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**THIS MONTH'S ARTICLE:**

**Dollars and Sense of  
Excellent Calf Management**

Sam Leadley  
*Attica Veterinary Associates, P.C.*  
*Attica, New York*

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***Dairy Day is going back to a dairy!***

The 2006 Arizona Dairy Day will be held on Thursday, April 6  
at the Milky Way Dairy, 20000 N. Ralston Road, in Maricopa, Arizona.  
More information and details will be provided in the near future.



# Dollars and Sense of Excellent Calf Management

Sam Leadley  
Attica Veterinary Associates, P.C.

## TAKE HOME MESSAGES

1. **Excellent calf management must include attention to goals, protocols and monitoring.**
2. **Both outcome and process goals need to include measurable standards.**
3. **Overall and work-site protocols provide guidance to ensure jobs get done correctly, on time, each time.**
4. **Gathering and summarizing information on outcomes, processes and protocol compliance is essential for monitoring.**
5. **Assessing cost effectiveness of management decisions is an essential part of an excellent calf management program.**

## DEFINING EXCELLENCE

What distinguishes "excellent" calf management from that which is just "good?" In my opinion, it is the amount of attention paid to goals, protocols and monitoring.

### **Outcome Goals**

All calf-rearing programs have the goal of keeping calves alive. These calves should be healthy and transition quickly from liquid to solid rations. Everyone wants to see thrifty calves that are well grown out.

However, it is not the outcome goals themselves that help us define excellent calf management. Rather, it is the measurable standards or minimum thresholds that we set. For example, good calf management may tolerate death losses of eight, ten, or higher percent.

In contrast, an excellent program aims much lower; losses certainly want to be less than five percent, and two percent is a cost effective attainable standard. This means adopting an external standard (i.e., two-percent) for performance.

Alternatively, excellent programs may use internally set standards as well. On one hand, many calf-rearing programs record treatments for sick calves. These records are used only for individual calf diagnosis and treatment.

On the other hand, excellent management means that these treatment data are (1) summarized regularly, and (2) used to evaluate the rates of illness and effectiveness of the treatments. Once illness or morbidity rates are known for the dairy or ranch, then internal standards may be set. For example, if the current morbidity rate for scours (calf diarrhea) is ten percent, then the calf-rearing program may set the standard for next year at one percent less than this year.

## **Process Goals**

In addition, excellent calf management programs define and set standards for process goals. Process goals focus on getting jobs done so that the desired outcomes will happen. For example, delivering clean, wholesome colostrum to newborn calves is a critical job for ensuring low mortality and healthy calves. A process goal for this job defines "clean" in quantitative terms.

The standards may come from an external source (e.g., dairy magazine article, newsletter) or from internal data collected over months or years. The other three colostrum related process goals deal with timing, quality, and quantity.

Additional process-oriented goals may deal with newborn care, feeding, health care, and housing.

## **Protocols**

Getting a job done correctly at the right time, each time is a continuing management challenge. A number of dairy management consultants have promoted and supported development of overall protocols for significant dairy processes (e.g., reproduction, feeding, milking, calf care). Often, the managers work these out.

In addition, it makes sense to me for the workers in the trenches to have directions on a job-by-job basis available where the work is done. These "work-site" protocols can provide step-by-step reminders, as well as key standards for performance.

To see a series of three checklists for work-site protocol development at [www.atticacows.com](http://www.atticacows.com), click on Calf Facts, and scroll to "Selecting sanitation protocols for preweaned calves," "Setting up sanitation protocols," and "Training employees for sanitation protocols." Sample work-site protocols in English and Spanish for cleaning milk handling equipment are appended.

## **Monitoring**

Monitoring is a multi-layered job. It is important to key one's eye on outcomes. How many calves are alive rather than dead? How well are the heifers growing? How well are the heifers milking once they calve?

How well are the processes working? Knowing how well the colostrum management program is working is important, too. Is the colostrum clean? Are calves getting an adequate number of antibodies in their blood to protect them from being clinically ill? How often do calves need to be treated for navel infections?

For these proceedings I have selected six process checklists for use on your ranch or dairy. Each checklist focuses attention on critical control points for the job. At the website [www.atticacows.com](http://www.atticacows.com), I have 17 such checklists. Once at the site, type "checklist" in the search box to get a full listing of them. They are in pdf format for ease of downloading and printing.

Let's use the example in your proceedings of feeding milk or milk replacer to preweaned calves. Each of the eight items highlights a procedure that, if performed properly and consistently, defines an excellent calf management program.

Are the work-site protocols being followed consistently? How warm is the milk being fed to calves? Are the proper chemicals in the correct amounts being used to clean milk handling and feeding equipment?

Monitoring, therefore, means gathering and summarizing information on outcomes, processes and protocol compliance. If you have a management team that meets regularly, it may make sense to report periodically on these three areas. Or, as part of my colostrum quality control program, I do the following: summarize and review these data with an outside consultant two or four times a year.

### **Dollars and Sense**

Estimating the economic consequences of achieving goals is important although not always easy. See the attached sheets entitled, “Feeding Colostrum: Dollars and Sense” and “Dipping Navels: Dollars and Sense.” Using conservative dollar values, I have analyzed the impact of these two processes. [These sheets are also available at [www.atticacows.com](http://www.atticacows.com), click on Calf Facts and scroll to the appropriate title.]

In summary, an excellent colostrum management program is worth at least \$4,500 per 100 cows; a consistent navel dipping program is worth at least \$800 per 100 cows.

Even rough estimates of both benefits and costs of individual calf rearing procedures can be made using methods similar to those in these analyses. These estimates allow us to better gauge the profitability of setting standards. We may find that we have set them either too high or too low.

### **Standards set too high**

Our mother taught us that cleanliness is next to Godliness. So come hell or high water, our calf feeding equipment is going to be “clean.”

One definition of clean is for a tube feeder, bottle or bucket, when rinsed with sterile water, to have no bacterial growth on a culture plate. This is possible. But, is it really necessary?

As Dr. McGuirk’s work has shown, most bacteria in relatively low numbers have little effect on enteric health (as high as 100,000 cfu/ml). It is only fecal coliforms in relatively low numbers that cause calf diarrhea (as few as 5 to 10,000 cfu/ml can increase the incidence of scours among calves one to two weeks of age).

Thus, the expenses beyond those of “normal” sanitation (for example, extra rinsing, extra chemicals, changing clothing, extra scrubbing, filtering air) are unlikely to be returned in improved calf survival, health and growth.

### **Standards set too low**

One aspect of newborn care is to reduce exposure to adult cow pathogens found in feces, contaminated bedding and even the air. We try to have calves born into a clean dry environment. We plan to move newborns away from adult cows [essentially pathogen factories] soon after birth.

Our procedures may call for a herdsman to be sure cows are in a clean dry place when they calve. And, he or she promptly dips the navel, feeds colostrum and moves the calf within one or two hours after birth. This happens when the herdsman is present during the day.

However, when that person is not working, are the calves on their own until the next morning? Our monitoring may be showing significantly different rates of survival, sickness and rates of gain for calves being born during the day and those unfortunate to be born at night.

In a case like this, we have an opportunity to quantify our benefits of setting higher standards for newborn care (comparing day and night outcomes) and to estimate potential costs of extending equally good care from the daytime into the night hours.

### **Resources**

In both English and Spanish, Dr. Jim Quigley's Calf Notes are at [www.calfnotes.com](http://www.calfnotes.com). These notes can be searched using key words. In addition, they are collected in categories such as colostrum feeding, milk and milk replacer feeding, calf starter, health management, weaning and housing. There are 111 of them that are also listed in numeric order.

Sam Leadley's short management articles are in the Calf Facts section at [www.atticacows.com](http://www.atticacows.com). Most are in English, and there are a few in Spanish and French. These resources may be searched using key words or roots of words (for example, "blanket" will find all resources with the word "blanket" while "blank\*" will find all resources with the character string "blank" including words like blank, blanket and blankets). All 95 articles are arranged in alphabetical order by title.

At [www.das.psu.edu/dcn/CALFMGT/](http://www.das.psu.edu/dcn/CALFMGT/) there are a number of useful resources including pictures of rumen development in calves fed different rations. For a series of calf care protocols from birth through weaning, see the resource "Calf Track training system."

The Purdue site [www.ansc.purdue.edu/dairy/calves/calfpub.htm](http://www.ansc.purdue.edu/dairy/calves/calfpub.htm) is a collection of calf management articles from universities all over the United States. The Babcock Institute site, [www.babcock.cals.wisc.edu/](http://www.babcock.cals.wisc.edu/), features over fifty articles from the University of Wisconsin faculty on a broad range of calf management topics. Once at this site, click on SEARCH; enter "calves" in the search box.

Samuel M. Leadley, Ph.D., P.A.S.  
Attica Veterinary Associates, P.C.  
116 Prospect Street  
Attica NY 14011  
585-591-2660 Fax 585-591-2898  
Mobile 585-356-0769  
sleadley@frontiernet.net

# WASHING MILK CONTAINERS

## 1. RINSE

USE LUKEWARM WATER. Do not rinse with hot water. Rinse off dirt and milk residue.

## 2. WASH

USE HOT WATER. Add soap and bleach. Brush all surfaces. Scrub off remaining milk residue. Keep water above 120° (49° C) at all times.

## 3. RINSE

Use warm water. Add acid. Rinse containers. Do not rinse off the acid. Leave it on the bottles and pails while they dry.

## 4. DRY

Allow the bottles and pails to drain and dry. Do not stack pails inside each other. Do not sit pails upside down on a concrete floor.

# LAVANDO LOS RECIPIENTES DE LA LECHE

## 1. ENJUAGAR

Use agua tibia. No enjuague con agua caliente. Hay que sacar la mugre y el residuo de la leche.

## 2. LAVAR

Use agua caliente. Añada jabón y cloro. Hay que fregar todas las superficies, sacando el residuo de la leche que quede pegada. Mantenga el agua arriba de 120° F.

## 3. ENJUAGAR

Use agua tibia. Añada ácido. Enjuague los recipientes de la leche con esta solución. No enjuague esta solución acídica de los recipientes. Hay que dejar el residuo de esta solución en las botellas y las cubetas mientras se secan.

## 4. SECAR

Deje que las botellas y las cubetas escurran y se sequen. No hay que dejarlas volteadas sobre el piso de concreto o metidas una dentro de otra.

Sam Leadley, Calf & Heifer Management Specialist  
[sleadley@frontiernet.net](mailto:sleadley@frontiernet.net) 585-591-2660 Fax 585-591-2898

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Translation by Cynthia Gibson 6/17/03

# NEWBORN CALF CARE

## GOALS

- 1. Help the calf to adapt to her new environment.**
- 2. Help the calf maintain good health.**

## LIVING OUTSIDE THE DAM

### **Help get a dry hair coat.**

The dam will usually lick off the calf. We can finish the job with a couple of bath towels. Our goal is a fluffy hair coat that helps the calf adapt from 102° F. inside the dam to outdoor temperature.

In freezing weather, a clean draft-free warm place will help finish the manual-drying job. Examples would be a clean hutch with a heat lamp, a clean warming box with a heater.

### **Help the calf stand up.**

If she is not up in the range of 15 to 30 minutes, provide assistance. By just helping her stand up we have jump-started her metabolism about four times the resting rate.

### **Help her get a good first meal soon after birth.**

She needs lots of energy to adapt to this world outside her dam. Colostrum contains twice as much dry matter as whole milk. It is high in both fat and protein to meet the calf's immediate needs after birth.

## **KEEPING HEALTHY**

### **Help her keep away from adult cow manure.**

As little as one teaspoonful of manure in her gut prior to colostrum feeding can be fatal.

### **Help her keep pathogens out of her umbilical cord.**

Dip the navel with 7 percent tincture of iodine. Navel dipping:

- (a) cleans off the outside of the umbilical cord and the navel opening,
- (b) kills residual bacteria on the outside of the cord, inside the open end of the cord, and at the navel opening, and
- (c) dries the umbilical cord tissue discouraging pathogen movement up the cord and into the liver.

### **Help her build adequate immunity through transfer of her dam's colostrum antibodies into her blood.**

Feed an adequate amount of good quality colostrum as soon as possible after birth. If the calf is unable to nurse use an esophageal tube feeder. If good quality colostrum is unavailable add an effective colostrum supplement.

There is no substitute for early feeding.

Sam Leadley, Calf & Heifer Management Specialist  
[sleadley@frontiernet.net](mailto:sleadley@frontiernet.net) 585-591-2660 Fax 585-591-2898

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## FEEDING PREWEANED CALVES: Colostrum

How do your procedures measure up? Do they provide the opportunity for your calves to grow into their genetic potential?

Let's consider procedures for feeding colostrum. Compare your routines with the standards in this checklist. When making this evaluation I like to use these scores:

1=never, 2=seldom, 3=often, 4=usually, and 5=almost always.

- \_\_\_\_\_ 1. All feeding equipment that comes in contact with colostrum is scrubbed after every use.
- \_\_\_\_\_ 2. When periodically cultured for bacteria, colostrum as fed to calves is not contaminated with environmental bacteria thus reducing septicemia and scours. Very highly contaminated colostrum may also substantially reduce the rate of antibody transfer as well.
- \_\_\_\_\_ 3. Colostrum contaminated with mastitis and blood is discarded.
- \_\_\_\_\_ 4. Colostrum quality (antibody concentration) is estimated and the best quality available fed to heifer calves. While only a very rough guide to quality, a Colostrometer® may be used to exclude the lowest quality colostrum. Feeding more of poor quality colostrum is not an effective substitute for a good quality product.
- \_\_\_\_\_ 5. Colostrum is fed to heifer calves no more than four hours after birth and to at least one-half of the heifer calves within one hour after birth. One-half of a heifer's ability to absorb antibodies is gone within six hours; three-quarters of this capability is gone within twelve hours after birth.
- \_\_\_\_\_ 6. Plenty of good quality colostrum is fed. Average and large calves are fed four quarts within the first six hours. Smaller calves are fed proportionately less but still more than two quarts.
- \_\_\_\_\_ 7. When only low quality colostrum (low antibody concentration) is available, an effective colostrum supplement is also fed to boost its antibody content.
- \_\_\_\_\_ 8. When possible, fresh or refrigerated colostrum is fed rather than frozen colostrum. Thus, the calf gets a full dose of maternal immune cells as well as the maternal antibodies.

Sam Leadley, Calf & Heifer Management Specialist  
[sleadley@frontiernet.net](mailto:sleadley@frontiernet.net) 585-591-2660 Fax 585-591-2898  
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## FEEDING PREWEANED CALVES: Milk Replacer

How do your procedures measure up? Do they provide the opportunity for your calves to grow into their genetic potential?

Let's consider procedures for feeding milk replacer. Compare your routines with the standards in this checklist. When making this evaluation I like to use these scores:

1=never, 2=seldom, 3=often, 4=usually, and 5=almost always.

- \_\_\_\_\_ 1. All feeding equipment that comes in contact with milk is scrubbed after every use.
- \_\_\_\_\_ 2. Equipment sanitation procedures meet these standards:
  - prewash rinse between 105-110°F;
  - chlorinated, soapy hot water wash consistently over 120°F and includes manual brushing;
  - acid rinse between 50-100°F
  - equipment dries between uses.
- \_\_\_\_\_ 3. Milk replacer is stored so that it remains both clean and dry to promote good mixing and reduce scours.
- \_\_\_\_\_ 4. Milk replacer is mixed at the temperature recommended by the manufacturer to promote even distribution of fat and reduce denaturing of proteins.
- \_\_\_\_\_ 5. Milk replacer is 100-105°F when drunk by the calves to promote intake and favorable feed conversion.
- \_\_\_\_\_ 6. Milk replacer is fed regularly at the same time daily according to the same routine preferably by the same caretakers to promote good eating habits and favorable feed conversion.
- \_\_\_\_\_ 7. When periodically cultured for bacteria, the milk replacer mix as fed to calves is not contaminated by environmental bacteria thus reducing scours.
- \_\_\_\_\_ 8. For farms feeding waste milk, when periodically cultured for bacteria, the waste milk as fed to calves is not contaminated by environmental bacteria thus reducing scours and improving feeding conversion rates.

Sam Leadley, Calf & Heifer Management Specialist  
[sleadley@frontiernet.net](mailto:sleadley@frontiernet.net) 585-591-2660 Fax 585-591-2898

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# **Washing Milk Containers Checklist**

## **1. Are the containers rinsed before going into the wash water?**

**Organic compounds destroy the bacteria-killing power of chlorine in the wash water. Dirt and milk are organic compounds. Most of them will rinse off easily before washing.**

**High temperatures change milk proteins. It makes them stick to surfaces. We don't want milk protein, especially whey, to stick to milk containers. Thus, we try to rinse the protein off the containers before we wash them in hot water.**

**ALWAYS USE LUKEWARM WATER. Do not rinse with hot water.**

## **2. Are the containers washed in hot soapy water with chlorine? Are they brushed vigorously?**

**Milk fats, proteins and sugars are sources of food for bacteria. We brush container surfaces vigorously to loosen these solids. These milk solids are suspended in the wash water.**

**If wash water temperatures fall below 120° (49° C) the suspended solids will stick to container surfaces. Do not put containers into wash water below 120° that contains suspended milk solids. The containers will come out dirtier than when they went into the water. KEEP WASH WATER ABOVE 120°.**

## **3. Are the containers rinsed in an acid solution after washing?**

**Even with the best rinsing and washing, small amounts of milk solids remain on containers. Small numbers of bacteria remain there, too. An acid rinse lowers the surface pH. Most bacteria grow poorly in very acid conditions.**

**Pipeline acid at the rate of about 1 ounce per 5 gallons (30 ml per 19 liters) of lukewarm water will lower container surface pH adequately. Acid/sanitizers used for manual cleaning or bulk tanks dilute at about the same rate. They are preferred for this step. They keep the pH lower longer than milk line acid.**

**4. Are the containers allowed to completely dry between uses?**

**Bacteria require moisture in order to grow. If we dry our containers between uses the rate of bacterial regrowth slows down.**

**Avoid stacking pails inside each other until completely dry. Never sit freshly washed pails upside down on a concrete floor. That creates a bacterial incubator (warm, damp, dark).**

**RATE YOURSELF**

	<b>YES</b>	<b>NO</b>
<b>1. I rinse my milk containers in lukewarm water before washing them.</b>	_____	_____
<b>2. I wash my milk containers in water above 120° F (49° C)</b>	_____	_____
<b>3. I use soap and chlorine in my wash water.</b>	_____	_____
<b>4. I rinse my milk containers in an acid solution after washing.</b>	_____	_____
<b>5. I allow my milk containers to completely dry between uses.</b>	_____	_____

Sam Leadley, Calf & Heifer Management Specialist  
[sleadley@frontiernet.net](mailto:sleadley@frontiernet.net) 585-591-2660 Fax 585-591-2898  
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# **CALF WEANING CHECKLIST**

## **1. How long has she been eating starter grain?**

**Has she been eating starter grain for at least 3 weeks?**

**Start counting days on grain when she regularly cleans up a measurable amount daily. That's roughly 1/2 cup.**

**Assuming she has access to water, after a calf begins to eat grain she takes about three weeks of fermentation in her rumen to develop papillae. They are tiny finger-like growths on the inside of the rumen wall. They are essential for absorbing nutrients from rumen fermentation.**

## **2. How much starter grain is she eating?**

**Is she eating 2 to 2 1/2 quarts (that's about the same as pounds) daily?**

**If a 150-pound calf eats this much starter grain daily she can meet her maintenance needs and grow 1 pound a day in 50° weather. Bigger calves need more for maintenance. Higher growth goals require more. Colder weather conditions require more.**

## **3. How regularly is she eating grain?**

**Is she eating at least a minimum of 2 quarts daily? That is different than an average of 2 quarts that may vary from less than a quart one day to 3 quarts two days later.**

**One characteristic of rumen maturity is regular feed intake. Irregular intake is associated with acidotic rumen conditions and undesirable digestion. Calves with greater rumen maturity tend to even out their grain intake (assuming they have free-choice access to starter grain and water).**

#### **4. Is the calf generally healthy and growing?**

**No matter how it is done, weaning is stressful for a calf. Even if calves continue to grow at weaning, the rate of growth falls off for about 5 to 7 days after weaning.**

**If a calf's immune system is in any way depressed (scours, respiratory illness, navel infection, dehorning, change in housing, exceptionally hot or cold weather, poor bedding), it's good management to delay weaning until conditions change.**

### **RATE YOURSELF**

- |   | YES | NO  |
|---|-----|-----|
| 1. Nearly all my calves have been eating grain for at least three weeks before I <u>begin</u> weaning them. | ___ | ___ |
| 2. Nearly all my calves are eating 2 quarts of starter grain a day before I wean them.                      | ___ | ___ |
| 3. Nearly all my calves are eating enough starter grain every day before I wean them.                       | ___ | ___ |
| 4. If a calf is stressed (depressed immune system) I wait until she has recovered before I wean her.        | ___ | ___ |

Sam Leadley, Calf & Heifer Management Specialist  
[sleadley@frontiernet.net](mailto:sleadley@frontiernet.net) 585-591-2660 Fax 585-591-2898

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## **TRANSITION CALF FEEDING MANAGEMENT CHECKLIST**

- 1. Does the transition calf ration contain at least 18 percent crude protein?**

**The growing calf needs lots of good quality protein for muscle and immune system development. Usually the rate of post-weaning feed intake can be encouraged by continuing the same grain mix as was fed in the pre-weaning housing. In winter, a 180 lb. Heifer needs 7 pounds of grain mix daily to have enough protein for maintenance and growth in excess of 1.5 pounds a day.**

- 2. Does the transition calf ration contain mostly grain and limited amounts of roughage for the first week after weaning?**

**Most just weaned calves have been living on grain and water (and in some cases a limited amount of milk). Before they can digest and use the nutrients in roughages like a cow, they need to grow a large number of fiber digesting microbes in their rumens.**

**This growth period is about 10 to 14 days. During this time they continue to live on protein and energy from grain. By eating a limited amount of roughage in addition to grain they encourage the multiplication of ruminal fiber digesting microbes.**

- 3. Does the transition calf ration have enough energy per pound for both maintenance and to meet the farm's growth goals?**

**The relative size of a transition calf's rumen to her body size is still small compared to an adult cow. By feeding an energy dense ration to these small growing heifers, we compensate for this relatively small rumen.**

**That's why grazing heifers consuming high protein grass do so much better when a high-energy grain mix supplements the grass. That's why confined transition heifers consuming free choice high protein hay do so much better when supplemented by a high-energy grain mix.**

- 4. Does the feeding program focus on feeding the rumen microbes rather than the heifer?**

**As transition heifers grow older changes in their ration are almost the rule rather than the exception. Often these changes involve introducing a new roughage source.**

**For example, changing from dry hay to haylage. Or, changing from haylage to a mix of corn silage and haylage. Or, changing from grazing grass to stored feeds in the fall. The microbial mix that most efficiently digests each of these roughages varies from one to another.**

**Introduce small amounts of a roughage that is going to be in the next ration a week or two before the change takes place. That is, before the transition age heifers have to depend heavily on the new roughage as their sole source of nutrition.**

### **RATE YOURSELF**

- |  | <b>YES</b> | <b>NO</b> |
|--|------------|-----------|
| <b>1. The transition calf ration contains 18 percent crude protein.</b>  | _____      | _____     |
| <b>2. Transition calves are fed free choice starter grain for the first week after moving into group housing.</b>                                | _____      | _____     |
| <b>3. Transition calves are fed free choice grain and limited hay the first two weeks after moving into group housing.</b>                       | _____      | _____     |
| <b>4. Transition calves are fed a ration with an energy density of at least 3.0 Mcal of ME per Kg of DM until they are about four months old</b> | _____      | _____     |
| <b>5. Changes in roughages are preceded by feeding limited amounts of the new roughage for a week or two prior to the overall change.</b>        | _____      | _____     |

Reference: National Research Council, Nutrient Requirement of Dairy Cattle, 2001. Chapter 10 "Nutrient Requirements of the Young Calf" Table 10 "Daily Energy and Protein Requirements of Weaned (Ruminant) Calves."

Sam Leadley, Calf & Heifer Management Specialist  
[sleadley@frontiernet.net](mailto:sleadley@frontiernet.net) 585-591-2660 Fax 585-591-2898  
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# HIGH COW REPORT

## OCTOBER 2005

		<u>MILK</u>							
Arizona Owner	Barn#	Age	Milk	New Mexico Owner	Barn #	Age	Milk		
* Mike Pylman	2517	03-05	38,720	* Providence Dairy	5627	03-05	41,040		
* Saddle Mountain Dairy	587	05-04	37,260	* Providence Dairy	8567	05-04	40,660		
* Withrow Dairy	815	05-07	36,240	* Providence Dairy	9553	04-09	39,630		
* Stotz Dairy	17389	04-01	36,220	* Tallmon Dairy	788	03-08	39,490		
* Withrow Dairy	6118	03-11	35,950	* Tallmon Dairy	796	03-10	39,250		
* Stotz Dairy	18532	03-02	35,440	* New Direction Dairy	1286	-----	38,740		
* Mike Pylman	6852	04-00	35,290	* Providence Dairy	8833	04-11	38,270		
* Zimmerman Dairy	542	04-03	35,130	* New Direction Dairy	951	-----	38,110		
* Goldman Dairy	3830	07-06	35,120	* Providence Dairy	4746	05-01	36,810		
* Mike Pylman	2509	03-05	35,110	* Pareo Dairy	1263	06-05	36,810		
<u>FAT</u>									
* Stotz Dairy	19778	05-08	1,483	* Pareo Dairy	1433	07-00	1594		
* Stotz Dairy	18197	03-05	1,380	* Tallmon Dairy	796	03-10	1517		
* Goldman Dairy	9951	-----	1,380	* Pareo Dairy	1263	06-05	1509		
* Stotz Dairy	18258	03-04	1,336	* Pareo Dairy	91	04-09	1492		
* Mike Pylman	19	04-04	1,321	* Vaz Dairy	2321	04-02	1458		
* Mike Pylman	1064	04-08	1,321	* New Direction Dairy	1286	-----	1428		
* Zimmerman Dairy	438	04-05	1,303	* Pareo Dairy	1449	07-08	1425		
* Mike Pylman	2517	03-05	1,291	* Pareo Dairy	7895	05-00	1411		
* Stotz Dairy	18438	03-03	1,286	* New Direction Dairy	951	-----	1410		
* Stotz Dairy	18041	03-07	1,284	* Flecha Dairy	7821	05-06	1374		
<u>PROTEIN</u>									
* Mike Pylman	6852	04-00	1,057	* Tallmon Dairy	796	03-10	1276		
* Mike Pylman	1142	06-00	1,054	* New Direction Dairy	1286	-----	1233		
* Mike Pylman	2517	03-05	1,040	* New Direction Dairy	951	-----	1220		
* Goldman Dairy	3505	06-10	1,032	* Tallmon Dairy	489	05-02	1207		
* Saddle Mountain Dairy	587	05-04	1,003	* Providence Dairy	8833	04-11	1173		
* Dairyland Milk Company	7855	05-07	998	* Providence Dairy	9553	04-09	1138		
* Stotz Dairy	18228	03-05	997	* Providence Dairy	8567	05-04	1131		
* Withrow Dairy	815	05-07	989	* Providence Dairy	5627	03-05	1131		
* Mike Pylman	2509	03-05	988	* Providence Dairy	4786	05-00	1121		
* Mike Pylman	4868	07-05	985	* New Direction Dairy	586	-----	1085		

\*all or part of lactation is 3X or 4X milking

## ARIZONA - TOP 50% FOR F.C.M.<sup>b</sup> OCTOBER 2005

<u>OWNERS NAME</u>	<u>Number of Cows</u>	<u>MILK</u>	<u>FAT</u>	<u>3.5 FCM</u>	<u>CI</u>
* Stotz Dairy West	2,214	27,484	988	27,900	15.1
* Triple G Dairy, Inc.	4,500	25,191	937	26,081	13.6
* Del Rio Dairy, Inc.	1,171	25,201	885	25,243	13.0
* Joharra Dairy	1,406	25,334	861	24,911	13.2
* Stotz Dairy East	979	24,252	859	24,411	-----
* Red River Dairy	5,162	24,647	847	24,387	13.7
* Zimmerman Dairy	1,216	23,996	859	24,300	15.0
* Mike Pylman	5,807	24,144	846	24,154	14.5
* Paul Rovey Dairy	172	22,772	843	23,512	13.3
* Arizona Dairy Company	5,704	23,398	818	23,377	14.3
* Dairyland Milk Co.	3,156	23,080	813	23,159	13.9
* Goldman Dairy	2,236	23,151	797	22,930	13.9
* Parker Dairy	4,244	22,503	812	22,893	14.8
* Withrow Dairy	5,068	23,748	762	22,621	13.2
* Danzeisen Dairy, Inc.	1,353	22,225	788	22,384	15.1
* Dutch View Dairy	1,665	21,817	784	22,142	13.9
* Shamrock Farm	8,497	22,355	744	21,727	13.6
* DC Dairy, LLC	1,042	21,063	763	21,476	13.5
* RG Dairy, LLC	1,099	21,058	755	21,344	13.6
* Lunts Dairy	601	20,568	768	21,343	13.3
* Yетtem	2,875	17,827	818	20,968	13.6
* Jerry Ethington	514	20,433	730	20,669	13.8

## NEW MEXICO - TOP 50% FOR F.C.M.<sup>b</sup> OCTOBER 2005

<u>OWNERS NAME</u>	<u>Number of Cows</u>	<u>MILK</u>	<u>FAT</u>	<u>3.5 FCM</u>	<u>CI</u>
* Tallmon Dairy	473	27,017	945	27,006	14.8
* Providence Dairy	2,764	25,254	849	24,687	13.5
* New Direction Dairy 2	2,086	23,591	873	24,357	14.1
* Pareo Dairy #1	1,478	25,520	810	24,170	14.2
* Pareo Dairy #2	3,374	23,493	846	23,877	13.7
* Vaz Dairy	1,706	23,107	846	23,710	14.2
* Milagro	3,378	23,569	832	23,683	13.9
* Macatharn	994	23,498	833	23,668	13.9
* Do-Rene	2,323	24,056	809	23,521	13.9
* Goff Dairy 1	4,276	22,941	826	23,314	14.4
* SAS Dairy	1,867	23,364	800	23,075	13.8
* New Direction Dairy	42	21,183	802	22,165	198
* Baca Linda Dairy	1,206	22,048	773	22,069	13.4
* Caballo Dairy	3,620	21,715	774	21,941	13.4

\* all or part of lactation is 3X or 4X milking

<sup>b</sup> average milk and fat figure may be different from monthly herd summary; figures used are last day/month

## ARIZONA AND NEW MEXICO HERD IMPROVEMENT SUMMARY FOR OFFICIAL HERDS TESTED OCTOBER 2005

		ARIZONA	NEW MEXICO
1.	Number of Herds	44	29
2.	Total Cows in Herd	76,679	56,145
3.	Average Herd Size	1,743	1,936
4.	Percent in Milk	87	88
5.	Average Days in Milk	207	200
6.	Average Milk – All Cows Per Day	56	61
7.	Average Percent Fat – All Cows	3.5	3.6
8.	Total Cows in Milk	66,416	48,963
9.	Average Daily Milk for Milking Cows	64.8	70.1
10.	Average Days in Milk 1st Breeding	83	72
11.	Average Days Open	164	146
12.	Average Calving Interval	14.1	13.9
13.	Percent Somatic Cell – Low	85	79
14.	Percent Somatic Cell – Medium	9	14
15.	Percent Somatic Cell – High	6	7
16.	Average Previous Days Dry	61	64
17.	Percent Cows Leaving Herd	34	33
<b>STATE AVERAGES</b>			
	Milk	21,937	22,957
	Percent butterfat	3.52	3.52
	Percent protein	2.91	3.03
	Pounds butterfat	774	809
	Pounds protein	637	688





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COOPERATIVE EXTENSION

Department of Animal Sciences  
PO Box 210038  
Tucson, AZ 85721-0038

Phone: 520-626-9382  
Fax: 520-621-9435  
Email: [ljr22@ag.arizona.edu](mailto:ljr22@ag.arizona.edu)

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UPCOMING EVENTS:  
High Plains Dairy Conference  
Albuquerque, New Mexico  
March 16 & 17, 2006