

Fresh Cow Management: What is important, what does it cost, and what does it return?

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Introduction

For the last few years there has been increased attention directed at fresh cow management. The focus point has been the early detection of sick fresh cows so that they might receive prompt medical attention. For most programs, this amounts to using an electronic thermometer to detect fevers that might be caused by toxic uterine infections. Dairymen that have adopted these “temping” programs definitely perceive some benefit. The impression of our veterinary practice is that there are considerably greater opportunities in a fresh cow program with a more complete, intense and proactive management process.

It is important to remember that cattle genetics contributes about 30 percent of the productive potential to a dairy. It follows that the environment provided by management delivers the remaining 70 percent of this potential. The focus of this paper is those overlooked management opportunities. In the early 1990s, the doctors and clients within our practice found that left displaced abomasums (LDA's) could be fixed sometimes without surgery. The medical therapy used was based on a 5 to 10 gallon oral drench with 100 grams of calcium, 12 ounces propylene glycol, probiotics and a complex electrolyte package. This was directed at hypocalcemia induced LDA's and ketosis. Injectable drugs included D-panthenol to stimulate gut motility. The calcium would tone up the gut muscle and the D panthenol would create contractions to push the gas out of the abomasum. The keys to a successful outcome were: 1. Early detection of the LDA, before other secondary complications became severe; 2. Diagnosing the primary cause of the LDA, such as hypocalcemia, toxic metritis, pneumonia etc.; and 3. Effectively treating not only the primary disease(s) but also all the secondary problems. In the hands of our more skilled herdsmen, 30 to 50 percent of LDA's could be corrected to perform at least as well as cows that received surgery. A memorable example was a shocky, seven-day fresh heifer with toxic metritis, pneumonia, and an LDA. She was treated with the described calcium drench, D panthenol three times, penicillin and Albon. The heifer recovered without surgery because all the issues were addressed promptly and effectively.

Several years of success with this approach have taught us that aggressive, early intervention is the key to keeping cows on track to a more productive lactation. Cows are like trains. They have the ability to sustain their productive inertia better than other biological factories. However, if disease slows cows down or derails them, it is hard to fix cows such that they achieve their full productive potential. Our dairymen who have intense fresh cow programs have found they can discover and treat sick cows so quickly that they experience a minimal if any reduction of milk production. It is also true that these dairies usually have less than 1 percent LDA's. Consequently, we see significant success with fresh cow programs. This is especially true if they are more intense than just taking the rectal temperature of a cow and injecting an antibiotic.

Critical Components of Fresh Cow Programs

In the last two years we have discovered that the most important ingredient to fresh cow health is a separate pen for them during the first 10 to 14 days in milk. When fresh cows are mixed in with the rest of the herd it is hard to find them for evaluation. It takes about one man-hour per day to evaluate and treat the fresh cows for a dairy with 500 cows in milk. On larger dairies, this is more efficiently done with one person managing the data and checking the front of the cow while the other individuals temp and examine the rest of the cow(s) from the rear. In a 6000 cow dairy, four individuals can process the fresh cow pen as subsequently described in 2-2 ½ hours. With intense evaluation and treatment of fresh cows, 95 percent are ready to join the main milking herd by 10 to 14 days in milk.

A second and even more valuable reason for a fresh cow pen is dry matter intake. Fresh cows and especially heifers do not compete well with longer days-in-milk cows for feed. A fresh cow pen should be stocked at no more than 85 percent occupancy of lockup feed space. In other words, there should be at least 15 percent more lockups than fresh cows at a dairy's peak calving time. Some dairymen have installed a movable panel to adjust the size of the fresh pen as the number of fresh cows change. At any given time, about 4.1 percent of the entire herd inventory will be in the fresh pen of a typical dairy with a 13.5 month calving interval. Seasonal breeding will affect this. As we look at the performance of fresh heifers, it looks worthwhile to separate them from the cows to achieve maximum benefit. Dry matter intake per cow of a proper ration should be in the 40- to 45-pound range for a fresh pen of one-third heifers and two-thirds cows. The importance of reduced competition at the feed bunk has been rediscovered many times when too many cattle calve in a short period of time and/or lame cows are added to the fresh pens since they are often close to the parlor. When this happens, there are an increased number of cows with higher fevers. Inevitably more drugs are used to correct the situation.

With the advent of increasing milking frequency of fresh cows for the first 20-40 days in milk, the dynamics of feed bunk competition for the freshest cows must be remembered. Compared to a 12 day in milk pen, a greater proportion of the cows in the pen are more competitive with the new fresh cows. The alternatives in this situation are: 1. to move the cows by 12 days in milk and have two high milking frequency pens, or 2. in perhaps smaller dairies, allow more than 15% uncommitted feed space if the fresh cows are being milked at a higher frequency as a single group.

Important Caveats When Examining Fresh Cows

My clients have found that measuring a cow's rectal temperature is not always an adequate representation of her post calving health. Her metabolic status is just as important as her amount of infectious disease. To date, many fresh cow programs have been based on cows with rectal temperatures being greater than 103 or 103.5°F. They are chalk-marked as abnormal and treated with Naxcel® Sterile Powder (ceftiofur sodium) or Excenel® RTU Sterile Suspension (ceftiofur hydrochloride). The next day, depending on their temperature, they may be treated again with either of these antibiotics or receive penicillin type antibiotics in the hospital if they are not responding. Indeed this simple, fast program might capture up to 50 percent of the cow health opportunities available.

However, rectal temperatures are not always accurate indicators of infection. The GLA electronic thermometers are very good but only as accurate as the operator. A rectum full of air or failure to fully insert the probe will give a temperature colder than reality. Use the vagina with a clean probe (to avoid urinary tract infection) as an alternate site, especially if a rectal exam has just been performed. Remember, forceful introduction of the probe will cause ulcers in the rectum. A right angle probe helps this. Taking rectal temperatures at the same time each day makes results more consistent. To limit the effects of weather, the best time of the day is in the morning. Cows with hypocalcemia tend to have

body temperatures that are colder than normal except in hot weather. Consequently, a hypocalcemic cow should not be expected to develop a body temperature that accurately represents the severity of her infection. Thus it is just as important to recognize and treat cows having toxic metritis with below – as well as above – normal body temperatures. Regarding hot weather, the heart and lung component of thermoregulation is impaired and hypocalcemic cows can overheat, especially when the radiant heat load is high. The value of rectal temperatures is even more confusing when the cows are shocky from rumen acidosis. This must be perceived and accounted for. Essentially when we find cows with rectal temperatures that do not coincide with disease qualities of (in this case) metritis, they are considered to have more than one major problem, and therapy is commensurately more intense. The next level of response to help fresh cows is performing a thorough physical exam of any cow that does not look or temp normal. In our practice, we consider a reasonable normal temperature to be between 101.4 and 102.2°F. On a more practical basis, most dairymen accept a range of 101-103°F as normal.

A valuable role of the herd veterinarian is to help personnel learn how to examine cows. There is a cow exam and treatment record form at the end of the article to serve as a guide (See Appendix Table 1). Developing a protocol for examining and treating the fresh cow is a necessary step to having a consistent and successful fresh cow program. A cow exam begins with a visual evaluation. Most herdsmen can recognize a depressed cow that is not producing enough milk, has lameness and/or has inadequate rumen fill. Checking their ears for the coolness of acidosis, hypocalcemia and shock is a quick process. Rectal temperatures should be taken and recorded. For sure, temperatures below 101 or above 103°F are of immediate concern. A more complete physical exam needs to be performed on any cattle that are abnormal in the previous categories. A good physical exam begins with a stethoscope. The lungs, heart and rumen sounds should be evaluated initially. Next, both the right and left sides of the abdomen should be tested for a displaced abomasum. Last the cow is palpated. The uterus is palpated and vaginal discharge examined to determine the intensity of possible uterine or vaginal infection. Manure quality relates to digestive function and should be evaluated.

The prevalent problems for most dairies' fresh cows are, in ranking order, toxic metritis, hypocalcemia, mastitis, acidosis, pneumonia and, more recently, salmonellosis. Often this list will cover 95 percent of the fresh cow illnesses on a dairy. It is not difficult for skilled herdsmen to learn how to recognize these situations and the secondary complications of DAs and ketosis. These diseases often occur at the same time as part of a disease complex.

Assuming a cow has only one problem can leave opportunity on the table. Fortunately, starting full-dose Excenel or Naxcel therapy for at least three days has merit since it has a rather broad spectrum of effect. It can be an appropriate and very effective way to treat toxic uterine infections, pneumonia, and *Salmonella*-type diarrheas, especially when they are diagnosed early. Any hypocalcemic/shocky cows should receive 100 grams of calcium orally. This is commonly done with one pound of calcium propionate. Therapy with IV calcium always should be considered on these cows according to clinical signs. Such treatments are minimal responses. Additions and alterations need to be made based on how well the animals respond and what other problems exist on the dairy. For example, if grass tetany is a concurrent problem, then one-half of a pound of Epsom salt in the drenches of shocky or just-fresh cows could be valuable. When the potassium in the close-up cow rations accidentally gets too high, some fresh cows can have low potassium levels. Adding one-quarter of a pound of potassium chloride to drenches is helpful. Other supportive care for liver health and appetite also may be appropriate. Some additional products to be considered in the supportive care of fresh cows are: flunixin meglumine or aspirin for toxic infections, Predef® 2X Sterile Aqueous Suspension (isoflupredone acetate) for ketosis,

dexamethazone for calving paralysis (first 24 hours after calving), vitamin B complex for appetite, and vitamin ADE for the vitamin D influence on calcium metabolism.

The response to therapy should be based on daily follow-up exams. Knowing the actual rectal temperature from the previous two days facilitates a better evaluation of treatment decisions. Just understanding that a cow had an abnormal or normal temp today, does not really tell you which way her infection is going or at what rate. A cow that goes from 102 to 104°F is of greater concern than a cow whose temperature goes from 102.8 to 103.5°F. Also, a toxic metritis cow whose temperature has not been reduced in 48 hours by Excenel probably should be switched to a beta lactam and perhaps be given even more supportive care while in the hospital. People who have become very skilled at reading the health status are more accurate at deciding what cows need antibiotics, and which can afford to wait until tomorrow's exam. We find that the interpretation of the clinical signs causes us to treat some cows due to suspicious anticipation of the problem being worse tomorrow. This level of response happens more often when the dairy knows the disease incidence is up and/or they are aware of a management mistake that will cause more disease. Today my dairymen even score the degree of toxicity in uterine discharge to guide this decision. For example, a cow with cold ears, a temp of 102°F and a toxic uterus would be treated for hypocalcemia and also started on Excenel therapy. This is because she is less healthy, with more than one problem and will likely be poorly responsive to antibiotic therapy without more comprehensive therapy. Unless a cow gave birth to a degenerating calf, we tend to be less critical of high temperatures up to 103°F for the first three days after calving. In the hot summer months of the western United States, it is prudent to be more reactive to signs of fever. Infections tend to develop more quickly in the heat. This means lowering the reaction temperature at least 0.5 degrees F and possibly not allowing the cow another day to self-reduce her temperature.

By 10 days in milk, the fresh-pen cows that are normal after daily exam are candidates to be moved to the standard milking strings. Each cow's uterus should be checked one last time before leaving the fresh pen for signs of a toxic infection. Perhaps offensive odor is one of the best clues that distinguish between toxic infections and the less toxic, white pus of pyometra. Cows that still have toxic infections should be held back and treated more aggressively. This would likely involve the hospital with beta lactams, supportive medicine and perhaps intrauterine tetracycline. Cows with normal uterine health or the white pus of pyometra can be moved safely to the main milking strings. Further recovery of uterine health is facilitated with prostaglandin F-2 α , for example Lutalyse® Sterile Solution (dinoprost tromethamine) on days 12, 26 and 40 in milk.

The complete protocols that we follow at Pilchuck Veterinary Hospital, for initial evaluation, and metaphylactic and sick-cow therapy, also are included at the end of this paper in Appendix Table 2. As explained in the table we create a decision tree. After following the protocol for a few months, this decision-making process becomes almost second nature to well trained employees.

Health and Production Benefits of a Fresh Cow Protocol

Finding and treating sick fresh cows is important. A fresh pen also allows an opportunity for routine management procedures to be instituted to prevent or reduce the severity of postpartum problems. This is a proactive approach that keeps the momentum of the "cow train" up. It is outlined in Appendix Table 3. A proactive treatment process tends to reduce the amount of antibiotics used and thus the drug costs associated with treating fresh cows. It has been the experience of our practice that every fresh cow should receive one pound of calcium propionate and 12 ounces of propylene glycol just after she calves. This is insurance against any dry matter intake/energy intake and/or mineral metabolism problems that go undetected in the close-up pen. Cows that develop less hypocalcemia and ketosis in the fresh pen

have fewer complications with other postpartum diseases. An additional proactive step is to perform prescheduled rectal exams on all cows at four, six, eight, ten and twelve days in milk to detect toxic uterine infections that are undiscovered by other exams and hidden by the low-to-normal temperatures of subclinical hypocalcemia and rumen acidosis. All these cows have a more difficult time developing a febrile body temperature that is appropriate for toxic metritis. These rectal exams can be accomplished without trauma. Being careful with a latex exam glove over a palpation sleeve is helpful. Notice that the palpation schedule starts at about 4 days in milk. This is often the first detectable onset of metritis unless a cow has had significant calving issues. Everyday palpation is only necessary for cows currently undergoing uterine therapy to evaluate progress. For cows that are normal at any point every other day rectal exams to back up daily visual exams and rectal temperatures are adequate.

Another important component of a fresh cow program is records. All of our dairies at least keep a chalk record on the cows of days in milk and fundamental treatments. More successful programs also have computer records that in some cases are updated during the process of conducting fresh cow exams. Good records insure that cows are not missed on routine exam and that all follow up treatments are done on time. It thus serves as a tool for management to hold herdspersons accountable. The disease frequency data that records provide forms the foundation of monitoring and thus facilitates the preventative management that reduces the amount of sick cattle. Indeed perhaps the most important and overlooked value of a fresh cow program is the disease incidence information that it provides, which can be used to evaluate a herd's transition-period management. This portion of the lactation cycle is arguably the most important. Much of the outcome of the lactation can be decided here with good management procedures. If the frequency of hypocalcemic cattle is up, it is time to investigate the close-up feeding program. Hypocalcemia a few days in milk can also be caused by depressed intakes in the fresh cow pen. This can be measured objectively daily with the proportion of fresh cows that have signs of cardiovascular shock such as cold ears or subnormal body temperature via a thermometer during the routine exam process. Keep in mind there is a seven to ten day lag between an error in close-up mineral nutrition and a fresh cow problem. Ketosis and fatty liver problems in fresh cows can be linked to energy intake of close-up and fresh cows. Fresh cow mastitis problems should direct dairymen at the entire dry cow period regarding how cows are dry-treated, vaccinated, fed and housed. Nutritional profiling looks at the metabolic status of a cow as influenced by her nutrition. This is a useful tool for solving transition cow problems. In the final analysis this is ultimately how our dairies obtain the best peak milk possible and lowest involuntary losses they can get. Without the fresh pen and the data it provides it is much harder to pinpoint opportunities that the all too important transition cows offer.

For example we have recently become particularly sensitive to the impact of rumen acidosis on fresh cow performance. When this happens, the amount and severity of metritis problems dramatically increases. The most disappointing result is that pharmaceuticals – especially antibiotics – are less effective. This immunosuppressive effect of acidosis has become one of the explanations for less-than-desired results from intense fresh cow programs. Thus, when a cow is less healthy from a single disease, or because of multiple disease entities, more pharmaceutical agents will be used to less of an effect. This relationship was deduced with aid of good records.

In summary, careful management of transition cow nutrition is probably the most useful tool for maintaining fresh cow health. A thorough fresh cow program provides insurance to compensate for unexpected errors in transition cow management. With good records, it provides an early warning system of developing management problems. In the best managed herds this has become the most important reason for a fresh cow program.

Cost of Fresh Cow Programs

Creating a fresh cow pen is easy for some dairies. All they need to do is put up a gate within the current facility to form a separate area. This may crowd other milk cows, which is a concern. Some dairies may need to build a new facility to accomplish a fresh pen. Open dry lot space can be constructed for about \$300 U.S. per cow, but this is not adequate for fresh cows, as they need more protection from the elements. Free stalls can be another approach. They might cost \$1,200 per cow. Perhaps the best option is an open pen with protection from the rain, sun and wind. However, bedding costs and labor are an issue if the hygiene of these fragile cows is to be maintained. It is important to plan for 15 percent more space than the maximum number of cows that will occupy the pen. Fresh cow exam/treatment labor costs for two of our dairies are about \$10 per cow per year. This figure is based on skilled labor that costs \$20 U.S. per hour. Dairies should utilize their most skilled personnel to conduct the fresh cow program. It takes at least 20 hours of direct assistance from a veterinarian to train a herdsman. After that, budget at least one to four hours of veterinary time per month to maintain and modify the program, as disease characteristics change and new technology is developed. Drug costs vary depending on base price. In our practice's recommended fresh cow program, all cows receive a post calving drench of at least calcium propionate and propylene glycol to control hypocalcemia and ketosis. This component costs approximately \$1.50 U.S. for every cow in the herd. Additional drug costs will be incurred to treat sick animals that require therapeutic intervention. When the fresh pen has standard cow numbers and pressure, about 10 to 30 percent of the fresh cows will receive a three-plus-dose regimen of Excenel or Naxcel, along with other supportive care. Less than 5 percent of the fresh cows should end up in the hospital on penicillin type antibiotics. Each treated cow will receive in the range of \$50 to \$60 in pharmaceuticals. Depending on the dairy, a certain proportion of the labor, drug and veterinary expense would have been spent anyway, treating the additional sick cows that were prevented by the fresh cow program. This needs to be credited to the value of the program.

Returns From a Fresh Cow Program

The four fundamental, herd-performance benefits of an intense fresh cow program are:

1. Reduced involuntary cow losses in the first 30 and 60 days post-freshening;
2. Decreased postpartum disease;
3. Improved reproduction;
- and 4. Increased milk production.

For our herds it is not too difficult to manage the herd in the range of 3-5 percent death loss and an additional 20-24 percent involuntary culling. For most dairies more of the death and involuntary culling tends to occur in the first three weeks after calving. The most tangible improvement that just about any degree of fresh cow program can realize is a reduction of LDA's to at least no more than 3 percent of the milk cow herd. With an intense program, LDA's should occur in less than 1 percent of the cows. The estimated cost of an LDA should factor in not only the surgery, but the corresponding lost milk production. Regarding reproduction, cows on a fresh cow protocol are better prepared to become pregnant upon initial insemination, because their uterine and related health issues have been addressed prior to breeding. Fresh cow programs have served as a good model for other protocol-based management programs, especially breeding programs like Ovsynch and PreSynch. Once employees learn the routine of one protocol-based program, they are more likely to comprehend and execute another program, which is an additional benefit to herd management.

The most measurable and immediate benefit is an increase in peak milk production. In the last four herds where these intense fresh cow programs were instituted, peak milk was eight to nine pounds higher. None of these herds overcrowds their lock-ups for any of their milk cows. This looks to be important for the full potential of the increase in peak milk to be realized as daily wet milk. Generally speaking a pound of peak milk provides the same amount of daily milk. For the full impact on average daily milk to be realized it takes one year of new fresh cows calving with good transition management. Obviously management after the fresh pen is critical to maintaining transition performance to achieve

this response. Appendix figure 1 show these changes in peak milk as they affected one of our dairies. In just 16 months, peak milk per cow increased by about 18 pounds due to the fresh cow program initially, and subsequent nutrition management changes during the remaining eight months. At the same Idaho dairy, when the data was collected, the return for each drug dollar invested was about \$12 U.S. of milk revenue. If we also include all the labor costs of the fresh cow program against it, then for each dollar invested we received \$6 in milk revenue. Cost of producing the extra milk was accounted for. While other management changes were beneficial, it looks as if the fresh cow program contributed significantly to saving about 140 cows in 2001 for this 1,000+-cow herd. The death loss in this herd was reduced from about 7 percent to 3 percent. The involuntary cull rate went down from 37 percent to 19 percent. Similar success is seen for milk production and involuntary losses for those dairymen who are committed adopters of intense transition cow management.

The costs and performance of fresh cow management programs do vary. Appendix Figure 4 shows a spreadsheet that factors in all of the probable costs of initiating and operating a fresh cow program, and weighs those expenses against conservatively estimated revenue. It is clear that the return on investment makes the decision to start a fresh cow program a very easy one. This spread sheet allows a dairy to evaluate the potential value of a fresh cow program. It is highly flexible spread sheet. The spread sheet can be obtained through our consulting practice and from your Pfizer territorial manager.

Important Thoughts to Remember

Clinical disease is like the tip of the cow health problem iceberg. For each case of clinical disease, there are perhaps 10 times the cows afflicted with subclinical disease that go undiscovered. All this disease has, to a certain degree, a negative effect on cow performance. The intense fresh cow program discussed gives dairymen an effective means of capturing much of this potential. When a cow becomes more diseased, the more drugs it takes to treat her with less potential to recover her to normal health. By the same token, letting the “cow train” slow down costs producers peak milk and total lactation performance. Ongoing monitoring of a fresh cow program’s success helps producers evaluate the merits of the program, and realize the benefits it is providing. Following are the key measurements that should be tracked to evaluate fresh cow programs over time: 1. Proportion of cows with each transition diseases; 2. 30-day, 60-day, 90-day and peak milk production; 3. Daily milk production; and 4. Fresh-cow death and cull rate, with a goal of fewer than 5 percent of cows lost during the first 30 to 60 days in milk.

Conclusions

From what we know so far, it looks as if intense fresh cow management programs are very profitable in terms of milk production and cow survival. At the price of replacements today and for the foreseeable future, intense fresh cow management can be justified to reduce the involuntary loss of cows alone. Overcrowding cows in the fresh pen has a definite negative effect on cow performance. Adequate feed space for all the milk cows also should remain a high priority. There have been a number of recommendations that use prescription drugs in fresh cow protocols. Some drugs are used in an extra-label manner. All of them require a valid veterinary-client-patient relationship. The herd veterinarian should establish dosage amounts and frequencies that follow published guidelines (such as information from the Food Animal Residue Avoidance Database) and with which he or she is comfortable. Careful drug selection and education on the part of the veterinarian, and strict adherence to the veterinarian’s instructions on the part of the producer, will preserve the quality of our food supply.

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Table 2. Pilchuck Veterinary Hospital Fresh Cow Decision Tree and Treatment Protocol.

Normal Cows

Cows with normal temps (101-103)

Protocol A

Looks normal ears normal-recheck health status daily for 12 days

Sick Cows ALL SICK COWS ARE REQUIRED TO HAVE A DAILY PHYSICAL EXAM

Cows with temps < 101

Protocol B

Looks sick (low calcium/magnesium): If severe shock IV Calcium-magnesium, 1-2 bottles otherwise and always following IV calcium with fresh cow drench. Also give 10 cc Predef IM one time for ketosis. If toxic metritis proceed to protocol E.

Cows with high temps >103 after 3 DIM

Protocol C

Looks normal: If toxic uterus, temp is from 103-104, -Give Excenel @2cc/100# SQ for 3 plus days(one more day after symptoms have resolved). If no decrease in fever or symptoms, switch to protocol D.

Protocol D

Looks sick and/or temp >104 and uterus is toxic: Use beta lactam(penicillin type) antibiotics at maximum practical dosage for 3 plus days (one more day after symptoms have resolved). Give Banamine daily to reduce fever at 10cc IV or IM for 2 days. Daily B vitamins at 20-40cc IM for 3 days for appetite. Fresh cow drench should also be given.

Cows with temp <101 and sick

Protocol E

Looks sick: with cold ears and a toxic uterus.

Use Protocol B i.e. oral calcium +/- IV calcium.

Plus Protocol C i.e. Excenel.

This is the most under treated cow.

All milk and meat withholds that have been recommended by FARAD and your veterinarian must be respected.

Table 3. Pilchuck Veterinary Hospital Proactive Daily Fresh Cow Exam Protocol:

DAY 1(day of calving)

-Drench with 1# calcium propionate, ½# epsom salt, ¼ # potassium chloride, 1/8# salt, 12 OZ propylene glycol in 5 gallons warm water.

-Milk fevers at calving, IV with Calcium and magnesium, 1-2 bottles

DAY 2 TEMP: _____ Health Status:

DAY 3 TEMP: _____ Health Status:

DAY 4 TEMP: _____ Health Status: Rectal Palpation of uterus- Normal or Toxic

DAY 5 TEMP: _____ Health Status:

DAY 6 TEMP: _____ Health Status: Rectal Palpation of uterus- Normal or Toxic

DAY 7 TEMP: _____ Health Status:

DAY 8 TEMP: _____ Health Status: Rectal Palpation of uterus- Normal or Toxic

DAY 9 TEMP: _____ Health Status:

DAY 10 TEMP: _____ Health Status: Rectal Palpation of uterus, Normal or toxic
If normal send to a milk string

DAY 11 TEMP: _____ Health Status:

DAY 12 TEMP: _____ Health Status: Rectal Palpation of uterus, Normal or toxic
If normal send to a milk string
Lutalyse to resolve pyometra.

DAY 26 Lutalyse to resolve pyometra.

(The primary purpose of this Lutalyse shot is to help clear any lingering uterine infections, but its timing also can be adjusted slightly [days 22 through 28] to also serve as the set-up shot for controlled breeding programs like PreSynch).

Peak Milk VanEss Dairy

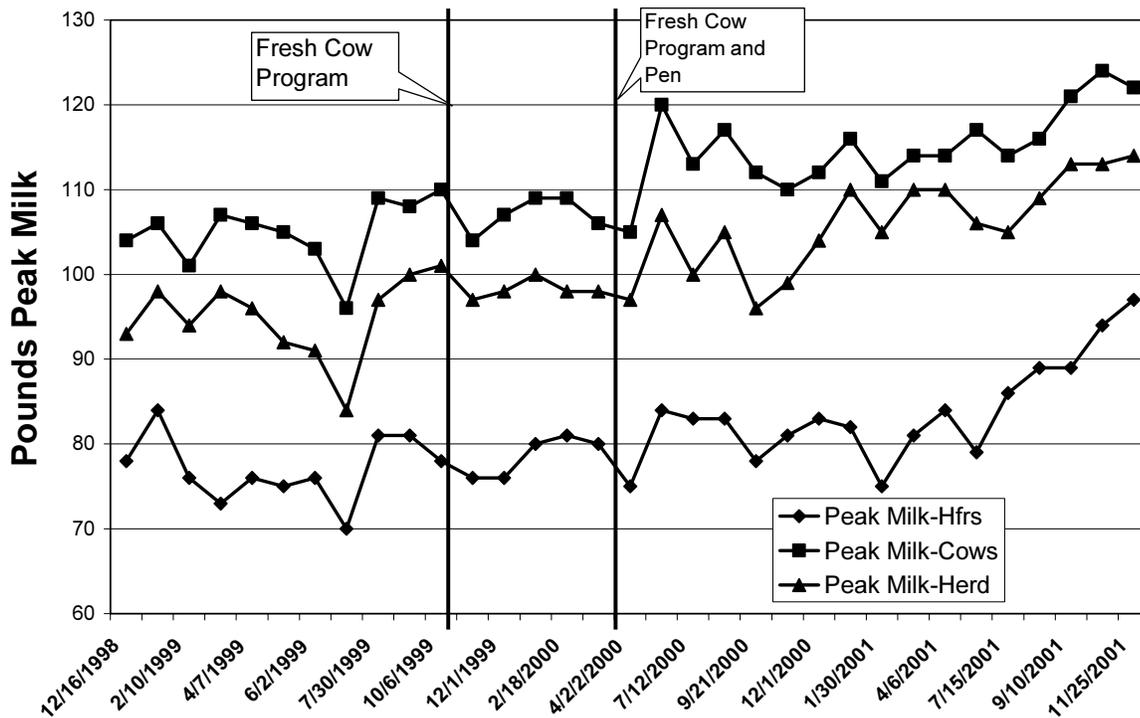


Figure 1. Change in peak milk production at a 1,000-cow Idaho dairy after initiation of an intense fresh cow management program followed by the addition of a fresh cow pen.

Table 4. Spread sheet summary of credits and debits attributable to a fresh cow program for Vaness Dairy in 2001.

Net Return/Cow Basis

	1st Lactation	2nd Lactation Plus	All Cows
Additional Milk Revenue	\$438.75	\$315.00	\$346.75
Reduced Culls Revenue	\$177.05	\$306.29	\$304.68
Additional Feed Costs	\$168.48	\$120.96	\$133.15
Additional Labor Costs	\$10.00	\$10.00	\$10.00
Additional Treatment Costs	\$16.00	\$16.00	\$16.00
Additional Facility Costs	\$3.57	\$3.57	\$3.57
TOTAL Additional Costs	\$198.05	\$150.53	\$162.72
Net Return/Cow	\$417.75	\$470.76	\$488.71

Net Return/Herd Basis

Additional Revenue over Cost

Total	\$ 101,930.35	\$ 332,829.00	\$ 464,759.35
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Return on Investment

Ratio per Dollar invested	3.11	4.13	4.00
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