

Vol. VIII No. 2  
April 1999

### Contents

#### Surviving The EPA Inspection

100% Heifer Calves –  
Sexed Semen Is Coming!

#### Manage Price Risk Through Dairy Futures

#### Bill Krueger Farm Advisor

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## Surviving the EPA inspection

*Deanne Meyer<sup>1</sup>*

It is the legal obligation of livestock operators to contain all manures, wastewaters, and contaminated rainfall on their property. It is illegal to contaminate surface water. It is illegal to contaminate groundwater. Each operator must comply with Federal, State and County regulations.

The following is a summary of State Regulations (State Regulations codified in 1984<sup>2</sup>). The essential components are (also known as Waste Discharge Requirements):

- < Animals are not allowed to enter surface waters in the confined area.
- < All wastewater and contaminated rainfall up to and including a 25-yr, 24-hr storm must be contained.
- < Storage ponds must be protected from inundation or washout during a 20-year or 100-year peak stream flow (depending on facility age).
- < Retention ponds shall be lined with, or underlain by, soils which contain at least 10% clay.

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<sup>2</sup>California Water Code: Title 27, Subdivision 1. Chapter 7. Subchapter 2. Confined Animals. Article 1. SWRCB-Confined Animal Facilities. adopted October 18, 1984, modified July 18, 1997.

- < Manure or wastewater shall be applied to crop lands at reasonable rates for the crop, soil, climate, special local situations, management system, and type of manure.
- < Discharge of wastewater to crop lands shall not result in surface runoff and shall be managed to minimize percolation to groundwater.
- < Manured areas shall be managed to minimize infiltration of water into groundwater. Manure must be stored in structures that are clay lined (minimum 10% clay) or lined with a material of similar impermeability.

All operators are obligated to follow these regulations. The only thing waived is the need to send in an annual report the RWQCB. There are no grandfathered components of the State regulations. Some counties have grandfathered older facilities to not need conditional use permits.

**Who Does Ins pections?**

Numerous agencies have the authority to inspect facilities. U.S. EPA Region 9 (from San Francisco) can inspect an animal feeding operation (AFO) as part of enforcement of the Safe Drinking Water Act, and the Clean Water Act. The Regional Water Quality Control Board (Cal EPA) can inspect facilities to determine compliance with Porter Cologne Water Quality Act. Enforcement and Compliance documents finalized by U.S. EPA in March of 1998 indicate that they will inspect all large facilities by 2002 and all remaining facilities by 2005. For California, most facilities fit in the large category.



**What Should You Do During An Inspection?**

Don't panic! Designate a person to be responsible for facility inspections. Be sure that person has the ability to be nice during inspections. The individual should be familiar with manure management and land application methods.

First and foremost, BE NICE! EPA has the responsibility to inspect livestock facilities. You should cooperate with the inspectors and allow them on your property. If it is a bad time or day, request that they return later during the day or during the week. You can refuse the inspection. The inspector can obtain a court order to do the inspection. If this needs to occur, the inspector will not be enthusiastic about the inspection.

Ask anyone interested in inspecting your facility for identification. Look at credentials (they should have a laminated photo identification card). Obtain a business card and put it in your file.

Biosecurity is becoming more and more of an issue in dairy operations. Request that the inspectors wash shoes before entering the facility. This should be with a sanitizing agent.

Escort the inspectors around the facility and pay attention to what they are asking and visually evaluating. The inspector will ask numerous questions. Logical questions should provide answers to: herd size, cropping practices, herd expansion history, facility changes, and discharge history. A physical evaluation of manure collection and storage devices should allow the inspectors to determine if the facility is designed to handle the volume of wastes generated daily and if management is capable of handling the facility.



Manure collection and storage structures will be evaluated. Facilities will be looked over to determine if corrals are scraped often and if their slope is adequate to prevent ponding and permit runoff of rain water. The runoff should be collected and contained in the manure retention pond. Piled manure should be stored in a central location that is

designed to collect and contain contaminated rainfall. Random piles of manure are not desirable. Pond capacity and freeboard will be observed. Pond maintenance (lack of weeds, floatage, holes, and maintenance of sidewalls) will be evaluated. Also, silage storage areas will be evaluated to

determine if silage juices can infiltrate soil or runoff.

Manure handling will be evaluated. Answer questions honestly, and take care to answer only the questions asked. Questions will be asked to determine if pumps, treatment equipment, separators, etc. are maintained and repaired. The inspector will want to have confidence that someone on the facility is knowledgeable in land application of manure nutrients. Are nutrients managed (concentrations and application rates known) or just dumped on land? Does someone on the facility understand irrigation water management? Is field runoff collected and contained during the irrigation season? Is rain runoff from manured fields contained during the rainy season? Is irrigation water managed to minimize infiltration to groundwater?

Inspectors may photograph part of your facility. Likewise, you may want to take a camera along to photograph anything the inspector photographs (from the same angle) or things that seem to be a concern. A picture of the inspection site can be very useful to understand components of the inspection report when you receive it.

You will most likely receive a copy of the inspection report some time after the inspection. The accompanying letter may be a letter of violation or a letter of acknowledgment. Carefully read the inspection report. Be sure to respond to the report if action is required. Respond by the date indicated even if the response says you received their report and you are in the process of fixing the problems identified, that you believe you will have them fixed by a certain date. You will want to respond to the report if there are any errors in the information (example, the report indicates you have 500 cows and associated replacement stock----but, your replacements are at a separate facility. You will want to respond and indicate that your replacements are at a separate facility).

The University of California Cooperative Extension has developed a three-part "Environmental Stewardship Shortcourse" designed to educate producers about manure management. The objective of this course is to provide producers with information so they understand what is required of them. If you are interested in attending this course, please call the Cooperative Extension Office at 865-1107 to have your name put on a waiting list.

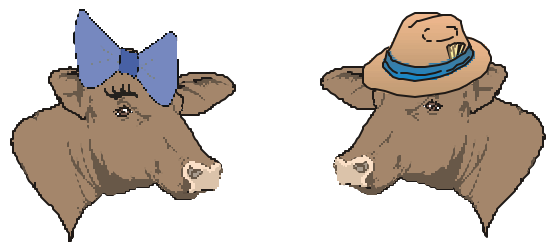
## 100% Heifer Calves - Sexed Semen is Coming

Do you breed your own replacement heifers? Do you raise dairy beef? If the answer to either of those questions is "yes"--then you might be interested in sexed semen. Dr. Larry Johnson of USDA, Beltsville, Maryland has developed sperm sexing technology to separate X and Y chromosome bearing sperm. The commercial rights for this technology in domestic animals belong to XY-Inc. of Fort Collins, Colorado.

**How does sperm sexing work?** Because the X (female) chromosome is larger than the Y (male) chromosome, the X sperm carries from 2.8 to 7.5% more genetic material (DNA) than the Y sperm. The DNA of the sperm can be stained with a fluorescent dye and the amount of DNA measured by passing the living sperm through a laser beam that measures the amount of fluorescence emitted by each sperm. Those sperm with more fluorescence (more DNA) are sorted into the X bearing sperm straws while those with less DNA are sorted into Y bearing sperm straws.

**How accurate is the semen sexing process?** When sexed semen straws are used to inseminate cattle, the expectation is that 90% or more of the resultant offspring are of the selected sex. Scientific data from field trials on more than 300 cows have confirmed this success rate. Additional field trials are ongoing.

**How soon will sexed semen be available to you?** The sperm sexing technology has existed for a number of years, but was limited commercially because of the slow sorting process (only 100,000 sperm could be sorted per day). Recent advances in the sorting technology have greatly increased the number of sperm that can be sexed and sorted per hour. Industry experts expect that sexed semen will be available commercially in the next twelve months.



# Manage Price Risk Through Dairy Futures

Milk price volatility has become a fact of life for dairy producers. The futures market has recently expanded into dairy contracts and provides a tool for dairy producers to manage price uncertainty. In order to use this tool successfully, you will want to invest some management time in learning futures concepts and planning a milk marketing strategy.

**What is a futures contract?** A standardized agreement to buy or sell a commodity at a date in the future. The contract will specify:

- Commodity--Types of dairy contracts include BFP (Basic Formula Price) fluid milk, butter, cheese
- Quantity--the amount of product (BFP contracts are 50,000 or 200,000 lbs of milk)
- Quality--Grade of the product
- Delivery point--location to deliver product, or cash settlement
- Delivery date--time of contract termination

**Hedging** is a risk-management tool for dairy producers and involves buying or selling futures contracts as protection against the risk of loss due to volatile milk markets. Dairy producers protecting against a decline in milk prices at some month in the future will use a **short, or selling, hedge**. You will sell a futures contract now and buy the contract back prior to the date of contract termination. If milk prices do decline as you expected, you will use the gain in the futures market to offset the lower prices you received in the cash market (from your co-op or creamery).

**Develop a marketing plan.** The first and most important step in developing a hedging strategy is to determine your costs of production per hundredweight of milk. Unless you know what it costs to produce your milk, a market price is meaningless. When calculating your production costs, be sure to include both variable (feed, vet, labor, etc) and fixed costs. Review your costs of production over the last three years. You may find it useful to plot cost of production over time to identify seasonal trends.

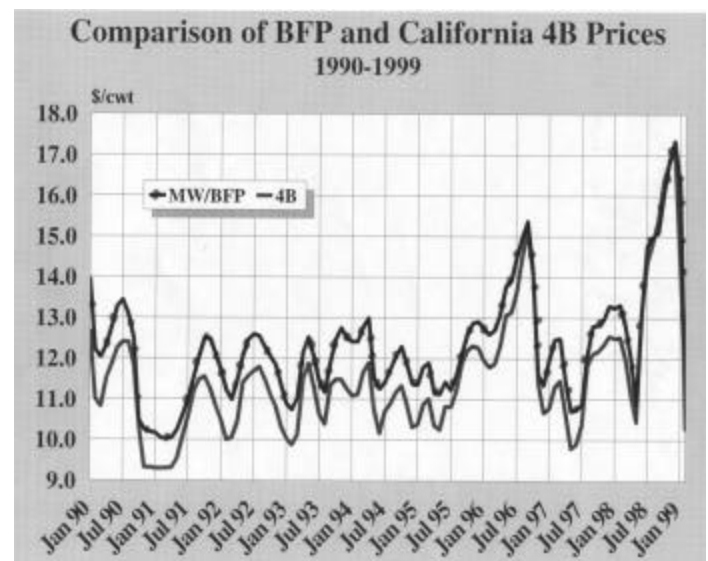
Once you have determined a break-even price per hundredweight, decide what profit level is realistic

for your operation. Again, it may be helpful to review your market price over the last three years and compare that to your cost of production over the same time.

**Determine a target price** that covers your break-even costs plus a profit margin. Make sure that your target price is realistic by looking at your mailbox prices over the past three to five years. Will you have the opportunity to hedge at your target price?

**Calculate your basis.** Basis is the relationship between your mailbox milk price and the BFP futures price for any given month. **Basis = Mailbox price - BFP**. Again, you may find it helpful to track your basis by plotting your mailbox milk price and the announced BFP over time. The following figure shows the BFP and California 4B prices plotted from 1990 to 1999.

**Figure 1\***



**Why is basis important?** Basis is the difference between cash and futures price at the time of contract settlement. It reflects differences in supply and demand at various locations around the country. You will need to calculate your expected basis and add (if over) or subtract (if under) from the futures price. Replace the California 4B price with your mailbox price in Figure 1. The difference between the BFP plot and your mailbox price is your basis.

\* Source: Dairy Futures Home Page – Dept. of Agricultural and Applied Economics & Wisconsin Center for Dairy Research, University of Wisconsin, Madison.

**Example:**

**April: Sell August BFP futures at \$12.75**

August BFP futures are trading at \$12.75. You have done your homework and determined that your target price is \$11.00 with an expected basis of \$.25 under. You sell August BFP futures. Your actual target price is the futures price less the basis. In this scenario your actual target price is \$12.50.

**August: Buy back BFP contract at \$12.00**  
**Futures gain = .75**

Now suppose August has arrived. Milk price has dropped to \$12.00. You buy back your August futures contract before the termination date (usually the 5<sup>th</sup> of each month).

**Your August price: Mailbox price \$11.75**  
**Futures gain .75**  
**Your net price 12.50**

You receive your check from your co-op for \$11.75 per cwt. Your actual proceeds for the sale of your milk are the total of your mailbox price plus your futures gain.

Note that your net of \$12.50 equals your target price and reflects the hedged futures price less the basis. Remember that the basis could be stronger or weaker than you expected. In any event, when you hedge your price, risk is limited to the difference between your expected and actual basis

**What if milk price actually rises to \$14.00?**

You still have your target price of \$12.50 (\$12.75 less .25 basis) locked in. In August you buy back your futures contract at \$14.00 for a futures loss of \$1.25.

**Your August mailbox price \$13.75**  
**Futures loss - 1.25**  
**Your net price \$12.50**

**Remember that your goal with hedging is to lock in a profitable price--one that covers your costs and gives you a profit you can live with.** You may not (and probably won't) capture the market highs, but you will avoid the market lows. The key is to know your costs of production and lock in a price that is profitable. One of the prime benefits of hedging is to give you stability of market price, and the ability to plan around a given milk price for some month in the future.

**You will need a broker to execute a trade.** The brokerage firm will charge a commission so this fee will need to be subtracted from your futures gain in the above example. Shop around.

When you buy or sell a futures contract, you are required to post a **performance bond deposit** with your broker. This is a small percentage of the value of each contract traded and serves as a guarantee against losses you may incur in the futures market. If the market moves against you (for example, when BFP futures rose to \$14.00 in the above example) it will be necessary to maintain your performance bond account at the minimum level. A performance bond call will be issued, requiring you to add more money to your performance bond account. In these instances, it will be beneficial to have a lender who understands futures and is familiar with your marketing plan.

*Continued on next page.....*

## *Managed Price Risk Through Dairy Futures continued....*

### **Things to Keep in Mind:**

- You must know your costs of production in order to know what price is profitable.
- Take the time to thoroughly educate yourself on the use of futures before you jump in.
- Find a good, knowledgeable broker you feel comfortable with.
- Plan to devote management time to marketing your product. Read reports by market analysts. Understand the factors affecting both your mailbox milk price and the BFP.

### **For Additional Information:**

- ❖ Video on dairy futures available for loan from Glenn County Cooperative Extension.
- ❖ Web site: <http://aae.wisc.edu/future/>

This web site is the Dairy Futures Home Page – Dept. of Agricultural and Applied Economics & Wisconsin Center for Dairy Research, University of Wisconsin, Madison. **This site contains a tutorial on the use of dairy-based futures and options as well as links to publications on milk prices, historical price data and dairy industry trends.**