



THE BEST OF THE BEST

From 72 applicants, these operations stood out for having produced high-quality milk consistently. Applications were evaluated for measures of quality, systems of monitoring udder health, milking routine, protocols for detection and treatment of clinical and subclinical cases of mastitis, and strategies for overall herd health and welfare.

PLATINUM WINNERS

Recipient/Nominator

- Cottonwood Dairy, Jim Winn and Randy and Brian Larson, South Wayne, Wis.**
Randy Hardyman, Grande Cheese Co.
- Country Aire Farms, Mike, Tom, Matt, Nicholas, Craig, and Jon Gerrits, Greenleaf, Wis.**
Jolynne Schroepfer, Sartori
- Diamond J Dairy, Luciana and Wiebren Jonkman, Merced, Calif.**.....
Daniela Bruno, University of California

Recipient/Nominator

- Green Hill Dairy, Donald Janssen, Scipio Center, N.Y.**
Lisa Ford, Cayuga Marketing
- Michigan State University Dairy Cattle Teaching and Research Center, Lansing, Mich.**
Joe Packard, **MMPA
- Stuart Farms, Dan and Sandra Stuart, Lowell, Mich.**
Gregg Trierweiler, *DFA

GOLD WINNERS

- A & J Bent Farms, Allen and Jacqueline Bent, Lawrencetown, Nova Scotia, Canada** ..
Don Anderson, Quality Milk Management
- Beattie Farms, Don Beattie, Holton, Mich.**
Chelsea Smith, **MMPA
- Clearview Dairy Farm, Scott and Brian DeMann, Martin, Mich.**
Emily Patton, **MMPA
- Evergreen Dairy Farm, Kris and Carla Wardin, St. Johns, Mich.**.....
Rachel Brown, **MMPA
- Fessenden Dairy, Tim Fessenden, King Ferry, N.Y.**.....
Lisa Ford, Cayuga Marketing
- Fischer-Clark Dairy Farm, Mike, Sue, Jon, and Heidi Fischer, Hatley, Wis.**
Jolynne Schroepfer, Sartori
- Hammond Dairy Farm, Normand and Derrick Hammond, Dowling, Mich.**
Emily Patton, **MMPA
- Hoewisch Homestead Dairy, Kevin and Jacob Hoewisch, Fremont, Wis.**.....
Hunter Strebig, Morning Breeze IBA

- Jordan Dairy Farms, Brian and Randy Jordan, Rutland, Mass.**
Kim Abell, *DFA
- Kortman Dairy, Andy Kortman, McBain, Mich.**
Gregg Trierweiler, *DFA
- Mill View Jerseys, Mark and Sara Miller, Millersburg, Ohio**.....
Mary Barnum, Prairie Farms Dairy
- Naatz Dairy Farm, Willie, Karen, and Tristin Naatz and family, Mantorville, Minn.**.....
Dale Heinz, Ag Partners Cooperative
- Reuter Farms, Carl and Dennis Reuter, Hastings, Minn.**
Amy Dahlke, Anderson Veterinary Service
- S & L Goebel Farms, Steve and Leo Goebel, Fond du Lac, Wis.**.....
Mark Sosalla, Waupun Veterinary Service
- Tollgate Farm, Jim and Karen Davenport, Ancramdale, N.Y.**
Ruth McCuin, Agri-Mark
- Wargo Acres, Craig Carncross, Lodi, Wis.**.....
Bill Mueller, Grande Cheese Co.

SILVER WINNERS

- Bosscher Dairy, JP Koop, McBain, Mich.**
Chelsea Smith, **MMPA
- Chapin Family Farm, Doug and Sam Chapin, Remus, Mich.**
Chelsea Smith, **MMPA
- Cook Farms, Jeffrey T. Cook, Lansing, N.Y.**.....
Lisa Ford, Cayuga Marketing
- Donner Farms, Cory and Maria Donner, Luxemburg, Wis.**.....
Ryan VandenPlas, Total Dairy Service
- Golden Elm Dairy, Eric Frahm, Frankenmuth, Mich.**.....
Carley VanNorman, **MMPA
- Giercrest Farms, Evan Degier, Tavistock, Ontario, Canada**
Paige Gamester, Tavistock Veterinarians
- Horning Farms, Earl, Jeff, and Mason Horning and Katelyn Packard, Macheater, Mich.**.....
Brandon Ewers, **MMPA
- JK Dairy, Joel Mingerink, Coopersville, Mich.**
Gregg Trierweiler, *DFA
- John Koch, John and Maria Koch, Weidman, Mich.**.....
Chelsea Smith, **MMPA
- Langeland Farms, Merle and Merlin Langeland and Becky Smith, Coopersville, Mich.**
Gregg Trierweiler, *DFA

- Mueller Farms, Eric and Dennis Mueller, Van Dyne, Wis.**
Mike Munger, Waupun Veterinary Service
- Neeper Dairy, Nathan and Heather Neeper, Wapakoneta, Ohio**.....
Jeff Rohlf, *DFA
- Pixley Dairy, Kevin, Lisa, and Lane Pixley, Nashville, Mich.**.....
Rachel Brown, **MMPA
- Pollack Dairy, Ben and John Pollack, Van Dyne, Wis.**
Mike Munger, Waupun Veterinary Service
- Schultz Dairy Farm, Dave Schultz, Sandusky, Mich.**
Carley VanNorman, **MMPA
- Spring Lake Farms, Bill Hardy, Stanton, Mich.**
Emily Patton, **MMPA
- Sveda Farms, Christy Sveda-Schreiber and Mark Sveda, Deerbrook, Wis.**.....
Jolynne Schroepfer, Sartori
- Vander Made Dairy, Lambert VanderMade, Sherwood, Ohio**.....
Doug Soehnen, **MMPA
- Walnut Ridge Dairy, Steva Palladino, Kohn Fleming, and Keith Chapin, Lansing, N.Y.**..
Lisa Ford, Cayuga Marketing
- Walton Farms, Matthew and Steve Walton, Cochranville, Pa.**.....
Greyson Smith, Land O'Lakes

*Dairy Farmers of America, **Michigan Milk Producers Association

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Making the most of their milk

These farms know that healthy cows and an attention to detail result in a more valuable product, leading them to the top of this year's National Dairy Quality Awards.

A HIGH-quality milk is the basis of delicious foods that consumers purchase again and again. There are many animal, environmental, and people factors that contribute to the health and safety of a farm's milk, and the winners of this year's National Dairy Quality Awards recognize that.

The award process began with farm consultants nominating 72 herds from across the U.S. and Canada. From there, 47 farms advanced to become finalists. The previous page lists all of this year's top recipients in the Platinum, Gold, and Silver divisions. In this article, you will learn more about this year's six Platinum winners.

Hoard's Dairyman is proud to co-sponsor these awards with the National Mastitis Council (NMC). The program is also made possible with support from major sponsor Boehringer Ingelheim and contributing sponsors Cargill and GEA.

Describe your milking procedure.

Cottonwood Dairy: Our milkers wear gloves all the time, and our protocol starts with forestripping. To clean the teats, we use scrubbers with appropriate washing and drying settings. We also use a postdip with a conditioning agent. We milk 3x in a double-20 herringbone parlor.

Country Aire Farms: Our procedure is to strip out foremilk, predip, dry the teats with a microfiber towel, attach the unit, and finish with postdip. We milk 3x in a double-12 parallel parlor, and milkers always wear gloves.

Diamond J Dairy: We start by predipping and drying teats with a cloth towel. We then forestrip, attach the unit, and postdip. Milkers wear gloves. We have a double-20 parallel parlor and milk 3x.

Green Hill Dairy: Our milkers wear gloves at every milking. We milk 3x in a double-30 paral-

lel parlor. Cows are predipped, forestripped, and then dried with a cloth towel before the unit is attached. We postdip after the milker is removed.

Michigan State University Dairy Teaching and Research Center: Milkers wear gloves during every shift. First, we strip out foremilk. We then predip, dry teats with a microfiber towel, attach the milker, and later apply postdip. We milk 3x in a double-7 herringbone parlor.

Stuart Farms: We milk 2x in a double-8 herringbone parlor. We forestrip, predip, dry teats with a cloth towel, attach the unit, and postdip.

How do you maintain healthy teats?

Cottonwood: We ensure the teat scrubbers have the proper sanitizing strength and use a postdip with a conditioning agent. We also match the peak milk flow vacuum with the recommendation for our inflations and track unit on time.

We have quarterly maintenance with our equipment dealer and quarterly visits from Grande Cheese to make sure the equipment is functioning properly. We change inflations every two weeks and hoses and other rubber parts twice a year.

Country Aire: We monitor and ensure proper milking system function, maintain clean and dry stall beds, and monitor and ensure proper milking prep procedure. DeLaval maintains our equipment on a biweekly schedule.

Diamond J: We maintain equipment checks (monthly), use quality pre- and postdips, and check teats weekly for excessive dryness and teat ends. Milk hoses are replaced every six months. The pulsation hose, wash hoses, milk line, and other gaskets are replaced once a year; we check them weekly for cracks and buildup. Vacuum is tested once a week. Our dealership performs a clean in place (CIP) evaluation monthly.

Green Hill: We score teats two to four times per year to monitor teat health. We also use quality teat dips and have regular monthly maintenance done on the milking machinery. Our equipment company comes in monthly for preventative maintenance. We follow manufacturer recommendation for inflation and consumable replacement.

Michigan State: We discourage use of the manual attachment setting to prevent overmilking and teat end damage. Also, we have an expert come do an NMC dynamic test evaluation annually to make sure our cows are having the most comfortable and efficient experience at the claw. We score teat ends every six months and use Valiant predip and postdip to help deter hyperkeratosis. Milking cow teat ends are manually exfoliated every six months to encourage healthy tissue growth and remove any damaged skin.

Annually, milk and pulsator hoses are replaced, pulsators get rebuilt, and milk meters are recalibrated. Milk meters are rebuilt and gaskets replaced twice a year. Inflations are changed every 30 days, and our claws are swapped every four months. Vacuum pump and compressor unit maintenance is done as needed each year.

Stuart: We use Hi-Tech Dairy supplies to stay on a routine monthly system maintenance schedule. They check pulsators and the vacuum pump and service them on a regular basis or decide if action is needed immediately. We also have a routine schedule for changing inflations.

How do you keep cows comfortable?

Cottonwood: We have naturally ventilated freestall barns with curtains. Cows are head-to-head in 48-inch stalls. We use recycled sand, bedding twice a week and raking the beds three times per day. Fans are placed over the beds, and



Cottonwood Dairy, South Wayne, Wis.

Having achieved 31 consecutive months (and counting) of averaging 100 pounds of milk per cow and a somatic cell count (SCC) under 100,000 cells per milliliter, it is no surprise that Cottonwood Dairy made it into the Platinum winner's circle. The herd of 1,900 Holsteins in South Wayne, Wis., is owned by Jim Winn, Randy Larson, and Brian Larson, partners who work together to care for their land while ensuring cows are healthy and as productive as possible. Teat scrubbers in the double-20 herringbone parlor plus regular equipment maintenance keep udders and teats healthy. Pictured from left to right are Morgan Sharping, D.V.M., of Lena Vet Clinic, nominator Randy Hardyman of Grande Cheese, Luis Pedraza, Francisco Hernandez, herdsman Torry Siwggum, Minerva Auilar, Marlon Cardona, and Veronica Alonso.



Country Aire Farms, Greenleaf, Wis.

A vision of quality and a commitment to making improvements is evident at Country Aire Farms in Greenleaf, Wis., owned by brothers Mike and Tom Gerrits and their sons Matt, Nicholas, Craig, and Jon. Milk quality takes center stage with the farm team's attention to proper maintenance of the freestalls that are bedded with sawdust, while daily lime and scraping help keep beds free from pathogens. When a cow calves, two harvests of colostrum are made before the animal moves to a fresh pen. Here, herdsman closely monitor cows for disease with the help of SCR monitors. One step the team takes to help first-lactation animals thrive is separating them from mature cows prior to calving to limit stress. Pictured from left to right are Jon, Matt, Mike, Tom, Craig, and Nicholas Gerrits.



Diamond J Dairy, Merced, Calif.

The team at Diamond J Dairy, including owners Wiebren and Luciana Jonkman, exhibits a passion for quality milk and quality animals every day. Milking 1,300 Jerseys and crossbreds in Merced, Calif., cow care and comfort is a top priority. All fresh cows are cultured and receive a California Mastitis Test after calving to monitor milk quality problems. Clinical cases of mastitis are also examined with milk culturing. A proper milking procedure, frequent washing performance evaluations, and scheduled equipment maintenance all help keep animals healthy, and treatment decisions on subclinical cows are made individually depending on animal history and genetic value. In their freestalls, which are bedded with recycled manure, one-third of the bedding is replaced entirely every year. Pictured are Wiebren Jonkman and Oscar Nava.



Green Hill Dairy, Scipio Center, N.Y.

Milk quality is a top priority for the team at Green Hill Dairy in central New York, including owner Don Janssen, family, and employees. Teats are scored a few times each year, and the milking equipment receives monthly maintenance. Green Hill is also the only Platinum winner this year to utilize selective dry cow treatment. Before dry-off, cows are ramped down from 3x to 1x milking for a week, and cows only receive antibiotics at dry-off if they have had an SCC above 150,000 cells per milliliter or a mastitis event during the lactation. All cows receive internal and external teat sealants. Pictured from left to right in their double-30 parallel parlor are, in back, Jean, Alex, Alma, Jack, Don, and Maizie Janssen; in front, Eve Janssen, Holly Janssen, Norah Janssen, Maria Cux, and Wilson Lucas Cano.

a sprinkler system is used during the hot months by the feeding area. We scrape three times per day into a flume system and have sand settling lanes to capture the sand to reuse.

Country Aire: The lactating herd is housed in a tunnel ventilated freestall barn with 38 4-foot pusher fans and 10 6-foot exhaust fans. All stalls are fitted with dual chamber water beds, bedded twice weekly with kiln-dried sawdust, and limed daily. They are cleaned at every milking, and fresh bedding is raked to cover wet areas. The manure alley is scraped at every milking into a center drop site and gravity flows to pit storage.

Diamond J: Our milking cows are housed in freestall barns with recycled manure bedding. Alleys are flushed four times daily. We use a mechanical manure separator to separate solids. Beds are groomed every night, and new bedding is added two times a week. Once per year, one-third of the bedding is removed and replaced. The barns have fans and soakers to keep the cows cool and comfortable. Cows are fed twice daily and feed is pushed up every two hours.

Green Hill: The freestall barns are scraped three times per day and the stalls are cleaned. Virgin sand is used in the deep-bedded stalls. We also have plenty of fans and use curtains.

Michigan State: Dehydrated lime and kiln-dried sawdust is added to beds every day. Beds are groomed every time cows are let out for milking. The fans are temperature-controlled in every pen, and pens and animals are sprayed for flies monthly from May to September.

Stuart: We utilize clean sand to deep bed all the lactating cows. Fresh sand is added once a week and groomed daily. The milking cow alleys are scraped twice a day. There is fresh water available, and extra water is provided on the return from the parlor by using the plate cooler discharge water. Fans are prominent throughout the barn to keep cows lying down and cool.

What about dry cow comfort?

Cottonwood: Recycled sand bedding is added twice per week in the naturally ventilated freestall barn with fans over the beds. Barns are

scraped three times a day into the flume system.

Country Aire: Dry cows are housed in a tunnel-ventilated barn with freestalls deeply bedded with dried, recycled manure solids. Push fans are located above all stalls. Stalls are groomed when solids are delivered. Manure is scraped daily.

Diamond J: Dry cows are housed in open lots with shades. The corrals are scraped weekly.

Green Hill: Dry cows are also bedded in virgin sand-bedded freestalls scraped regularly. The barn has fans and curtain sidewalls.

Michigan State: Far-off dry cows are in a pack barn that is groomed twice a week; wet areas are scraped out, dehydrated lime is applied, and kiln-dried sawdust is added. The pack is scraped clean twice a month. Dehydrated lime is applied daily to close-up cows in tie stalls with kiln-dried sawdust added daily. Beds are groomed and alleyways are scraped three times a day.

Stuart: Dry cows are kept on clay-bottomed, deep sand-bedded freestalls. Fans are readily available, alleys are scraped daily, and dry cows are not overcrowded.

What steps do you take at dry-off?

Cottonwood: Cows are dried off using Orbenin-DC intramammary infusion plus Lockout teat sealant and Enhance Dry Cow external teat sealant. All cows are given a Bovikal Dry bolus.

We give Enviracor J-5 vaccine at 245 days in milk (DIM), 255 DIM, and 30 days postcalving.

Country Aire: Between 225 and 231 days carried calf (DCC), all cows are dried off with Spectramast DC. Cows are milked completely after standard teat preparation. Teats are thoroughly cleaned with an individual alcohol pad, and quarters are hygienically infused with one tube of intramammary treatment. An internal teat sealant (Orbeseal) is administered. Cows diagnosed as carrying twins are dried off early at 223 to 229 DCC. Our dry-off procedure is reviewed periodically by management or an outside reviewer to ensure protocol compliance and that we are using a hygienic procedure. Selective dry cow therapy has been considered but not implemented because of high milk production and since dry cows are

bedded on dried, recycled manure solids.

Heifers receive Enviracor J-5 at 184 to 194 DCC and again at 223 to 229 DCC. Cows receive a dose at 225 to 231 DCC and at 255 to 261 DCC. All milking animals receive another dose between 30 and 36 DIM and between 150 and 163 DIM.

Diamond J: We use blanket dry cow therapy. Cows are dried off at 60 days before expected calving; we dry-off cows once a week after the morning milking. Following milking, teats are dipped with an iodine predip and wiped with cloth towels. Teat ends are cleaned with an alcohol pad, starting with the teats that are furthest away (front). When infusing dry cow therapy, we begin with the teats closer to us (rear) and then move to the front teats. Each teat is infused with one tube of Spectramast DC. We then infuse an internal teat sealant (Orbeseal) and post dip with a 1% iodine solution. We vaccinate cows with Enviracor J-5 subcutaneously at dry-off, during the close-up period, and after calving.

Green Hill: Cows are slowed down to milking once per day for one week before dry-off. If cows have maintained a SCC below 150,000 for the entire lactation and have not had a mastitis event, they are eligible to only get an internal and external teat sealant. If being treated with dry treatment, Dry-Clox is used with the teat sealants. Cows also receive a J-Vac vaccination at dry-off, plus at three weeks prefresh and two to three weeks fresh (five weeks for heifers).

Michigan State: Immediately after milking all quarters out completely, teat ends are disinfected using an alcohol wipe. One tube of Spectramast DC is aseptically administered to each teat and followed by one tube of Orbeseal. Valiant postdip is then applied. We administer Bovilis J-5 mastitis vaccine at 30 to 45 DIM, at dry-off, and three weeks prior to calving. Heifers will receive it at 220 DCC and three weeks before calving.

Stuart: All cows are milked under the normal routine. When they are finished, each teat is wiped with one alcohol pad and then infused with Spectramast DC. Each dry cow is then dipped with a postdip and given J-Vac subcutaneously. We also give J-Vac 30 days after dry-off.



Michigan State University, Lansing, Mich.

Even as its staff turns over through the year and between years due to college graduation, the Dairy Teaching and Research Center at Michigan State University maintains a high level of milk quality with their dedication to prevention and effective training. Regular housing, equipment, udder, and teat assessments help keep mastitis and udder health problems at a minimum, as evident by the farm's back-to-back Platinum recognitions. Pictured from left to right are, in back, Jair Esteban Parales Giron, CJ Berens, Fermin Jimenez-Krassel, Chris Pawlanta, Adam Lock, Roger Thomson, Karen Curry, Lynn Worden, Pam Ruegg, Carolyn Dominguez, Shelly Heaviland, Ian Patterson, and Eli Hawbaker; in front, Jim Good, Nate Elzinga, Hannah Sheathlem, Katie Myers, Anne Tunison, Jose Dos Santos Neto, and Kyrstin Gouveia.



Stuart Farms, Lowell, Mich.

Also repeating as a Platinum recipient is Stuart Farms of Lowell, Mich. Dan and Sandra Stuart and their family and team are quick to address problems that may arise, but they focus on prevention by doing California Mastitis Testing on fresh cows and culturing milk when necessary. Only cases that come back with a treatable pathogen are treated; other infections are monitored to determine the cow's future. The herd of 400 Holsteins — as well as dry cows and heifers — is housed on sand, and the team is sure to avoid overcrowding the heifer pens. The farm also follows a strict parlor maintenance schedule to keep cows comfortable when they come into the parlor and during milking. Each month, their supplier visits to change inflations and check the parlor operation to decide if any issues need immediate attention.

Describe your fresh cow monitoring.

Cottonwood: Cows are stripped 3x daily at milking. We will culture if there is a sign of clinical mastitis or high numbers on DHIA testing. All heifers are treated with Dry-Clox intramammary before calving, and we also singe udders.

Country Aire: Postcalving, colostrum is harvested immediately. Cows are then moved to a postfresh pen where they are milked in a special needs parlor for a second colostrum harvest. Afterward, they go to a designated fresh pen. Fresh pens are monitored closely by lead herds- men, plus cows are currently being monitored with SCR monitors.

We culture a small percentage of heifers after calving and will apply Udder Comfort to heifers with moderate to severe edema. We also aim for proper stall maintenance, bedding management, and stocking densities to provide a clean, dry environment. We try to segregate mature cows from first-lactation animals in the prefresh pen and follow an appropriate foot trimming schedule.

Diamond J: We culture all fresh cows and heifers and will also perform California Mastitis Tests (CMT).

Green Hill: In addition to visual observation at milking, we monitor monthly DHIA tests and will CMT any suspect animals. We also utilize SCR ear tag monitors to pick up on health issues.

Michigan State: Colostrum is collected six to eight hours after calving to avoid milk leaking into beds and open teat ends. Every cow calves in a freshly limed maternity box stall bedded with clean, kiln-dried sawdust. Calves are removed from the dam 20 to 30 minutes after calving to prevent the calf from sucking on the dam. Cows

are returned to a clean tie stall 20 to 30 minutes after calving.

Stuart: We CMT fresh cows to visually observe milk quality. If the CMT comes up thick, we culture the cow to determine the pathogen present.

How is subclinical mastitis detected?

Cottonwood: We monitor cows through DHIA testing. If they have a high SCC and don't clear it on their own, we will culture the milk. We recently adopted Mastatest, a cloud-based diagnostic tool for doing on-farm cultures.

Country Aire: Monthly DHIA test-day SCC is evaluated. Selection criteria include cows with one or two test days with a high SCC without a history of clinical infection. We determine the SCC threshold by prevalence of new infections and stocking density of the hospital pen. Preference is given to first and second lactation cows.

Cows are moved to the hospital pen, then the offending quarter gets a CMT and sampled for culturing. If the culture provides Gram positive growth, the Grade 1 mastitis protocol is implemented. Test-day results are also utilized to identify more chronic elevated SCC individuals, and retained samples are submitted to Central Star diagnostic lab for PCR testing for *Staph. aureus* and *Mycoplasma bovis*. Animals identified as being *Staph. aureus* (a rare but ongoing problem) or *Mycoplasma bovis* (exceedingly rare) are culled.

Diamond J: We monitor DHIA tests and CMT cows. Decisions are made individually. We look at mastitis history, number of high SCC tests, and genetic value, then decide to treat or cull. If we decide to treat, treatment is the same as treatment for clinical mastitis.

Green Hill: We monitor the monthly test day list of cows over 200,000 SCC. Cows over 900,000 will get a CMT; positive quarters are cultured.

Michigan State: We watch individual cow DHIA test results and use CMT. All CMT positive quarters of subclinical cows are cultured. An orange leg band is applied to the cow to designate the infected quarter. After the cow is milked, the claw is rinsed with water and sanitized using chlorine dioxide. All subclinical cases that culture *Staph. aureus* are culled.

Stuart: We use DHIA records and bulk tank results. After evaluation, we will decide to either culture the cow or monitor it. If the culture result shows the pathogen is treatable, we treat; otherwise, we will monitor SCC then decide on culling or drying off depending on stage of lactation.

How is clinical mastitis detected?

Cottonwood: We look for abnormal milk when forestripping at every milking.

Country Aire: Clinical mastitis is primarily detected by the milking technicians during forestripping. The SCR system will alert herdspeople of clinical cases of mastitis as well.

Diamond J: We detect clinical mastitis visually during milking. Milkers forestrip for abnormal milk and look for a swollen or painful udder.

Green Hill: Clinical mastitis is identified during milking prep or with the SCR system.

Michigan State: We use visual detection when cows are prepped and AfiLab conductivity.

Stuart: We have trained all milking personnel to observe for clinical mastitis during prestripping, looking for visually abnormal milk and/or a hot, swollen udder and/or a sick cow. 🐄

	Cottonwood Dairy	Country Aire Farms	Diamond J Dairy	Green Hill Dairy	Michigan State Univ.	Stuart Farms
Cows (milking/dry)	1,563/334	564/73	1,154/163	1,605/171	225/25	368/53
Breed	Holstein	Holstein, Jersey	Jersey, Crossbred	Holstein	Holstein	Holstein
Milk (lbs.)	33,260	29,714	23,383	29,993	29,088	30,306
Fat (%)	4.2	4.1	5.1	4.2	4.0	4.4
Protein (%)	3.2	3.2	3.8	3.2	3.2	3.2
SCC avg. (cells/milliliter)	53,000	71,000	95,000	97,000	60,000	82,000
SPC avg. (CFU/milliliter)	2,000	1,000	2,000	5,000	2,000	2,000