.3	8.6	11.2	9.5	7.3	8.2
Only the vet						
Percent reporting	2.1%	3.5%	2.1%	3.8%	3.9%	4.1%
Average number of cases	3.3	6.6	3.0	4.8	4.3	12.0

MASTITIS (cont'd)**Method of Treatment for Mastitis**

	2022	2020	2018	2016	2014	2012
Infuse quarter	88.3%	86.5%	92.7%	91.5%	88.8%	90.4%
Cull animals	24.2%	31.0%	28.1%	24.1%	30.8%	26.1%
Inject muscle	21.7%	23.0%	24.7%	22.2%	29.9%	27.1%
Inject vein	18.3%	16.7%	25.8%	20.8%	26.2%	22.9%
Other	6.7%	6.3%	2.8%	4.7%	6.1%	7.1%

55.0% reported using a mastitis preventive vaccine.

Brands of Mastitis Prevention Vaccines

J-5 Bacterin (Zoetis)	39.7%
J-Vac (Boehringer Ingelheim)	32.1%
Endovac-Dairy (Endovac Animal Health)	12.8%
Bovilus J-5 (Merck)	10.3%
Lysigin (Boehringer Ingelheim)	2.6%
KLEBVax (Huvepharma)	1.3%
Other.....	1.3%

50.8% reported using an internal teat sealant.

Brands of Internal Teat Sealants

Orbeseal (Zoetis)	66.7%
Lockout (Boehringer Ingelheim)	25.4%
OptiShield (Genex)	7.9%
BoviBlock (Vet One)	6.3%
MastiShield (Aspen)	4.8%
Shut Out (Merck)	4.8%
Other.....	1.6%

MASTITIS (cont'd)

Brands of Mastitis Products Used in 2022

Lactating Cows

(Based on 185 brand responses from 117 surveys)

ToDAY (Boehringer Ingelheim)	48.7%
Spectramast LC (Zoetis).....	47.9%
Pirsue (Zoetis)	17.9%
Amoxi-Mast (Merck Animal Health)	15.4%
Polymast (Boehringer Ingelheim)	6.8%
Vet preparation	5.1%
Masti-Clear (U.S. Vet).....	5.1%
Dari-Clox (Merck Animal Health)	4.3%
Organic treatment options only.....	1.7%
Other.....	5.1%

Dry Cows

(Based on 153 brand responses from 115 surveys)

ToMORROW (Boehringer Ingelheim)	46.1%
Spectramast DC (Zoetis)	24.3%
Quartermaster (W.G. Critical Care)	21.7%
Dry-Clox (Boehringer Ingelheim)	13.0%
Orbenin DC (Merck Animal Health)	11.3%
Albadry Plus (Zoetis)	7.8%
Go-Dry (US Vet)	4.3%
Vet preparations	2.6%
Organic treatment options only.....	0.9%
Other.....	0.9%

50.7% reported using an average of 2.0 different brands of mastitis remedies)

Current Source of Purchase for Mastitis Remedies

Lactating Cows

(Based on 113 respondents)

	2022	2020	2018	2016	2014	2012
Veterinarian	58.4%	65.0%	60.5%	61.4%	64.3%	57.4%
Direct-to-farm routeman	31.0%	26.5%	19.8%	20.8%	23.6%	22.7%
Retail store	22.1%	21.4%	17.3%	25.2%	24.1%	25.6%
Print catalog	8.8%	6.0%	16.7%	14.4%	12.1%	11.2%
Online	2.7%	2.6%	3.7%	2.0%	3.0%	1.8%

Dry Cows

(Based on 109 respondents)

	2022	2020	2018	2016	2014	2012
Veterinarian	51.4%	49.1%	53.3%	48.5%	47.2%	48.5%
Direct-to-farm routeman	28.4%	28.6%	21.6%	20.6%	25.4%	22.3%
Retail store	21.1%	11.6%	18.0%	18.6%	12.7%	13.1%
Print catalog	11.9%	25.0%	21.6%	25.3%	31.0%	28.5%
Online	6.4%	5.4%	3.6%	2.1%	3.0%	1.5%

MASTITIS (cont'd)**Identifying Mastitis – 2022**

(Based on 149 respondents)

SUB-CLINICAL MASTITIS

DHIA report.....	57.1%
CMT.....	33.6%
Strip cup	20.2%
Bulk tank culture	19.3%
Milk culture	19.3%
In-line electronic indicator.....	10.1%
No routine monitoring	9.2%
Electronic hand held device.....	1.7%

CLINICAL MASTITIS

Abnormal milk or quarter	76.8%
DHIA report.....	32.1%
CMT.....	29.5%
Strip cup	27.7%
Milk culture	23.2%
In-line electronic indicator.....	9.8%
No routine monitoring	3.6%

If you experienced mastitis in your herd, what were the primary organisms that caused the infection?

(Based on 88 respondents)

Streptococcus Agalactiae	44.3%	Staphylococcus Aureus	27.3%
Coliform	43.2%	Mycoplasma Bovis.....	5.7%
Streptococcus Uberis	37.5%	Other.....	5.7%

Handling Mastitis-infected Cows Once Identified

(Based on 117 respondents)

Milk last.....	37.6%	All of the above.....	23.1%
Segregation from other cows.....	34.2%	Other.....	17.1%
Put on priority list to cull.....	16.2%		

When you do you test your cows for mastitis?

(Based on 86 respondents)

Clinical signs.....	53.5%	During dry-off.....	5.8%
High SCC's	44.2%	High BTSCC's	2.3%
Freshening.....	26.7%	Introduction of new cows to the herd.....	4.7%
Routine screening.....	19.8%		

How do you test your cows for mastitis?

(Based on 122 respondents)

California Mastitis Test.....	32.0%	Vet clinic	23.8%
On-farm culturing.....	13.1%	PCR Test	2.5%
Send to centralized lab	13.1%	Do not test	34.4%

MASTITIS (cont'd)**How many mastitis samples do you have per month for testing?**

(Based on 140 respondents)

Less than 5 samples per month	67.0%	11-20 samples per month	10.2%
5-10 samples per month	12.5%	More than 20 samples per month	10.2%

How long does it take to get results for your mastitis samples?

(Based on 140 respondents)

Less than one day	29.3%	3-5 days	26.7%
1-2 days	37.3%	More than 5 days	6.7%

Use of On-farm Test Kits

(Based on 84 respondents)

Antibiotics in milk	76.2%	Antibiotic sensitivity	2.4%
Mastitis culturing	25.0%	Johne's	2.4%
Immunoglobulin levels in colostrum	22.6%	Mycotoxins in feeds	1.2%
Somatic cell counts	13.1%	Other	7.1%

Number of Antibiotic Tests Performed in Last 12 Months

(Based on 104 respondents)

None	50.0%	31-50	2.9%
1-10	13.5%	51-75	2.9%
11-20	10.6%	76-99	2.9%
21-30	3.8%	100+	13.5%

Average expenditure for a single antibiotic sensitivity test – \$6.81**Milk Culture Tests – 2022**

	2022	2020	2018	2016	2014	2012
Culturing milk	48.3%	48.8%	51.7%	49.8%	54.3%	51.2%
Culturing milk to determine mastitis treatment	31.3%	34.5%	34.4%	40.3%	38.6%	--
Individual milk culturing tests						
Percent reporting	27.9%	33.1%	35.4%	35.4%	39.7%	37.7%
Average number of individual milk culture tests	86.3	35.0	79.8	42.8	34.6	21.7

HERD HEALTH PROGRAM WITH VETERINARIAN

	2022	2020	2018	2016	2014	2012
Percent reporting	75.7%	78.2%	85.2%	75.1%	81.0%	69.6%
<u>Frequency of visit</u>						
once-a-month	36.8%	41.4%	42.9%	46.1%	50.0%	59.1%
twice-a-month	21.7%	31.5%	29.8%	28.1%	29.3%	21.8%
weekly	20.8%	9.0%	19.3%	8.4%	9.6%	7.3%
other	20.8%	18.0%	8.1%	17.4%	11.2%	11.8%

What is included in your herd health program –

reproduction.....	90.2%	mastitis control.....	38.0%	feed consulting	18.5%
vaccination.....	64.1%	calf raising	32.6%	other	6.5%

TEAT DIPS OR SPRAYS – 2022

(Based on 140 respondents)

48.6% reported spending an average of **\$2,794** on teat dips or sprays **each month**.**73.6%** reported using a teat dip or spray **before milking** - **85.0%** reported **after milking**.In 2022, **52.0%** reported using a **teat sealant** for dry and close up cows.

Brands of Teat Dip or Spray Used

	Before	After		Before	After
DeLaval	23.6%	22.3%	ABS	1.9%	1.7%
IBA	21.7%	18.2%	Lely (Quaress Omnia)	1.9%	0.8%
GEA	17.0%	17.4%	T-Hexx	0.0%	0.8%
BouMatic	11.3%	12.4%	Uddergold/4xLA/Pre-Gold	0.0%	3.3%
West Agro	6.6%	9.9%	Other	11.3%	6.6%
EcoLab	4.7%	6.6%			

Source of Purchase

	2022	2020	2018	2016
Milking machine dealer/routeman	71.8%	63.1%	67.4%	58.3%
Direct-to-farm independent routeman	21.4%	37.7%	25.7%	33.2%
Fleet or dairy supply store	8.5%	4.6%	8.0%	10.4%
Bulk/direct from manufacturer	1.7%	2.3%	2.3%	1.9%
Print catalog	0.9%	0.0%	2.3%	0.9%

100.0% prep their cows before milking.

Cow Prep Before Milking

	2022	2020	2018	2016
Rewashable individual cloths	41.7%	36.5%	44.1%	28.2%
Paper towels	27.8%	28.3%	29.7%	42.1%
Commercial udderwash or wipe	16.7%	17.6%	14.9%	17.0%
Mechanical brush	9.0%	5.7%	2.5%	1.9%
Rag	2.1%	6.9%	3.0%	4.6%
Other	2.8%	5.0%	5.0%	3.9%

TREATING LIVESTOCK FOR WORMS – 2022

(Based on 140 respondents)

	2022	2020	2018	2016	2014	2012
Annual expenditure	\$2,130	\$1,304	\$3,918	\$671	\$878	\$745
Percent reporting expenditure	28.6	31.0%	32.8%	34.2%	35.3%	41.5%
Calves - average times per year dewormed	1.7	1.7	1.8	1.4	1.5	1.6
Heifers - average times per year dewormed	1.5	1.7	1.6	1.5	1.5	1.5
Dry cows - average times per year dewormed	1.3	1.3	1.3	1.3	1.3	1.3
Lactating cows						
Average number treated	411.1	337.3	256.5	98.3	131.5	93.3
Average times per year dewormed	2.0	1.4	1.4	1.4	1.3	1.4
Treat whole herd	73.8%	55.2%	58.1%	63.9%	66.7%	62.1%
Treat individuals	8.8%	5.7%	4.7%	2.4%	5.0%	3.6%

Time of Year for Treating Lactating Cows

(Based on 85 respondents)

Fall.....	41.2%	Anytime/no set time	12.9%
Spring	15.3%	At freshening	10.6%
Winter	14.1%	Summer	10.6%
Dry/dry period	12.9%	Don't deworm lactating cows.....	15.0%

Products Used to Deworm Livestock

(Based on 89 brand respondents)

	Lactating Cows	Dry Cows	Heifers
Percent of respondents deworming	92.1%	92.1%	92.9%
Eprinex (Boehringer Ingelheim)	45.8%	44.9%	34.5%
Cydetin (Bayer)	30.6%	27.5%	33.3%
Ivomec (Boehringer Ingelheim)	16.7%	14.5%	26.2%
Eprizero Pour-On	13.9%	11.6%	6.0%
Safe Guard (Merck Animal Health)	6.9%	8.7%	11.9%
Noromectin Pour-On (Norbrook)	4.2%	4.3%	3.6%
Dectomax (Zoetis)	2.8%	4.3%	4.8%
Other	0.0%	0.0%	1.2%

Source of Purchase – Deworming Products

(Based on 89 respondents)

Veterinarian	33.7%	Online	6.7%
Routeman	30.3%	Feed salesman	3.4%
Retail store	24.7%	Other.....	3.4%
Print catalog.....	12.4%		

Form of Dewormer Used

(Based on 98 respondents)

Pour on	84.7%	Tablet/oblet	2.0%
Feed	9.2%	Other.....	1.0%
Drench	7.1%	Paste	1.0%
Injectable	5.1%		

CALF SCOURS – 2022

(Based on 140 respondents)

	2022	2020	2018	2016	2014	2012
Calf Scours						
Percent reporting	54.3%	62.0%	65.6%	63.3%	70.3%	68.4%
Average cases	57.3	35.5	35.0	16.2	22.3	42.2
Annual expenditure						
Percent reporting	40.7%	45.1%	45.0%	42.6%	52.2%	52.5%
Average expenditure	\$706	\$441	\$1,452	\$270	\$562	\$268

Identification of Calf Scour Organisms

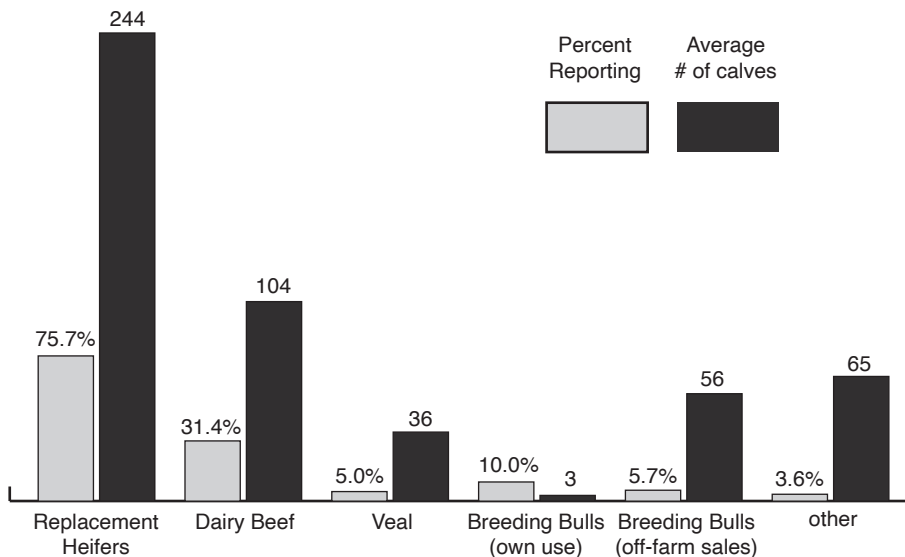
(Based on 99 respondents)

E. Coli	35.4%	Corona Virus.....	21.2%
Cryptosporidia	23.2%	Rotovirus	21.2%
Salmonella.....	23.2%	Don't know.....	46.5%

Brands of Calf Scour Products Used in 2022

(Based on 97 respondents)

First Defense (ImmuCell).....	35.1%	Diaque (Boehringer Ingelheim).....	7.2%
Scourguard 3KC/4KC (Zoetis).....	30.9%	Neomycin (Zoetis)	7.2%
Calf Guard (Zoetis)	28.9%	BlueLite C (TechMix)	4.1%
ReSorb (Zoetis)	25.8%	Last Stand w/ImmWave (DBC).....	4.1%
Electrolytes (Land O'Lakes)	15.5%	Achieve (AgriLabs)	3.1%
Electrolytes Plus (Sav-A-Caf)	15.5%	Guardian (Merck Animal Health)	3.1%
Corid (Huvepharma)	12.4%	Bo-Bac 2X (Boehringer Ingelheim).....	2.1%
Scour Bos (Elanco).....	12.4%	Colostrx (AgriLabs).....	1.0%
BlueLight ReplenishM (TechMix)	11.3%	Deliver (Huvepharma)	1.0%
Bovine Ecolizer (Elanco)	8.2%	First Arrival w/Encrypt (DBC).....	1.0%
Blue Ribbon (Merrick's)	7.2%	Other.....	6.2%

Number of calves raised or kept in 2022

In 2022, 70.0 percent reported an average of **464 calves** born on their farms.

CALF SCOURS (cont'd)

In 2022, **59.8%** reported vaccinating dry cows to protect their calves against scours.
52.3% treated calves at birth to prevent scours.

97.9% reported using an electrolyte; **38.0%** reported feeding an electrolyte as a routine treatment. **75.3%** said it was water soluble powder; **21.2%** said oral bolus.

53.5% reported treating calves for coccidiosis – **40.0%** reported using Corid;
28.0% said Rumensin; **16.0%** said Bovatec, and **15.0%** said Deccox.

75.0% reported an average mortality rate of **4.6%** of their calves.
41.6% reported losing calves at birth; **17.4%** reported losing calves within 24 hours of birth;
and **38.3%** reported losing calves prior to weaning.

INJECTIBLE ANTIBIOTICS USED TO TREAT COWS/CALVES – 2022

(Based on 107 respondents)

	Cows	Calves/Heifers
Excenel.....	21.4%.....	8.2%
PolyFlex.....	19.2%.....	7.2%
Excede.....	16.0%.....	5.2%
Penicillin	10.5%.....	11.9%
Ampacillin/Amoxicillin	9.3%.....	5.0%
LA-200	6.1%.....	9.7%
Naxcel.....	5.4%.....	1.7%
Nuflor	4.2%.....	10.1%
Generic Oxytetracycline 200	2.6%.....	2.7%
Draxxin	1.3%.....	14.6%
Bio-Mycin 200.....	1.3%.....	1.5%
Baytril 100.....	1.3%.....	8.7%
Tylan 200.....	1.0%.....	2.5%
Micotil	0.6%.....	2.7%
Resflor Gold.....	0.0%.....	3.2%
Zactran	0.0%.....	3.5%
Zuprevo	0.0%.....	1.7%

DAIRY HERD VACCINATION – 2022

(Based on 149 responses)

In 2022, **98.5%** reported they **vaccinated** their dairy herd. Of those, they vaccinated their **cows 2.0** times a year; **calves 1.8** times a year, and **heifers 1.7** times a year.

Source of Purchase of Vaccines

Veterinarian	54.9%	Online	9.1%
Farm supply store	15.9%	Print catalog.....	6.1%
Routeman	11.6%	Other.....	2.4%

Who decides what brand of vaccine is used?

Veterinarian	68.0%	Employee.....	1.6%
Owner	55.2%	Other.....	1.6%

How often do you change the brand of vaccine?

Rarely	61.6%	Occasionally	31.3%	Routinely.....	7.1%
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Which type of vaccine do you use for cows, heifers and calves?

	<u>Cows</u>	<u>Heifers</u>	<u>Calves</u>		<u>Cows</u>	<u>Heifers</u>	<u>Calves</u>
modified live.....	35.1%	41.0%	42.7%	autogenous/custom made	3.1%	2.5%	1.8%
killed	32.1%	27.0%	21.8%	don't know	6.9%	8.2%	10.9%
modified live/killed combo.....	22.9%	21.3%	22.7%				

Which of the following did you vaccinate for in 2022?

	<u>Cows</u>	<u>Heifers</u>	<u>Calves</u>		<u>Cows</u>	<u>Heifers</u>	<u>Calves</u>
BVD Type 1 & 2	68.4%	62.9%	40.0%	Haemophilus somnus	21.1%	24.7%	20.0%
Mastitis	55.8%	15.7%	6.7%	Pasteurella.....	18.9%	19.1%	20.0%
IBR.....	53.7%	52.8%	36.0%	Pinkeye.....	17.9%	37.1%	32.0%
Leptospirosis	52.6%	50.6%	25.3%	Brucellosis	15.8%	27.0%	25.3%
BRSV	48.4%	48.3%	44.0%	Mycoplasma	10.5%	5.6%	8.0%
PI-3	47.4%	46.1%	33.3%	Entertoxemia	6.3%	6.7%	5.3%
BVD Type 1b	43.2%	44.9%	25.3%	Johne's	5.3%	4.5%	1.3%
Salmonellosis	25.3%	14.6%	21.3%	Neospora	4.2%	4.5%	4.0%
Scours	23.2%	11.2%	54.7%	Other.....	5.3%	5.6%	4.0%
Blackleg.....	22.1%	34.8%	25.3%				

BRANDS OF VACCINES USED IN 2022

Virus Brands Used

(Based on 118 respondents)

Bovishield	66.1%	Express FP	7.6%
Inforce.....	48.3%	Pyramid	5.9%
Triangle.....	27.1%	TSV2.....	5.9%
Cattlemaster	22.9%	Vista.....	5.1%
Nasalgen	22.0%	Respromune.....	3.4%
Virashield.....	17.8%	Titanium	2.5%
SRP Salmonella	16.9%	Elite.....	1.7%
Masteguard	11.9%	Fusion.....	0.8%
Spirovac L5.....	9.3%	Other.....	11.9%

ARTIFICIAL BREEDING AND REPRODUCTIVE PRACTICES

(Based on 140 respondents)

	2022	2020	2018	2016	2014	2012
Bred by breeding technician						
Percent reporting	53.0%	33.1%	30.2%	43.9%	37.1%	35.3%
Average number bred	592.3	443.6	466.3	256.8	140.0	103.7
Bred by yourself, family or employee						
Percent reporting	56.6%	65.5%	69.3%	62.0%	57.3%	52.3%
Average number bred	535.2	326.7	431.9	174.2	188.7	165.5

Who Makes the Sire Selections?

Owner/operator.....59.5% AI Technician25.5% Herdsman13.1%

In 2022, **81.0%** reported using an **Estrus Synchronization Program**

Brand of estrus control product used in 2022

Lutalyse	21.5%	Factrel.....	10.1%
Cystorelin.....	16.2%	Estro Plan.....	4.8%
CIDR.....	15.4%	Gonabreed.....	4.4%
Fertagyl.....	12.3%	Synchsire.....	1.8%
Estrumate	11.4%	Prostamate	2.2%

Semen Use and Purchases

	2022	2020	2018	2016	2014	2012
Percent reporting expenditure	47.1%	53.5%	55.6%	50.2%	48.3%	62.3%
Average expenditure	\$14,737	\$12,839	\$16,680	\$6,727	\$10,588	\$7,108
Percent reporting semen on inventory	52.9%	54.9%	61.4%	51.9%	54.7%	58.9%
Average units on current inventory	673.1	167.3	565.4	200.4	407.9	135.9
Percent reporting cost per straw	60.7%	62.7%	69.8%	65.8%	59.5%	66.5%
Average cost per straw	\$23.58	\$19.94	\$20.31	\$22.33	\$21.43	\$20.30

In 2022, **14.0%** reported running **genomic tests** on females in their herd.

Percent of female herd on which genomic tests were run

1-9% of herd 18.8%
 10-99% herd 37.5%
 100% of herd 43.7%

ARTIFICIAL BREEDING AND REPRODUCTIVE PRACTICES (Cont'd)

(Based on 140 respondents)

In 2022, **92.0%** reported using **A.I. on cows**, and **78.5%** reported using **A.I. on heifers**.

Companies where semen was purchased in 2022

Select Sires	33.1%	Accelerated Genetics	5.9%
Genex	13.6%	Sexing Technologies.....	5.5%
ABS	13.1%	CRV	3.0%
Semex	11.9%	Other.....	7.2%
Alta Genetics	6.8%		

Influence on source of purchase for semen

Service reliability/local rep	48.3%	Tech service/expertise	18.3%
Genetic availability.....	38.3%	Multiple services/product availability	10.0%
Pricing.....	33.3%	Other.....	8.3%

In 2022, **76.6%** reported using, or considering using, **sexed semen**.

Percent of heifers sexed semen used on

10% or less.....	25.3%	51-75%	16.8%
11-25%	20.0%	76-100%	26.3%
26-50%	11.6%		

Percent of cows sexed semen used on

10% or less.....	48.9%	51-75%	7.4%
11-25%	21.3%	76-100%	3.2%
26-50%	19.1%		

In 2022, **59.1%** reported using **beef semen**.

Of those, **80.0%** reported using beef semen an average of **30.5%** of breedings on cows;
30.7% reported using beef semen an average of **25.3%** of breedings on heifers.

Forms of Heat Detection Used

Visual observation	70.1%	Kamar	7.1%
Timed A.I.	29.9%	Heatmount patches	4.7%
Tailhead chalk.....	26.8%	Pedometers	4.7%
Tailhead paint	23.6%	Estroject	2.4%
Electronic heat.....	13.4%	Other.....	4.7%

Pregnancy Diagnosis/Detection Used

Ultrasound	67.5%	Early blood test.....	15.4%
Palpation.....	40.7%	Milk testing.....	12.2%

In 2022, **27.9%** reported using **palpation** an average of **41.1 days** after breeding, while **53.6%** reported using an **ultrasound** an average of **36.0 days** after breeding.

Of those using **early blood pregnancy tests**, **12.5%** reported testing **less than 1 month** after breeding, **81.3%** reported testing **1-2 months** after breeding, and **6.3%** reported testing **more than 2 months** after breeding.

HOARD'S DAIRYMAN

Research Department

January 3, 2023

Dear *Hoard's Dairyman* Subscriber,

Enclosed is the special questionnaire our postcard alerted you to a few days ago.

You are one of an important and very select group of *Hoard's Dairyman* readers being asked to complete this questionnaire. Your responses will help shape the content we provide so we can continue to guide you to the most informed decisions for your operation.

Like you, we are also dairy farmers and know first-hand the wide range of challenges found on today's dairies. Information you provide will be assembled with information from others to create a foundation for our editorial focus in the coming months.

Your completed questionnaire is an important piece of this research.

Remember, you are one of a select group of readers and your confidential responses will be contributing timely, useful information for dairy producers across the country. Please complete the entire questionnaire, even if you don't use a particular product or practice.

As a member of our *Hoard's Dairyman* family of subscribers, we thank you for your participation and readership.

Sincerely,

HOARD'S DAIRYMAN

A handwritten signature in black ink, appearing to read "John R. Mansavage", with a long horizontal flourish extending to the right.

John R. Mansavage
Research Director

1 - ☐ check ALL items that apply unless otherwise specified

2 - () fill in a number

3 - _____ write in a word

WHAT IS YOUR AGE?
☐ under 35 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+
Are you: ☐ Male ☐ Female**HOW MANY DO YOU HAVE?**

() milk cows (include dry cows) () calves under 2 months

() replacement heifers () dairy steers to be sold

() calves for veal () dairy bulls for breeding

If adding milk cows in 2023, how many? _____

How many times per day are cows milked?☐ 2 times ☐ depends on stage of lactation☐ 3 times ☐ other _____How many **cows did you milk?** () 2 yrs. ago () 5 yrs. agoDo you consider your farm to be: ☐ conventional ☐ organicDo you plan to expand your **Dairy Operation?** ☐ Yes ☐ NoIf **yes**, will it be in: ☐ 6 months ☐ 1 yr. ☐ 2 yrs. ☐ 3-5 yrs.

What dairy facilities will you be building or expanding?

☐ freestall barn/milk cows ☐ milking parlor☐ robotic technology ☐ freestall barn/heifers☐ dry lot facilities ☐ manure storage☐ stanchion/tie stall barn ☐ other _____How many **ACRES** () are you **FARMING** (include rented land)?Are you growing: ☐ GMO seed ☐ non-GMO seedIf **yes**, how many acres did you grow of **GMO seed** () acresIf **yes**, how many acres **non-GMO seed** () acres.

How many acres of the following:

() hay for dry hay () corn () pasture

() hay for silage () wheat () soybeans

Did you **plant COVER CROPS** in 2022? ☐ Yes ☐ NoIf **yes**, what **type** of cover crops did you plant? (*check all that apply*)☐ rye ☐ wheat ☐ triticale ☐ other _____☐ oats ☐ clover ☐ mixture _____How many **acres of cover crops** were planted? _____Did you **grow ALFALFA** in 2022? ☐ Yes ☐ NoDid you irrigate any alfalfa? ☐ Yes ☐ No

How many acres did you grow of:

() straight alfalfa (no grass)

() alfalfa mixture

() alfalfa seeded without a cover crop

() Roundup Ready alfalfa

() reduced-lignin alfalfa variety (GMO)

() high-quality alfalfa variety (non-GMO)

Did you treat your alfalfa for weeds in 2022? ☐ Yes ☐ NoDid you treat your alfalfa for insects in 2022? ☐ Yes ☐ NoHow many **acres of ALFALFA** did you **plant**?

() Spring () Fall (August-September)

Total dollars (\$) **spent on ALFALFA SEED.**What is your **source of purchase** for most of your alfalfa seed?☐ direct from company ☐ ag supply store ☐ farmer/dealer☐ cooperative ☐ feed mill ☐ other _____Are you a farmer/dealer? ☐ Yes ☐ NoWho **makes the purchasing decision** for your alfalfa seed?☐ owner/operator ☐ lender ☐ other☐ crop consultant ☐ seed dealer _____Did you plant alfalfa with the **HarvXtra trait** in 2022? ☐ Yes ☐ NoWhich **brands** of alfalfa **did you grow** in 2022?☐ Alforex☐ DeKalb☐ America's Alfalfa☐ NexGrow☐ Barenbrug☐ Pioneer☐ Brevant☐ S&W☐ Croplan by Winfield☐ W-L Research☐ Dairyland Seed☐ other _____Total expenditure (\$) for **SEED CORN** IN 2022?How many **acres of corn** did you have in 2022?

() for grain () for silage

Do you plant the same hybrid for grain and silage? ☐ Yes ☐ NoDid you plant a **BMR** corn in 2022? ☐ Yes ☐ NoIf yes, how many **acres of BMR** corn did you plant? ()Which **brands** of corn **did you grow** in 2022?☐ Beck's☐ DeKalb☐ Brevant☐ Master's Choice☐ Channel☐ NK/Syngenta☐ Croplan by Winfield☐ Pioneer☐ Dairyland Seed☐ other _____Check the types of **PREMIXED PASTURE SEED** bought:☐ didn't buy any☐ all legume☐ combination☐ all grassDo you use a custom operator to **harvest your crops**? ☐ Yes ☐ NoWhat features of a **FEED MANAGEMENT** software programare most important to you? (*check all that apply*)☐ driver/feeder accuracy (report card)☐ feed efficiency reports☐ inventory management☐ dry matter intake☐ dry matter ration adjustment☐ other _____Do you use a **DAIRY MANAGEMENT** software program routinely?☐ Yes ☐ NoIf **yes**, is it:☐ ALPRO/DeLaval☐ Dairy Plan/GEA☐ PC Dart☐ BoviSync☐ DHI+☐ Scout☐ DairyComp 305☐ Herd Pro☐ other _____Do you have **sufficient internet connectivity** on your farm? ☐ Yes ☐ NoDo you **visit social networking** sites? ☐ Yes ☐ NoIf **yes**, which **sites** do you visit?☐ Facebook ☐ LinkedIn ☐ Snapchat ☐ Twitter ☐ other _____☐ Instagram ☐ Pinterest ☐ TikTok ☐ YouTube _____Do you stream **television** programming? ☐ Yes ☐ NoDo you stream **audio** programming (**radio, podcasts, etc.**)? ☐ Yes ☐ NoWhich of these descriptions best matches how **new technologies** are approached on your farm?☐ Early adopter/trail blazer of new technologies☐ Early majority, but need clear ROI before considering new technologies☐ Later majority, need to see effectiveness of technology in use on other farms☐ Skeptical until proven otherwise

A-B-2

What percent of **HAY** is baled? (%) **chopped** (%)

- Did you make **large round** or **large square** bales? ☐ Yes ☐ No
 (If yes, did you use a bale wrap or wrapper?) ☐ Yes ☐ No
 Did you make (**high moisture**) wrapped silage bales? ☐ Yes ☐ No
 Are you using a **mold inhibiting inoculant** on your bales? ☐ Yes ☐ No
 Did you make any **sorghum forage**? ☐ Yes ☐ No

Did you **USE AN INOCULANT**? ☐ Yes ☐ No

What is your primary reason for **APPLYING AN INOCULANT** to your silage?

- ☐ dry matter recovery ☐ less heating ☐ other
☐ fiber digestibility ☐ protein quality _____

When do you make your **INOCULANT PURCHASE DECISION**?

- ☐ January - February ☐ July - August
☐ March - April ☐ September - October
☐ May - June ☐ November - December

Do you **balance** your ration for **essential amino acids**? ☐ Yes ☐ No

If **yes**, which rumen protected lysine products do you use?

- ☐ AjiPro-L (Ajinomoto Heartland, Inc.) ☐ MetaboLys (HJ Baker)
☐ Bovi-Lysine (QualiTech) ☐ USA Lysine (Kemin Industries)

If **yes**, which rumen protected methionine products do you use?

- ☐ Alimet (Novus) ☐ MFP (Novus)
☐ AminoShure-M (Balchem) ☐ Novimet (Innovad)
☐ Mepron (Evonik) ☐ Smartamine (Adisseo)
☐ MetaSmart (Adisseo) ☐ Timet (VetAGro)

Total amount **spent** (\$) for **COMMERCIAL FEEDS** in 2022?

Check the types of **COMMERCIAL FEEDS** you bought in 2022 for your **lactating cows**:

- ☐ blend of vitamins and/or minerals
☐ commodity farm-delivered by-products
☐ complete dairy feed or dairy concentrate
☐ distillers grains
☐ dry and freshening ration
☐ protein concentrate or liquid supplement
☐ protein meal (soybean meal, etc.)
☐ ready-to-use commercial dry premix
☐ whey
☐ other _____

What supplements do you feed to your **TRANSITION COWS** to prevent metabolic disorders (milk fever, ketosis, etc.)?

- ☐ Animate™ ☐ other anionic mineral supplement
☐ BioChlor™ ☐ other calcium supplement
☐ BoviKalc™ ☐ low potassium hay/roughage
☐ SoyChlor™ ☐ other feed supplement
☐ Transition™ Bolus _____

What is the primary **brand of feed** purchased for **lactating cows**?

- ☐ ADM ☐ Land O'Lakes Feed ☐ we bid it out
☐ Agri-King ☐ Purina ☐ other
☐ Cargill ☐ Renaissance _____
☐ Hubbard ☐ Vita Plus

Who decides which **brand or ingredients** are used in your ration?

- ☐ feed supplier ☐ other _____
☐ independent nutritionist ☐ do it myself
☐ veterinarian

Total amount **spent** (\$) on **MINERALS** in 2022?

What **minerals** do you use in your feeding program?

- ☐ anionic salts ☐ iron ☐ selenium ☐ don't know
☐ calcium ☐ magnesium ☐ sodium ☐ don't use
☐ chromium ☐ manganese ☐ sulfur
☐ cobalt ☐ phosphorous ☐ zinc
☐ copper ☐ potassium ☐ other _____

Did you use **ORGANIC MINERALS** IN 2022? ☐ Yes ☐ No

Total amount **spent** (\$) on **ORGANIC MINERALS** in 2022?

What **organic minerals** do you use in your feeding program?

- ☐ cobalt ☐ selenium
☐ copper ☐ zinc
☐ magnesium ☐ other _____
☐ manganese ☐ none

If using **organic selenium**, what **brand/brands** are you buying?

- ☐ Alltech ☐ Lallemand
☐ Balchem ☐ Phibro
☐ Diamond V ☐ don't know

Which **company/brand** of organic **zinc** supplement do you use?

- ☐ Alltech ☐ other _____
☐ Kemin ☐ don't know
☐ QualiTech SQM ☐ don't use
☐ Zinpro

Do you feed a **TMR** (Total Mixed Ration)? ☐ Yes ☐ No

Who balances your **feed ration**?

- ☐ feed company ☐ veterinarian
☐ do it myself ☐ other _____
☐ independent nutritionist ☐ don't balance

How often do you have your ration balanced?

- ☐ weekly ☐ quarterly ☐ other
☐ monthly ☐ yearly _____

How often do you test forage quality?

- ☐ monthly ☐ every 6 months ☐ other
☐ every 3 months ☐ when forages change _____

Are you feeding a **COMMERCIAL PROTEIN SUPPLEMENT** to **heifers**?

- ☐ Yes ☐ No

What **feed additives** are you using in your **heifer** rations?

- ☐ Aureomycin ☐ Deccox ☐ other _____
☐ Bovatec ☐ Rumensin ☐ don't use

What **feed additives** do you normally use in your **lactating cows'** rations?

- ☐ anionic products/salts ☐ niacin
☐ buffers ☐ OmniGen
☐ bypass protein ☐ preservatives for 1 time per day feeding
☐ Choline ☐ probiotics/direct-fed microbials
☐ fat ☐ vitamins
☐ ionophore (Rumensin) ☐ yeast
☐ lysine ☐ yeast culture
☐ methionine ☐ other _____
☐ minerals ☐ don't use
☐ mycotoxin binder

If you are using **fat**, is it:

- ☐ inert fat (by-pass or protected) ☐ rendered fat (tallow, lard, yellow grease)
☐ oil seeds ☐ other _____

HOW MANY DO YOU HAVE?

- () baleage
 () bunker silos
 () drive-over piles
 () horizontally sealed storage bags
 () poured concrete vertical conventional silos
 () staved vertical conventional silos
 () vertical sealed storage units

Do you cover your bunker silos? ☐ Yes ☐ No

If **yes**, how are your bunkers covered?

- ☐ oxygen limiting plastic ☐ white plastic
☐ reusable tarps ☐ other _____

If you use **plastic** to cover your bunkers, what **brands** do you use?

- ☐ Passion Films ☐ Silo-Stop
☐ Raven ☐ other _____

What primarily influences the types of feed storage system you choose?

- ☐ ease of expansion
☐ ease of operation
☐ feed quality
☐ feed storage loss
☐ recommendation
☐ other _____

What types of silage bagging equipment do you use?

- ☐ Ag Bag
☐ Kelly Ryan
☐ Roto Pac
☐ Roto Press
☐ Versa
☐ other _____

Brand of sealed storage bag used:

- ☐ Ag Bag Corp.
☐ AgriPlac
☐ Siloflex
☐ UpNorth Silage Bags
☐ other _____

Total amount (\$) spent on **SILAGE ADDITIVES** in 2022.

Does the **SILAGE ADDITIVE** you use act primarily as:

- ☐ acid preservative ☐ bacterial inoculant
 (such as propionic acid) ☐ source of nutrients
☐ an enzyme ☐ don't use silage additive

On which do you use **silage additives**:

- ☐ baled hay ☐ high moisture corn
☐ corn silage ☐ don't use
☐ hay silage

What **brands** of silage additives do you use?

- ☐ Biotal/Lallemand ☐ Promote/Cargill
☐ Bonsilage-Provita ☐ Silage Pro
☐ Certillus ☐ Silo Guard
☐ Crop Cure ☐ Silo King/Agri-King
☐ Ecosyl ☐ Vita Plus
☐ IBA ☐ other _____
☐ Land O'Lakes ☐ don't use
☐ Pioneer

What type of **flooring** do you have in your **freestall alleys** and cow **walkways**?

- ☐ cut grooved concrete ☐ ungrooved concrete
☐ poured in place, grooved concrete ☐ other _____
☐ rubber mats or strips _____

What brand of **freestalls** or **lock-ups** do you own?

Freestalls	Lock-ups	
☐	☐	Albers
☐	☐	Freudenthal
☐	☐	Hatfield Mfg.
☐	☐	J&D Mfg.
☐	☐	Norbco
☐	☐	Sturdy Built
☐	☐	self-built
☐	☐	other _____

What **TYPE** of milking system is on your farm? (check all that apply)

- ☐ parallel or herringbone parlor
☐ rotary parlor
☐ stanchion/tie stall barn pipeline
☐ robotic milking system (if checked, what brand?) _____
☐ other _____

What **brands** do you have?

Parlor System	Stanchion/Tie stall Pipeline Detachers	
☐	☐	BECO
☐	☐	BouMatic
☐	☐	DairyMaster
☐	☐	DeLaval
☐	☐	GEA
☐	☐	Germania
☐	☐	Lely
☐	☐	Universal
☐	☐	Waikato
☐	☐	other _____

How **many** stalls or units do you have?

- () parallel or herringbone stalls
 () rotary stalls
 () portable milking units
 () robotic milking units

MILKING SYSTEMS owned (check all that apply)

- ☐ rotary parlor
☐ parallel parlor
☐ herringbone parlor
☐ flatbarn parlor
☐ side-opening parlor
☐ stall barn
☐ other _____

Check those you **bought** in 2022:

- ☐ robotic milking system ☐ new milk transfer unit
☐ parlor milking system ☐ vacuum pump
☐ stanchion pipeline ☐ automated calf feeder
☐ new bucket milker ☐ pulsators (how many?) _____
☐ new bulk milk tank ☐ claws (how many?) _____
☐ used bulk milk tank

What type(s) of **TMR Mixer(s)** do you own?

- | | |
|--|--|
| ☐ drum | ☐ trailer mount |
| ☐ auger type | ☐ truck mount |
| ☐ reel type | ☐ stationary |
| ☐ vertical | |
| ☐ don't own a TMR mixer | |
| ☐ other _____ | |

Check the brands of **TMR MIXERS** you use:

- | | |
|---|--------------------------------------|
| ☐ Jaylor | ☐ Rissler |
| ☐ Kuhn Knight | ☐ Roto Mix |
| ☐ Lucknow | ☐ Supreme |
| ☐ NDE (<i>New Direction Equipment</i>) | ☐ Trioliet |
| ☐ Patz | ☐ other _____ |
| ☐ Penta | |

How do you **remove manure** in a freestall barn?

- ☐ alley scraper chain link
- ☐ alley scraper cable
- ☐ tractor
- ☐ skidsteer
- ☐ other _____

Do you use **robotic feed pushers**? ☐ Yes ☐ NoIf **no**, do you plan to buy a robotic feed pusher? ☐ Yes ☐ NoDo you use **robotic TMR mixer/feeders**? ☐ Yes ☐ NoIf **no**, do you plan to buy a robotic TMR mixer? ☐ Yes ☐ NoWhat type of **MANURE STORAGE SYSTEM** do you have?

- ☐ earthen/concrete/clay lined lagoon or pit
- ☐ slatted underfloor storage
- ☐ above ground tank
- ☐ covered enclosure
- ☐ anaerobic digester
- ☐ other _____
- ☐ do not have manure storage system

Do you intend to **buy/install** new manure storage in 2023? ☐ Yes ☐ NoWhat types of **VENTILATION** are you using in your dairy facility?

- ☐ tunnel ventilation
- ☐ cross ventilation
- ☐ combination/exhaust fans and stir fans
- ☐ natural ventilation only
- ☐ recirculation/stir fans (natural ventilation barn and stir fans)

Are you currently using any **heat abatement** for lactating dairy cows?If **yes**, check all that apply:

- ☐ shade ☐ soakers/sprinklers ☐ fans ☐ other _____

Are you currently using any **heat abatement** for dry cows?If **yes**, check all that apply:

- ☐ shade ☐ soakers/sprinklers ☐ fans ☐ other _____

Which **structures** will you be adding ventilation to for future farm projects?

- ☐ parlor/holding area
- ☐ transition cow barn
- ☐ heifer barn
- ☐ calf barn
- ☐ none
- ☐ other _____

What types of **ANIMAL BEDDING** are you currently using?

- ☐ solid rubber mats (*list brand*) _____
- ☐ mattresses (*list brand*) _____
- ☐ sand
- ☐ manure solids
- ☐ straw/cornstalks
- ☐ wood shavings/sawdust
- ☐ lime
- ☐ other _____

Who is responsible for your **DEHORNING PROCEDURE**?

- ☐ calf manager
- ☐ veterinarian
- ☐ employee
- ☐ owner
- ☐ other _____
- ☐ don't dehorn

What **method** are you currently using to dehorn?

- ☐ caustic paste
- ☐ polled sires
- ☐ heat/cauterization
- ☐ slicing/scooping
- ☐ other _____

At **what age** do you dehorn?

- ☐ birth - 1 month ☐ 3 -4 months ☐ other _____
- ☐ 1 - 2 months ☐ 5 - 6 months _____

Do you use a **sedative** or **numbing agent**? ☐ Yes ☐ NoDo you **tail dock** your calves/cows? ☐ Yes ☐ NoDid you buy **FLY CONTROL** products in 2022? ☐ Yes ☐ NoTotal amount (\$ _____) spent for **fly control**?How much was (\$ _____) spent for **livestock**?How much was (\$ _____) spent for **residual**?What is your **source of purchase** for fly control products?

- ☐ retail store ☐ online ☐ don't use
- ☐ print catalog ☐ routeman ☐ other _____

Check other **methods** you use to **control** flies:

- | | |
|---|--|
| ☐ pour on | ☐ fog or mist over cattle |
| ☐ feed through | ☐ rely on sanitation |
| ☐ ear tags | ☐ flypaper (stickers) |
| ☐ dust bags | ☐ Vapona pest strips |
| ☐ fly traps | ☐ cattle oilers |
| ☐ aerosol | ☐ fly bait |
| ☐ biological (wasps) | ☐ other _____ |
| ☐ wall spray | |

Do you use **electronic cow identification**? ☐ Yes ☐ NoIf **yes**, for what purpose? (*check all that apply*)

- | | |
|---|--|
| ☐ recording daily milk | ☐ detect and monitor treated cows |
| ☐ sort cows for special care | ☐ rumination |
| ☐ heat activity | ☐ other _____ |
| ☐ calf health | |

Are you using **animal activity monitoring**? ☐ Yes ☐ NoIf **yes**, is it for: ☐ cows ☐ heifers ☐ both

Are you currently using **footbaths** on a regular basis for the prevention of hairy foot warts? ☐ Yes ☐ No

If **yes**, how **often**?

- ☐ every day ☐ every other day ☐ other _____
☐ only as needed ☐ once a week

If **yes**, what **ingredients** do you most commonly use?

- ☐ copper sulfate ☐ antibiotics
☐ formalin ☐ other _____

If your herd experienced **hairy foot wart** problems, what is your **source of purchase** for hairy foot wart control products?

- ☐ farm/feed store ☐ veterinarian ☐ other
☐ route salesman ☐ hoof trimmer _____
☐ print catalog ☐ online

What application method do you use for **treatment** of hairy foot warts?

- ☐ direct spray ☐ wrap
☐ footbath ☐ other _____

Who is responsible for **treatment/prevention** of hairy foot warts?

- ☐ owner ☐ milker
☐ herdsman ☐ other _____

What **product(s)** do you use to control hairy foot warts?

- ☐ Avail Plus ☐ Restore Hoof
☐ Hoof-Mate ☐ antibiotics
☐ HoofPro+ ☐ copper sulfate
☐ New Hoof ☐ formaldehyde
☐ Oxy-Step ☐ zinc sulfate
☐ PediCuRx ☐ other _____

Do you **TRIM** your cows' hooves? ☐ Yes ☐ No

If **yes**, do you:

- ☐ have someone on your farm that does the trimming
☐ hire a hoof trimmer to come to your farm

If you **hire** a hoof trimmer, **how often** does the trimmer visit your farm?

- ☐ once a month ☐ quarterly ☐ weekly
☐ twice a month ☐ yearly ☐ other _____

Total **expenditure** (\$) for treating lameness.

Have you **culled** any cows in 2022 **due to lameness**? ☐ Yes ☐ No

How do you **IDENTIFY SUBCLINICAL** and **CLINICAL** mastitis in your herd?

SUBCLINICAL

- ☐ DHIA report
☐ CMT
☐ electronic hand held device
☐ in-line electronic indicator
☐ bulk tank culture
☐ strip cup
☐ milk culture
☐ no routine monitoring

CLINICAL

- ☐ abnormal milk or quarter
☐ DHIA report
☐ CMT
☐ electronic hand held device
☐ in-line electronic indicator
☐ strip cup
☐ milk culture
☐ no routine monitoring

Do you use **ON FARM TEST KITS** for:

- ☐ Johne's ☐ antibiotic sensitivity
☐ antibiotics in milk ☐ somatic cell counts
☐ Immunoglobulin levels in colostrum ☐ mastitis culturing
☐ mycotoxins in feeds ☐ other _____

How **many** antibiotic sensitivity tests were performed in the last **12 months**?

- ☐ None ☐ 11-20 ☐ 31-50 ☐ 76-100
☐ 1-10 ☐ 21-30 ☐ 51-75 ☐ over 100

How **much** does a **single** antibiotic sensitivity test cost? (\$) _____

What brands of **probiotic/direct-fed microbials** do you use?

- ☐ Bio-Vet ☐ Provia 6086
☐ Bovamine ☐ TechMix Rumen Yeast
☐ Dairyman's Edge ☐ Top Gun
☐ Micro N-R-G ☐ Tri-Mic
☐ Opti-DFM ☐ generic rumen enhancer
☐ Priority One ☐ other _____
☐ Probios ☐ don't use

Do you **VACCINATE** your dairy herd? ☐ Yes ☐ No

If **yes**, how many times a year?

() cows () heifers () calves

Who decides what brand of vaccine is used?

- ☐ owner ☐ veterinarian
☐ employee ☐ other _____

How **often** do you **change the brand** of vaccines you use?

- ☐ rarely ☐ occasionally ☐ routinely

Which **type** of vaccine do you use for: **Cows** **Heifers** **Calves**

- | | Cows | Heifers | Calves |
|----------------------------------|--------------------------|--------------------------|--------------------------|
| modified live | ☐ | ☐ | ☐ |
| killed | ☐ | ☐ | ☐ |
| modified live/killed combination | ☐ | ☐ | ☐ |
| autogenous/custom made vaccine | ☐ | ☐ | ☐ |
| don't know | ☐ | ☐ | ☐ |

What is your **source of purchase** for vaccines?

- ☐ veterinarian ☐ farm supply store ☐ print catalog
☐ online ☐ routeman ☐ other _____

Which of the following did you **vaccinate** for in 2022?

	Cows	Heifers	Calves
BVD Type 1b	☐	☐	☐
BVD Types 1 & 2	☐	☐	☐
BRSV	☐	☐	☐
Brucellosis	☐	☐	☐
Blackleg	☐	☐	☐
Haemophilus somnus	☐	☐	☐
PI-3	☐	☐	☐
IBR	☐	☐	☐
Johne's	☐	☐	☐
Leptospirosis	☐	☐	☐
Pasteurella	☐	☐	☐
Pinkeye	☐	☐	☐
Scours	☐	☐	☐
Neospora	☐	☐	☐
Mastitis	☐	☐	☐
Enterotoxemia	☐	☐	☐
Salmonellosis	☐	☐	☐
Mycoplasma	☐	☐	☐
other _____	☐	☐	☐

Which of the following **brands of vaccine** did you use in 2022?

- ☐ Bovishield ☐ Inforce ☐ Spirovac L5 ☐ Virashield
☐ CattleMaster ☐ MasterGuard ☐ SRP Salmonella ☐ Vista
☐ Elite ☐ Nasalgen ☐ Titanium ☐ other _____
☐ Express FP ☐ Pyramid ☐ Triangle _____
☐ Fusion ☐ Respromune ☐ TSV2

Check equipment owned and brand owned

Large round baler ☐

- | | |
|----------------------------------|--|
| ☐ Case IH | ☐ Massey Ferguson |
| ☐ Claas | ☐ New Holland |
| ☐ Deere | ☐ Vermeer |
| ☐ Krone | ☐ other _____ |

Large square/rectangular baler (1,000 - 2,000 lbs.) ☐

- | | |
|----------------------------------|--|
| ☐ Case IH | ☐ Krone |
| ☐ Claas | ☐ Massey Ferguson |
| ☐ Deere | ☐ New Holland |
| ☐ Hesston | ☐ other _____ |

Forage harvester ☐

- | | |
|--|---|
| ☐ Self-propelled | ☐ Pull-type |
| ☐ Claas | ☐ Case IH |
| ☐ Deere | ☐ Deere |
| ☐ Krone | ☐ Hesston |
| ☐ New Holland | ☐ New Holland |
| ☐ other _____ | ☐ other _____ |

Manure spreader ☐

- | | |
|--|---|
| ☐ Conventional spreader | ☐ vertical beaters |
| ☐ Deere | ☐ horizontal beaters |
| ☐ H&S | ☐ spinner discharge beaters |
| ☐ Kuhn Knight | |
| ☐ Meyer | |
| ☐ New Holland | |
| ☐ New Idea | |
| ☐ other _____ | |
| ☐ Impeller or side discharge | |
| ☐ Kuhn Knight | |
| ☐ Meyer | |
| ☐ New Holland | |
| ☐ other _____ | |
| ☐ Liquid tank | |

Hay rake ☐

- | | |
|--|--------------------------------------|
| ☐ Wheel | |
| ☐ Deere | ☐ New Holland |
| ☐ Frontier | ☐ New Idea |
| ☐ H&S | ☐ Vermeer |
| ☐ Massey Ferguson | ☐ other _____ |
| ☐ Parallel bar | |
| ☐ Deere | ☐ Vermeer |
| ☐ New Holland | ☐ other _____ |
| ☐ New Idea | |
| ☐ Rotary | |
| ☐ H&S | ☐ New Holland |
| ☐ Kuhn | ☐ Vermeer |
| ☐ Massey Ferguson | ☐ other _____ |
| ☐ Miller Pro | |

Tedder/hay merger ☐

- | | |
|-------------------------------------|--------------------------------------|
| ☐ H&S | ☐ Miller Pro |
| ☐ John Deere | ☐ Oxbo |
| ☐ Kuhn | ☐ other _____ |

Mower/conditioner/windrower ☐☐ **Self-propelled**

- | | |
|----------------------------------|--|
| ☐ Case IH | ☐ Macdon |
| ☐ Deere | ☐ Massey Ferguson |
| ☐ Hesston | ☐ New Holland |
| ☐ Krone | ☐ other _____ |

☐ **Pull-type**

- | | |
|--|--------------------------------------|
| ☐ Case IH | ☐ New Idea |
| ☐ Deere | ☐ Vermeer |
| ☐ Kuhn | ☐ Vicon |
| ☐ Massey Ferguson | ☐ other _____ |
| ☐ New Holland | |

Skid Steer (self propelled utility loader) ☐

- | | |
|--------------------------------------|--------------------------------------|
| ☐ Bobcat | ☐ Gehl |
| ☐ Case IH | ☐ New Holland |
| ☐ Caterpillar | ☐ other _____ |
| ☐ Deere | |

Number of skid steer loaders owned ()

Number of attachments used for skid steer loaders ()

Telehandler ☐ If checked, list brand owned _____Payloader ☐ If checked, list brand owned _____TMR Mixer ☐ If checked, list brand owned _____

How many () TRACTORS do you have?

How many TRACTORS do you have in each **horsepower** category?

() under 80 hp () 121-160 hp

() 81-120 hp () over 160 hp

How many TRACTORS of each **brand** do you own?

() AGCO () Massey Ferguson

() Case IH () McCormick

() John Deere () New Holland

() Kubota () other _____

In 2022, **DID YOU BUY**:

- ☐ **new** tractor with front-wheel assist
- ☐ **new** tractor without front-wheel assist
- ☐ **used** tractor
- ☐ **didn't** buy a tractor

What brand was your **NEW** tractor?

- | | |
|-------------------------------------|--|
| ☐ AGCO | ☐ Massey Ferguson |
| ☐ Case IH | ☐ McCormick |
| ☐ John Deere | ☐ New Holland |
| ☐ Kubota | ☐ other _____ |

In 2023, do you **PLAN TO BUY**:

- ☐ **new** tractor
- ☐ **used** tractor
- ☐ uncertain about buying

Will your **next** tractor be:

- | | |
|--------------------------------------|--------------------------------------|
| ☐ under 80 hp | ☐ 121-160 hp |
| ☐ 81-120 hp | ☐ over 160 hp |

Many thanks for your help – HOARD'S DAIRYMAN

How many sets of four () **MILKING MACHINE INFLATIONS** did you **buy** last year? What **shape** liner do you use?

☐ round ☐ square ☐ triangular ☐ other _____

What **brand(s)** did you buy?

☐ BouMatic ☐ GEA ☐ other _____
☐ Conewango ☐ IBA _____
☐ DeLaval ☐ Milk Rite _____

Rank the importance from 1 to 6 of these factors when buying inflations, with **1 the most important**:

() life () gentleness () slippage
 () fast milking () cleanliness () price

Who makes the **brand/purchasing decision** for inflations?

☐ farm owner ☐ herd milker ☐ veterinarian
☐ equipment dealer ☐ herdsman ☐ other _____

If you have **changed** brands of inflations, what **influenced** this decision?

☐ price ☐ durability ☐ udder health ☐ other
☐ performance ☐ veterinarian ☐ equipment dealer _____

What do you use to **PREP** your cows before milking?

☐ commercial udder wash or wipe ☐ paper towel ☐ don't prep
☐ rewashable individual cloths ☐ mechanical brush
☐ rag ☐ other _____

Did you purchase **DAIRY CLEANERS/SANITIZERS** in 2022? ☐ Yes ☐ No

How much did you **spend each month** for:

(\$) teat dips and sprays

(\$) parlor/pipeline cleaners or sanitizers

How often do you **sanitize** your milking system?

☐ twice weekly ☐ daily ☐ other
☐ every other day ☐ weekly _____

What brands of **TEAT DIP, SPRAY, or SEALANT** did you use in 2022?

Before milking After milking

☐	☐	ABS (Valiant)
☐	☐	GEA (DermaSept, Theratec, Teat Kote, Derma-Kote, Astro-tek, Teradeim, Concept)
☐	☐	BouMatic
☐	☐	DeLaval (Della Care, Della Soft, Della Barrier)
☐	☐	Ecolab (Blue-Gard, Oxy-Gard, Optima, Ideal, Artec)
☐	☐	IBA (Bac Stop, Quadroplex, Assure, Transcend, Quick-San, Dura-Shield, Blue Ribbon, FS-103)
☐	☐	Lely (Quaress Omnia)
☐	☐	T-Hexx
☐	☐	Uddergold/4XLA/Pre-Gold
☐	☐	WestAgro (Bovadine, Quarter Mate, Iodozyme, Blockade)
☐	☐	other _____

Do you use a **teat sealant** for dry cows? ☐ Yes ☐ No

Check all **sources of purchase** for these items:

Milk Filters	Inflations	Dips & Sprays	Cleaners/Sanitizers	
☐	☐	☐	☐	milking machine dealer/routeman
☐	☐	☐	☐	direct-to-farm independent routeman
☐	☐	☐	☐	fleet or dairy supply store
☐	☐	☐	☐	print catalog
☐	☐	☐	☐	bulk/direct from manufacturer
☐	☐	☐	☐	don't use

What type of **HOUSING SYSTEM** do you use for **lactating** cows?

☐ open dry lots ☐ pasture (intensive rotational grazing)
☐ freestall ☐ compost or bedded pack/barn
☐ tie stall or stanchion ☐ other _____
☐ pasture (non-rotational) _____

Do you **house** your **calves** in:

☐ hutches ☐ group housing
☐ calf barn with individual calf pens ☐ other _____

If you house your calves in **CALF HUTCHES**, what **brand** do you use?

☐ Agri-Plastics ☐ EZ Hutch ☐ Sturdy Built
☐ Artex ☐ J&D Manufacturing ☐ self-made
☐ Calf-Tel ☐ PolyDome ☐ other _____

Do you have your calves/heifers **raised** by someone else? ☐ Yes ☐ No

If **yes**, at what stages does the grower have them:

☐ birth to weaning
☐ sometime after weaning to breeding age
☐ breeding age to near calving

What type of **CATTLE IDENTIFICATION** do you use for recordkeeping and breeding? (**CHECK ONLY ONE**)

☐ neck chains ☐ freeze branding ☐ tattoo
☐ ankle tags ☐ RFID ear tags ☐ other _____
☐ ear tags/no RFID ☐ hot branding ☐ don't have any

Do you use **A.I.** on: **Cows** ☐ Yes ☐ No **Heifers** ☐ Yes ☐ No

What **influences** your decision on purchasing **semen** from a certain company?

☐ genetic availability ☐ pricing
☐ multiple services or product availability ☐ tech service/expertise
☐ service reliability/local rep ☐ other _____

Have you used or are you considering use of **SEXED SEMEN**? ☐ Yes ☐ No

If **yes**, what percent of **heifers** have you used sexed semen on?

☐ 10% or less ☐ 11-25% ☐ 26-50% ☐ 51-75% ☐ 76-100%

What percent of **cows** have you used sexed semen on?

☐ 10% or less ☐ 11-25% ☐ 26-50% ☐ 51-75% ☐ 76-100%

How **MANY** of your dairy cows and heifers were bred by:

List the number of cows/heifers bred, not the percent

() A.I. technician () yourself, family, or employee

How many **dollars** (\$) did you spend directly on **SEMEN** last year?

How many **units** of semen () do you now have in inventory?

What is your **average** price (\$) per **straw**?

Are you running **genomic tests** on females in your herd? ☐ Yes ☐ No

If **yes**, what **PERCENT**? () %

If **yes**, what **BRAND** of genomic test do you use? _____

List the company or companies you **buy** semen from:

☐ ABS ☐ CRV ☐ Semex
☐ Accelerated Genetics ☐ Genex ☐ Sexing Technologies/Taurus
☐ Alta Genetics ☐ Select Sires ☐ other _____

How do you **determine/diagnose** pregnancy?

☐ early blood pregnancy test ☐ ultrasound
☐ palpation ☐ milk testing

If you use **ultrasound**, how many days after breeding is it done? _____

If you use **palpation**, how many days after breeding is it done? _____

If you use **blood pregnancy tests**, how soon after breeding do you test?

☐ less than 1 month ☐ 1-2 months ☐ more than 2 months

Who makes the **sire selection**?

☐ owner/operator ☐ AI technician/mating program
☐ herdsman ☐ other _____

Are you currently using **estrous synchronization products**? ☐ Yes ☐ No

If **yes**, what brands?

☐ CIDR ☐ Estrumate ☐ GONAbreed ☐ Synchsure
☐ Cystorelin ☐ Factrel ☐ Lutalyse ☐ other _____
☐ Estro Plan ☐ Fertagyl ☐ Prostamate _____

What forms of **HEAT DETECTION** do you use?

☐ visual observation ☐ tailhead paint ☐ Estroject
☐ tailhead chalk ☐ pedometers ☐ other _____
☐ heatmount patches ☐ electronic heat detection _____
☐ Kamar ☐ timed A.I.

Are you using **beef semen**? ☐ Yes ☐ No

If **yes**, what **PERCENT** () % of breedings on cows?

what **PERCENT** () % of breedings on heifers?

CONFIDENTIAL – You Need Not Sign Your Name

Please give your best estimate of the number of actual cases or strong suspects of each of the following you have had in your dairy herd in 2022:

() coccidiosis (calves)	() Johne's disease	() PI-3	() leukosis
() ketosis (acetoneemia)	() leptospirosis	() cryptosporidium	() bloat
() milk fever	() retained placenta (afterbirth)	() Laminitis	() displaced abomasum
() winter scours	() abortion	() hoof rot	() external parasites (lice, grubs, etc)
() pneumonia in cows	() metritis	() pinkeye	() internal parasites (tape, lung, roundworms)
() cystic ovaries	() Neosporosis	() BRSV	() pneumonia in calves
() hairy foot warts	() IBR	() hardware	() hemorrhagic bowel syndrome
() liver abscess	() BVD	() <i>Histophilus somni</i> ²	() leptospirosis

How often is your veterinarian on the farm for **HERD HEALTH PROGRAM** visits? Is it:

- ☐ weekly ☐ other _____
☐ once a month ☐ not on a herd health program
☐ twice a month

What is **included** in your herd health program?

- ☐ mastitis control ☐ calf raising ☐ vaccination
☐ reproduction ☐ feed consulting ☐ other _____

Have you gone through a **Johne's disease test assessment** program?

- ☐ Yes ☐ No

Do you use **fresh cow** products such as **calcium** and **propylene glycol**?

- ☐ Yes ☐ No

If **yes**, what form? ☐ pastes ☐ gels ☐ liquid ☐ other
☐ bolus ☐ capsules ☐ intravenous _____

Are you currently using a **calcium bolus or capsule**? ☐ Yes ☐ No

If **yes**, what brand?

- ☐ Bovikalc (Boehringer Ingelheim) ☐ QuadriCal (Bio-Vet)
☐ Cal-C-Preme (IBA) ☐ RumiLife CAL 24 (Genex)
☐ DairyCal (Radix) ☐ Ultra Calc Plus (Huvepharma)
☐ First Choice (MLS) ☐ YMCP Vitall (TechMix)

How many **CALVES** (total) were **born on your farm** in 2022? ()

How many were raised or kept for:

- () replacement heifers () dairy beef
() veal () other
() breeding (bulls) - your own herd use _____
() breeding (bulls) - genetics, off-farm sales _____

How many **cases** () of **CALF SCOURS** did you have in 2022?

Total amount (\$) **spent** on **calf scours products** in 2022?

Did you vaccinate **dry cows** to protect their calves against scours?

- ☐ Yes ☐ No

Did you treat **calves at birth** to prevent scours? ☐ Yes ☐ No

In treating calf scours, which type of **electrolyte** did you use?

- ☐ oral bolus ☐ water-soluble powder
☐ antibiotic injectable ☐ don't use electrolytes

Do you feed **electrolytes** as a routine treatment? ☐ Yes ☐ No

What **brands** of calf scours products do you use?

- | | |
|---|---|
| ☐ Achieve (Huvepharma) | ☐ Electrolytes Plus (Sav-A-Calf) |
| ☐ BarGuard 99 (Boehringer Ingelheim) | ☐ First Arrival w/Encrypt (DBC) |
| ☐ Blue Ribbon (Merrick's) | ☐ First Defense (ImmuCell) |
| ☐ BlueLite C (TechMix) | ☐ Guardian (Merck) |
| ☐ BlueLite Replenish (TechMix) | ☐ Hydrafeed (A&L Labs) |
| ☐ Bo-Bac 2x (Boehringer Ingelheim) | ☐ Last Stand w/ImmWave (DBC) |
| ☐ Bovine Ecolizer (Elanco) | ☐ Neomycin (Zoetis) |
| ☐ Calf-Guard (Zoetis) | ☐ ReSorb (Zoetis) |
| ☐ Colostrx (Huvepharma) | ☐ Respond (Huvepharma) |
| ☐ Corid (Huvepharma) | ☐ Scour Bos (Elanco) |
| ☐ Deliver (Huvepharma) | ☐ ScourGuard 3KC/4KC (Zoetis) |
| ☐ Diaque (Boehringer Ingelheim) | ☐ other _____ |
| ☐ Electrolytes (Land O'Lakes) | ☐ don't use any scour products |

Which **CALF SCOURS ORGANISMS** have been identified on your farm?

- ☐ Coronavirus ☐ Rotavirus ☐ Cryptosporidia
☐ Salmonella ☐ E.coli ☐ don't know

Did you treat calves for **coccidiosis** in 2022? ☐ Yes ☐ No

What **products** do you use?

- ☐ Bovatec ☐ Deccox ☐ other _____
☐ Corid ☐ Rumensin ☐ didn't treat

What **injectable antibiotics** were used to treat **cows** or **calves/heifers** in 2022?

calves/ cows	heifers	calves/ cows	heifers
☐	☐ Baytril 100	☐	☐ Polyflex
☐	☐ Bio-Mycin 200	☐	☐ Resflor Gold
☐	☐ Draxxin	☐	☐ Tylan 200
☐	☐ Excede	☐	☐ Zactran
☐	☐ Excenel	☐	☐ Zuprevo
☐	☐ LA-200	☐	☐ ampicillin/amoxicillin
☐	☐ Micotil	☐	☐ generic oxytetracycline 200
☐	☐ Naxel	☐	☐ penicillin
☐	☐ Nuflor	☐	☐ other _____

Do you use a **COLOSTRUM supplement**? ☐ Yes ☐ No

Do you use a **COLOSTRUM substitute**? ☐ Yes ☐ No

Are you feeding a **CALF STARTER** (dry feed)? ☐ Yes ☐ No

If **yes**, what **brand** of calf starter are you feeding? _____

Are you feeding a **CALF MILK REPLACER**? ☐ Yes ☐ No

If **yes**, what **brand** of calf milk replacer are you feeding? _____

What is the **one** most important reason for choosing this brand?

- | | | |
|---|--|---|
| ☐ convenient to purchase | ☐ performance | ☐ cost per bag |
| ☐ brand reputation | ☐ research | ☐ medication |
| ☐ mixability | ☐ protein source | ☐ service provided |
| ☐ product specifications | ☐ nutritionist recommendation | ☐ other _____ |

How often do you feed milk/milk replacer to young calves?

- ☐ 2 times a day ☐ depends on weather
☐ 3 times a day ☐ other _____

How **much** do you feed **per feeding**?

- ☐ 2 quarts ☐ 3 quarts ☐ 4 quarts ☐ 5 quarts ☐ other _____

Do you use a **seasonal** milk replacer or starter? ☐ Yes ☐ No

Are you currently using a **PASTEURIZER** or **UV PURIFIER**

to feed milk to your calves? ☐ Yes ☐ No

If **yes**, what brand of pasteurizer do you have? _____

Do you **enhance** your pasteurized milk? ☐ Yes ☐ No

Are you **pasteurizing** your **colostrum**? ☐ Yes ☐ No

Do you feed waste milk? ☐ Yes ☐ No

(If **yes**, is it pasteurized?) ☐ Yes ☐ No

Do you own an **automatic calf feeder**? ☐ Yes ☐ No

What was the percent of calves born on your farm that were **lost due to death** _____%

When are calves lost? ☐ at birth ☐ prior to weaning
☐ within 24 hours ☐ other _____

Total 2022 expenditure for **MASTITIS REMEDIES** for:

(\$) LACTATING COWS (\$) DRY COWS

Are you **DRY TREATING**? ☐ Yes ☐ No

If **yes**, how do you **DRY** treat for mastitis?

- ☐ all quarters of all dry cows routinely
☐ all quarters of all dry cows with mastitis history
☐ only quarters with mastitis history
☐ internal teat sealant

if you experienced **MASTITIS** in your herd, what were the **primary organisms** that caused the infection?

☐ Had no mastitis problems

Contagious Mastitis

- ☐ Streptococcus agalactiae
☐ Staphylococcus aureus
☐ Mycoplasma bovis
☐ Corynebacterium bovis

Environmental Mastitis

- ☐ Streptococcus uberis
☐ Coliform
☐ other _____

Percent of **DRY COWS** () % treated for mastitis last year?

How many cows () were shipped because of hardware in 2022?

How many cows () were shipped because of mastitis in 2022?

How many of the mastitis cases in your herd were treated:

- () only by the vet
 () only by yourself or other farm workers
 () partly by vet and partly by you

What is your current **source of purchase** for mastitis remedies?

Lactating Cows

Dry Cows

- ☐ direct-to-farm routeman
☐ veterinarian
☐ retail store
☐ print catalog
☐ online

How do you **treat** mastitis?

- ☐ infuse quarter ☐ inject muscle ☐ other
☐ inject vein ☐ cull animals _____

How many () **different brands** of mastitis remedies did you use last year?

What **brand(s)** of mastitis remedies do you use?

Lactating Cow therapy

- ☐ Amoxi-Mast (Merck) ☐ Spectramast LC (Zoetis)
☐ Dariclox (Merck) ☐ ToDAY (Boehringer Ingelheim)
☐ Masti-Clear (US Vet) ☐ organic treatment options
☐ Pirsue (Zoetis) ☐ vet preparations
☐ PolyMast (Boehringer Ingelheim) ☐ other _____

Dry Cow therapy

- ☐ Albadry Plus (Zoetis) ☐ Spectramast DC (Zoetis)
☐ Dry-Clox (Boehringer Ingelheim) ☐ ToMORROW (Boehringer Ingelheim)
☐ Go-Dry (US Vet) ☐ organic treatment options
☐ Orbenin (Merck) ☐ vet preparations
☐ Quartermaster (WG Critical Care) ☐ other _____

Do you use an **internal teat sealant**? ☐ Yes ☐ No

If **yes**:

- ☐ BoviBlock (Vet One) ☐ OptiShield (Genex)
☐ Lockout (Boehringer Ingelheim) ☐ Orbeseal (Zoetis)
☐ MastiShield (Aspen) ☐ ShutOut (Merck)
☐ NoroSeal (Norbrook) ☐ other _____

Do you use a **mastitis preventive vaccine**? ☐ Yes ☐ No

If **yes**:

- ☐ Bovilis J-5 (Merck) ☐ KLEBVax (Huvepharma)
☐ Endovac-Dairy (Endovac) ☐ Lysigin (Boehringer Ingelheim)
☐ J-5 Bacterin (Zoetis) ☐ other _____
☐ J-Vac (Boehringer Ingelheim) _____

How do you test your cows for mastitis?

- ☐ on-farm culturing ☐ send to centralized lab ☐ veterinary clinic
☐ California Mastitis Test ☐ PCR test ☐ do not test

When do you test your cows for mastitis?

- ☐ freshening ☐ during dry-off ☐ clinical signs
☐ routine screening ☐ high SCCs ☐ high BTSCC
☐ introduction of new cows to the herd ☐ do not test

How many mastitis samples do you have per month for testing?

- ☐ less than 5 ☐ 5-10 ☐ 11-20 ☐ more than 20

How long does it take to get results for your samples?

- ☐ less than a day ☐ 1-2 days ☐ 3-5 days ☐ more than 5 days

Check all ways you handle **mastitis-infected cows** once they are identified:

- ☐ separate from other cows ☐ all of the above
☐ put on priority list to cull ☐ other _____
☐ milk last

Do you require your milkers to wear **milking gloves**? ☐ Yes ☐ No

Did you **culture milk** from any cows or your bulk tank during 2022?

- ☐ Yes ☐ No

Are you culturing milk to determine **which mastitis treatment** to use?

- ☐ Yes ☐ No

How many () **individual milk culture tests** were performed?

How many times a year do you **DEWORM**?

- () calves () dry cows
 () heifers () lactating cows

What time of year do you deworm **LACTATING** cows?

- ☐ fall ☐ summer
☐ spring ☐ anytime/no set time
☐ at freshening ☐ other _____
☐ winter ☐ don't deworm
☐ dry/dry period

Total head of **LACTATING** cows () you deworm.

- ☐ whole herd ☐ individuals ☐ don't deworm

What **form** of dewormer do you use:

- ☐ tablet, oblet ☐ paste
☐ injectable ☐ pour on
☐ feed ☐ other _____
☐ drench ☐ don't deworm

Total amount (\$) **spent on dewormers** in 2022.

What is your **source of purchase** for deworming products?

- ☐ retail store ☐ print catalog
☐ routeman ☐ online
☐ feed salesman ☐ other _____
☐ veterinarian ☐ don't buy

Check products used for deworming cows and heifers:

- | Lactating Cows | Dry Cows | Heifers | |
|--------------------------|--------------------------|--------------------------|--------------------------------|
| ☐ | ☐ | ☐ | Cydetin (Boehringer Ingelheim) |
| ☐ | ☐ | ☐ | Dectomax (Zoetis) |
| ☐ | ☐ | ☐ | Eprinen (Boehringer Ingelheim) |
| ☐ | ☐ | ☐ | Eprizero Pour-On |
| ☐ | ☐ | ☐ | Ivomec (Boehringer Ingelheim) |
| ☐ | ☐ | ☐ | Noromectin Pour-On |
| ☐ | ☐ | ☐ | Safeguard (Merck) |
| ☐ | ☐ | ☐ | other _____ |
| ☐ | ☐ | ☐ | don't deworm |

2022 Analysis of HOARD'S DAIRYMAN

Circulation, Total US Dairy Operations and Continuing Market Study Responses

STATE	HOARD'S DAIRYMAN 2022 CIRCULATION	CIRCULATION PERCENT	PERCENT OF DAIRY FARMS SELLING MILK	CMS RESPONSE PERCENT
ME	306	0.8%	0.61%	1.7%
NH	179	0.5%	0.34%	0.0%
VT	795	2.0%	1.97%	3.1%
MA	225	0.6%	0.39%	0.2%
RI	25	0.1%	0.04%	0.0%
CT	177	0.4%	0.30%	1.0%
NEW ENG	1,707	4.3%	3.65%	6.0%
NY	3,977	10.0%	11.49%	7.9%
NJ	101	0.3%	0.14%	0.2%
PA	4,504	11.3%	17.90%	8.6%
MID ATL	8,582	21.6%	29.54%	16.7%
OH	1,856	4.7%	5.46%	2.6%
IN	883	2.2%	2.63%	0.7%
IL	977	2.5%	1.72%	2.6%
MI	1,610	4.1%	3.62%	6.0%
WI	9,460	23.8%	22.73%	23.9%
EAST NC	14,786	37.2%	36.16%	35.8%
MN	3,419	8.6%	7.29%	13.9%
IA	1,366	3.4%	2.86%	2.6%
MO	1,104	2.8%	2.00%	3.1%
ND	133	0.3%	0.14%	0.5%
SD	310	0.8%	0.55%	1.2%
NE	278	0.7%	0.36%	1.4%
KS	427	1.1%	0.75%	0.2%
WEST NC	7,037	17.7%	13.96%	22.9%
DE	26	0.1%	0.05%	0.5%
MD	352	0.9%	1.11%	0.7%
DC	5	0.0%	0.00%	0.0%
VA	564	1.4%	1.40%	0.0%
WV	68	0.2%	0.11%	0.0%
NC	272	0.7%	0.47%	0.7%
SC	64	0.2%	0.11%	0.0%
GA	186	0.5%	0.34%	0.0%
FL	193	0.5%	0.21%	0.7%
SO ATL	1,730	4.4%	3.79%	2.6%
KY	597	1.5%	1.36%	0.2%
TN	264	0.7%	0.50%	1.4%
AL	73	0.2%	0.04%	0.0%
MS	74	0.2%	0.16%	0.0%
EAST SC	1,008	2.5%	2.06%	1.6%
AR	88	0.2%	0.11%	0.0%
LA	143	0.4%	0.23%	0.0%
OK	208	0.5%	0.30%	0.2%
TX	492	1.2%	1.15%	1.2%
WEST SC	931	2.3%	1.79%	1.4%
MT	98	0.2%	0.16%	0.5%
ID	497	1.3%	1.47%	1.4%
WY	21	0.1%	0.02%	0.0%
CO	186	0.5%	0.39%	0.5%
NM	131	0.3%	0.39%	0.0%
AZ	97	0.2%	0.29%	0.0%
UT	227	0.6%	0.54%	1.9%
NV	18	0.0%	0.07%	0.0%
MOUNTAIN	1,275	3.2%	3.33%	4.3%
AK	10	0.0%	0.00%	0.0%
WA	528	1.3%	1.11%	1.4%
OR	214	0.5%	0.61%	0.5%
CA	1,890	4.8%	3.99%	6.5%
HI	2	0.0%	0.00%	0.0%
PACIFIC	2644	6.7%	5.72%	8.4%
US TOTAL	39,700	100.0%	100.0%	99.7%



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