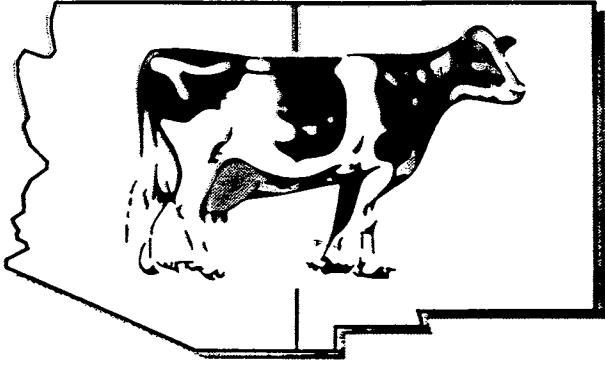


ARIZONA & NEW MEXICO DAIRY NEWSLETTER



COOPERATIVE EXTENSION

*The University of Arizona[®]
New Mexico State University*

January, 2002

Wishing all of you a
Very Happy and Prosperous New Year!

Statistics in this issue are for November and December 2001

UPCOMING EVENTS

Southwest Nutrition and Management Conference
Phoenix, Arizona
February 21-22, 2002

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Arizona Dairy Day  
Phoenix, Arizona  
March 8, 2002

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This month's article:
"Economics of Intentional Milk Fat Depression"
Lance Baumgard, Ph.D. and Ehrin Annen, M.S.
Department of Animal Sciences, University of Arizona

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**New Mexico State University Extension Dairy Website:**  
**<http://www.nmsu.edu/~dairy>**

The following videos are available for checkout from Mike Looper, New Mexico State University. To obtain a video call Kathy Bustos, (505) 646-3325 or [kbustos@nmsu.edu](mailto:kbustos@nmsu.edu) and the video will be sent in the mail, pending availability. There is only one copy of each video available, so we request that videos be returned within two weeks. Note that four of the videos contain an English and Spanish version.

1. The Milking School. Utah State University. Spanish and English. 30 minutes
2. Fitting and Showing Your Dairy Animal....A Winning Experience. Department of Dairy Science, University of Wisconsin. 20 minutes
3. Proper Milking Procedure. University of Florida. Spanish and English. 12 minutes
4. Milking Machine Maintenance. University of Florida. Spanish and English. 16 minutes
5. The Basics of Vacuum and Milking Systems. DHIA Services, 1991. 53 minutes
6. Understanding Dairy Cattle Behavior to Improve Handling and Production. Livestock Conservation Institute, 1992
7. Managing Milking/Ordenar Lecheria. Spanish and English. 1999. 33 minutes
8. Get Milk! Joining A Dairy Crew. University of New Hampshire, 1999. 45 minutes

**Need to Calculate Production Costs?**

*University of Wisconsin dairy farm management specialist, Gary Frank, has developed a Excel spreadsheet to calculate variable cost of production and total cost of production. To access the spreadsheet, go to <http://www.wisc.edu/dairy-profit>, click on Decision Making Tools, then go to [costcwt.xls](#).*

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## **Economics of Intentional Milk Fat Depression**

Lance Baumgard PhD and Ehrin Annen MS  
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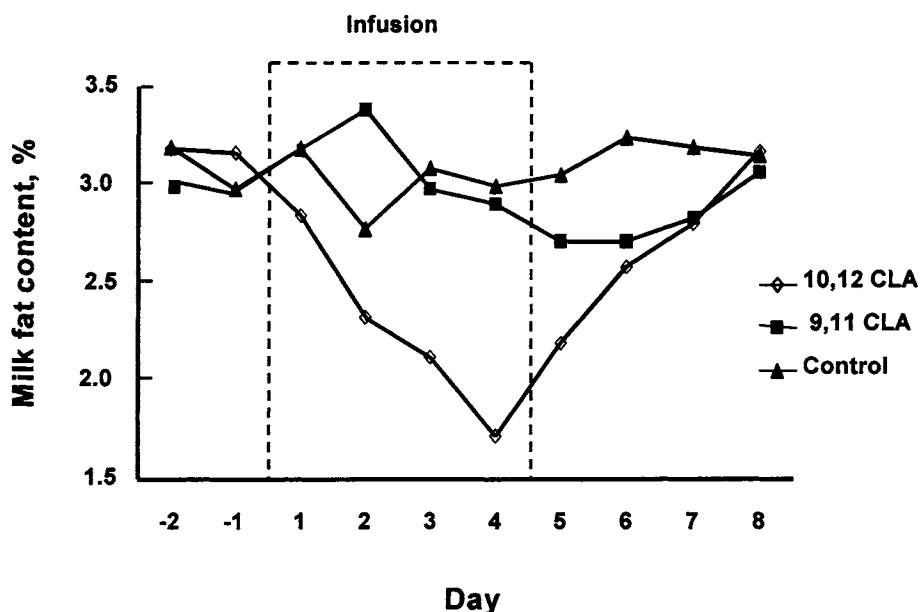
Milk fat is one of the most highly monitored production parameters in the dairy industry. This is because of the monetary value of milk fat and its use as an animal health indicator, particularly rumen status. For these reasons most dairy producers have a goal of producing milk with 3.5-3.8% fat content (for Holstein milk). Excessive milk fat production may limit milk yield therefore, goals are to maximize profitability by balancing income gained from milk fat with income gained from milk yield. Rumen health is also a consideration as fat content less than 3.4% usually raises concerns about irregular fermentation patterns and rumen acidosis as a result of changes in dietary fiber and carbohydrate content/availability. As a consequence milk fat can be used as the “watch dog” for how effective the dairyman manages the balancing act between aggressively feeding and managing cows for high milk production and good rumen health.

Historically, milk fat has been the primary, sometimes the only, marketable component of milk meaning milk fat depression was a large economic problem. As a consequence, dairy scientists have been studying milk fat depression and developing strategies to prevent its occurrence for more than a century. So why would intentional milk fat depression even be of interest? Goals of this paper are to evaluate the potential to increase peak milk production and the economic scenarios of deliberate milk fat depression prior to and during peak milk production.

In an attempt to increase milk fat CLA content in lactating dairy cows it was discovered that administration of CLA dramatically decreased (50%) milk fat yield and percentage (Chouinard et al., 1999b; Looor and Herbein, 1998). Subsequent studies confirmed that abomasal infusion of a supplemental mixture of CLA isomers significantly reduced milk fat yield (Chouinard et al., 1999c, Mackle et al., 2002). Rumen-protected CLA (Ca<sup>++</sup> salts) also decrease milk fat when fed to cows consuming either a TMR or rotationally grazed (Geisy et al., 1999; Medeiros et al., 2000). The specific CLA isomer responsible for the effects on milk fat is the *trans*-10, *cis*-12 CLA as similar amounts of *cis*-9, *trans*-11 CLA had no effect (Figure 1, Baumgard et al., 2000b, 2002a). The effects of CLA supplements on milk fat synthesis in lactating dairy cows are summarized in Table 1.

The effects of CLA on milk fat are rapid and apparent within 24 hrs (Figure 1). Equally important is that milk fat production returns to normal levels within a few days after removal of CLA. Effects also appear to be specific for the fat component of milk. Most of the CLA studies have utilized cows in mid to late lactation and in these trials milk yield, milk protein, and dry matter intake have generally been unchanged in short term studies (Baumgard et al., 2000b; 2001; Chouinard et al., 1999b; Chouinard et al., 1999c; Looor and Herbein, 1998). However, the decrease in milk fat secretion without a

reduction in feed intake would cause a more positive net energy balance. CLA could have many benefits on production and animal well being by improving whole animal energy status during specific stages of lactation and at certain times of the year. These benefits may include increased milk yield, increased synthesis of other milk components, decreased metabolic disorders and improved reproductive efficiency.



**Figure 1.** Temporal pattern of milk fat content during abomasal infusion of conjugated linoleic acid (CLA) isomers. Infusions were 10 g/d of *cis*-9, *trans*-11 CLA or *trans*-10, *cis*-12 CLA. Adapted from Baumgard et al. (2000b).

Production of low fat milk can be easily accomplished by a number of dietary situations including low fiber/high concentrate rations, small fiber particle size and the inclusion of certain oils. However, often a deleterious side effect of diet induced milk fat depression is the increased risk of metabolic disorders including rumen acidosis, ketosis, displaced abomasums and lameness. Therefore, utilizing CLA to reduce milk fat synthesis while maintaining animal well-being, rumen health and production offers an exciting new management tool for dairymen.

### Milk Yield

Peak milk yield usually occurs approximately 40-60 DIM. Prior to and during this stage of lactation animals are in a negative energy balance. As a consequence, milk synthesis in high producing dairy cows may be limited by energy availability. This is especially pertinent during peak milk synthesis. Alleviating the energy crisis by reducing milk fat synthesis, during this stage of lactation, may cause an increase in production of other milk components and thus allow the animal to achieve its genetic potential. In the limited work-to-date utilizing rumen-protected CLA, cows treated in early lactation

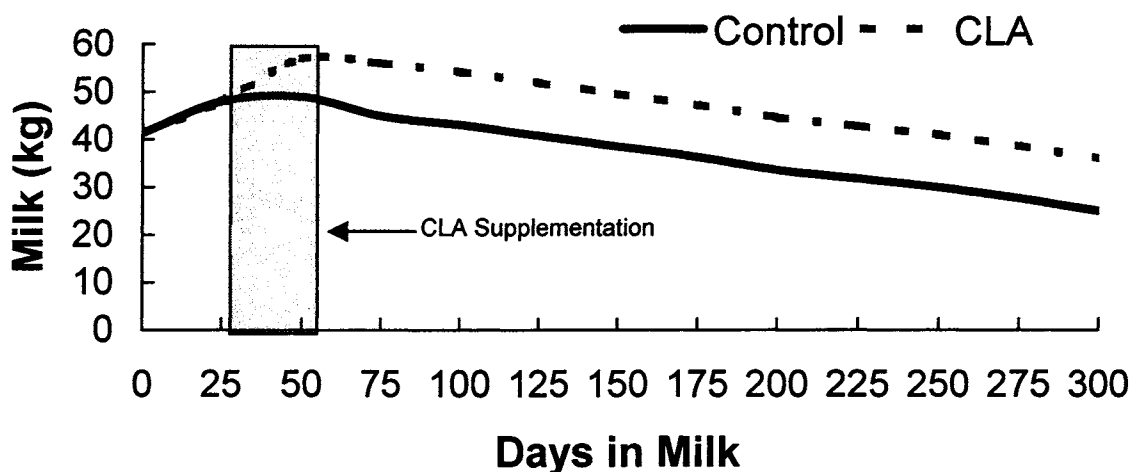
Table 2. Effects of conjugated linoleic acids (CLA) on lactation parameters.

| CLA<br>g/d                             | Duration<br>Days | Milk Yield<br>kg/d | Milk Fat<br>%      | Milk Fat<br>g/d   | Milk Protein<br>% | Milk Protein<br>g/d | Reference                  |
|----------------------------------------|------------------|--------------------|--------------------|-------------------|-------------------|---------------------|----------------------------|
| Abomasal Infusion of Mixed CLA Isomers |                  |                    |                    |                   |                   |                     |                            |
| 0                                      | 1                | 16.0               | 3.31 <sup>a</sup>  | 540 <sup>a</sup>  | 3.15 <sup>a</sup> | 790                 | Loor and Herbein, 1998     |
| 100                                    |                  | 15.0               | 2.66 <sup>b</sup>  | 400 <sup>b</sup>  | 2.99 <sup>b</sup> | 760                 |                            |
| 0                                      | 5                | 21.5               | 2.81 <sup>a</sup>  | 599 <sup>a</sup>  | 3.31              | 696                 | Chouinard et al., 1999b    |
| 30.6                                   |                  | 20.4               | 1.43 <sup>b</sup>  | 290 <sup>b</sup>  | 3.37              | 675                 |                            |
| 60.2                                   |                  | 20.9               | 1.38 <sup>b</sup>  | 295 <sup>b</sup>  | 3.53              | 717                 |                            |
| 91.8                                   |                  | 18.3               | 1.23 <sup>b</sup>  | 222 <sup>b</sup>  | 3.46              | 627                 |                            |
| 0                                      | 3                | 26.9               | 3.34 <sup>a</sup>  | 883 <sup>a</sup>  | 3.14              | 831                 | Chouinard et al., 1999c    |
| 17.5                                   |                  | 29.4               | 2.36 <sup>b</sup>  | 691 <sup>b</sup>  | 3.04              | 882                 |                            |
| 29.1                                   |                  | 26.8               | 2.43 <sup>b</sup>  | 633 <sup>b</sup>  | 3.15              | 829                 |                            |
| 14.7                                   |                  | 27.5               | 2.40 <sup>b</sup>  | 655 <sup>b</sup>  | 3.03              | 826                 |                            |
| 0                                      | 4                | 19.7               | 3.97 <sup>a</sup>  | 784 <sup>a</sup>  | 3.05              | 598                 | Mackie et al., 2002        |
| 20                                     |                  | 21.2               | 2.50 <sup>b</sup>  | 534 <sup>b</sup>  | 2.96              | 624                 |                            |
| 40                                     |                  | 21.9               | 2.28 <sup>b</sup>  | 501 <sup>c</sup>  | 2.97              | 650                 |                            |
| 80                                     |                  | 20.3               | 1.53 <sup>c</sup>  | 313 <sup>c</sup>  | 2.99              | 602                 |                            |
| Abomasal Infusion of Pure CLA isomers  |                  |                    |                    |                   |                   |                     |                            |
| 0                                      | 4                | 35.2               | 3.04 <sup>a</sup>  | 1068 <sup>a</sup> | 2.74 <sup>a</sup> | 965                 | Baumgard et al., 2000b     |
| 10 (c9, t11)                           |                  | 36.9               | 2.94 <sup>a</sup>  | 1086 <sup>a</sup> | 2.73 <sup>a</sup> | 1008                |                            |
| 10 (t10, c12)                          |                  | 36.2               | 1.92 <sup>b</sup>  | 696 <sup>b</sup>  | 2.57 <sup>b</sup> | 930                 |                            |
| 0                                      | 5                | 26.4               | 3.00 <sup>a</sup>  | 772 <sup>a</sup>  | 3.02              | 799                 | Baumgard et al., 2001      |
| 3.5 (t10, c12)                         |                  | 26.5               | 2.28 <sup>b</sup>  | 579 <sup>b</sup>  | 3.00              | 801                 |                            |
| 7.0 (t10, c12)                         |                  | 25.8               | 1.90 <sup>c</sup>  | 515 <sup>b</sup>  | 3.10              | 795                 |                            |
| 14 (t10, c12)                          |                  | 23.5               | 1.61 <sup>d</sup>  | 383 <sup>c</sup>  | 3.12              | 720                 |                            |
| 0                                      | 5                | 19.9               | 3.13 <sup>a</sup>  | 618 <sup>a</sup>  | 3.20              | 639                 | Baumgard et al., 2002b     |
| 14 (t10, c12)                          |                  | 17.1               | 1.80 <sup>b</sup>  | 320 <sup>b</sup>  | 3.36              | 536                 |                            |
| 0                                      | 5                | 31.8               | 3.22 <sup>a</sup>  | 1033 <sup>a</sup> | 2.95              | 930                 | Baumgard et al., 2002a     |
| 10 (c9, t11)                           |                  | 32.0               | 3.44 <sup>a</sup>  | 1106 <sup>a</sup> | 2.91              | 929                 |                            |
| 10 (t10, c12)                          |                  | 30.9               | 2.36 <sup>b</sup>  | 741 <sup>b</sup>  | 2.95              | 908                 |                            |
| 0                                      | 5                | 31.3               | 3.12 <sup>a</sup>  | 970 <sup>a</sup>  | 2.66              | 830                 | Peterson et al., 2002      |
| 1.25 (t10, c12)                        |                  | 31.4               | 2.91 <sup>ab</sup> | 900 <sup>a</sup>  | 2.62              | 820                 |                            |
| 2.50 (t10, c12)                        |                  | 31.5               | 2.60 <sup>bc</sup> | 810 <sup>ab</sup> | 2.62              | 810                 |                            |
| 5.00 (t10, c12)                        |                  | 28.9               | 2.40 <sup>c</sup>  | 690 <sup>b</sup>  | 2.75              | 780                 |                            |
| Rumen-Protected CLA Supplements        |                  |                    |                    |                   |                   |                     |                            |
| 0                                      | 70               | 46.1 <sup>a</sup>  | 3.20 <sup>a</sup>  | 1480 <sup>a</sup> | 3.00              | 1380                | Chouinard et al., 1999a    |
| 50                                     |                  | 50.7 <sup>b</sup>  | 2.68 <sup>b</sup>  | 1360 <sup>b</sup> | 2.99              | 1500                |                            |
| 0                                      | 35               | 16.6               | 2.80 <sup>a</sup>  | 458 <sup>a</sup>  | 2.79 <sup>a</sup> | 457 <sup>a</sup>    | Medeiros et al., 2000      |
| 90                                     |                  | 17.0               | 2.11 <sup>b</sup>  | 361 <sup>b</sup>  | 3.07 <sup>b</sup> | 517 <sup>b</sup>    |                            |
| 0                                      | 140              | 44.1               | 3.61 <sup>a</sup>  | 1570              | 2.77              | 1210                | Bernal-Santos et al., 2001 |
| 40                                     |                  | 47.0               | 3.15 <sup>b</sup>  | 1450              | 2.74              | 1260                |                            |
| 0                                      | 140              | 35.2               | 3.72 <sup>a</sup>  | 1310 <sup>a</sup> | 3.09              | 1088                | Perfield et al., 2001      |
| 40                                     |                  | 36.9               | 2.82 <sup>b</sup>  | 1048 <sup>b</sup> | 3.03              | 1118                |                            |

responded with an increase in milk yield and milk protein yield (Bernal-Santos et al., 2001; Chouinard et al., 1999a; Medeiros et al., 2000) whereas no increases were observed in cows treated during established lactation (Perfield et al., 2001).

To illustrate the bioenergetic potential, consider a cow producing 45 kg/d (100 lbs) of milk (normal composition). Feeding CLA during peak yield (40-60 DIM) and inhibiting milk fat synthesis by 50% would free up enough energy to produce an extra 11 kg of milk. Assuming energy was limiting genetic potential for milk production and 100% of additional energy was utilized for milk synthesis, this would result in a peak milk yield of 56.1 kg/d (123 lbs/d). This is particularly significant because each kg increase in peak milk yield equates to an increase in total lactation milk yield of approximately 127 kg (Dr. Bob Everett, Cornell University; Personal Communication; Figure 2). Therefore, in this example, using CLA to reduce milk fat synthesis during peak milk yield would result in an increase in total lactation yield of 1,400 kg or 3,080 lbs (normal composition).

## Hypothetical Lactation Curve



**Figure 2.** Hypothetical lactation curve using conjugated linoleic acid to reduce milk fat synthesis during peak yield. Assuming 100% of additional energy was utilized for milk synthesis and that every kg increase in peak milk yield equates to an increase in total lactation milk yield of approximately 127 kg.

### ECONOMICS

Does the increase in peak milk production offset the reduced value of milk during intentional milk fat depression? The following hypothetical partial budget will assume that normal milk (3.5% fat and 3.0% true protein) is worth \$15.00/cwt with fat valued at \$2.40/lb. We will also assume that peak milk production is 100 lbs (45.5 kg) during normal milk production.

Milk during planned milk fat depression will have an assumed composition of 2.0% fat and 3.0% true protein. Value of the low fat milk would be \$11.57/cwt. The

difference between the value of normal milk and the low fat milk is \$3.43/cwt. The gain in peak milk production would be 24 lbs if 100% of the spared energy were used for milk synthesis. This additional milk would be worth \$2.78/day (24 lb \* \$0.1157), making the net loss/day during milk fat depression \$0.65 or \$13.00 over the 20 days of intentional milk fat depression. Additional milk income generated from increased production post-peak due to the increased peak milk yield requires examination. In this example, peak milk yield increased 24 lbs, using the numbers presented in Figure 2 this increase would result in 3048 lbs of additional milk over the remainder of the lactation (24 lb=10.9 kg, 10.9 kg\*127 kg = 1,385.5 kg or 3,048 lb). This milk would be of normal composition and have a total value of \$457.00. If feed intake increases 1 lb of dry matter for every 2.5 lbs of milk, the additional feed intake would cost \$85 (assumes ration costs of \$0.07/lb of dry matter). The net income for planned milk fat depression through CLA supplementation would be \$359.00 (\$457.00-\$13.00-\$85.00; this financial forecast doesn't include the cost of CLA). In a second scenario, assume only 80% of the energy saved from reduced milk fat production went into additional peak milk yield, peak milk would be increased by 19 lbs and the net income would be \$269.00.

It must be stressed that these examples are only hypothetical. Inhibiting milk fat yield by 50% can be accomplished by abomasally infusing CLA (Chouinard et al., 1999; Baumgard et al., 2000) but to date, feeding rumen protected CLA has resulted in a much less reduction in milk fat yield (Geisy et al., 1999; Perfield et al., 2001).

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# High Cow Report

## November, 2001

### MILK

| <u>Arizona Owner</u> | <u>BarnNum.</u> | <u>Age</u> | <u>Milk</u> | <u>New Mexico Owner</u> | <u>BarnNum.</u> | <u>Age</u> | <u>Milk</u> |
|----------------------|-----------------|------------|-------------|-------------------------|-----------------|------------|-------------|
| * Stotz Dairy West   | 10659           | 7-5        | 41,120      | * Hafliger Dairy        | 2641            | 7-06       | 37,280      |
| * Mike Pylman Dairy  | 3757            | 4-2        | 39,620      | Pareo Dairy             | 729             | 6-11       | 37,065      |
| * Stotz Dairy West   | 19611           | 3-6        | 38,140      | Ken Miller Dairy        | 358             | 6-08       | 36,386      |
| * Stotz Dairy West   | 12523           | 3-10       | 37,900      | Goff Dairy              | 2976            | 5-06       | 36,250      |
| * Stotz Dairy West   | 5204            | 8-1        | 37,530      | Wayne Palla Dairy       | 6150            | 3-01       | 35,860      |
| * Stotz Dairy West   | 7768            | 7-4        | 37,040      | Ken Miller Dairy        | 453             | 5-10       | 35,627      |
| * Stotz Dairy West   | 7032            | 7-0        | 36,910      | Goff Dairy              | 11061           | 4-03       | 35,480      |
| * Stotz Dairy West   | 19493           | 3-5        | 36,200      | * Desperado Dairy       | 7894            | 4-03       | 35,460      |
| * Stotz Dairy West   | 11612           | 4-3        | 36,160      | * Break-Away Dairy      | 1011            | 6-06       | 35,120      |
| Butler Dairy         | 811             | 4-5        | 35,745      | * Hafliger Dairy        | 206             | 7-06       | 35,040      |

### FAT

| <u>Arizona Owner</u> | <u>Barn Num</u> | <u>Age</u> | <u>Fat</u> | <u>New Mexico Owner</u> | <u>Barn Num</u> | <u>Age</u> | <u>Fat</u> |
|----------------------|-----------------|------------|------------|-------------------------|-----------------|------------|------------|
| * Stotz Dairy West   | 11899           | 4-2        | 1611       | Pareo Dairy             | 1546            | 6-01       | 1433       |
| * Stotz Dairy West   | 19586           | 3-6        | 1496       | Breedyk Dairy           | 4813            | 5-06       | 1424       |
| * Stotz Dairy West   | 5924            | 6-10       | 1476       | * Hafliger Dairy        | 6151            | 4-03       | 1422       |
| * Stotz Dairy West   | 19611           | 3-6        | 1447       | * Hafliger Dairy        | 2641            | 7-06       | 1405       |
| * Stotz Dairy West   | 7622            | 7-4        | 1441       | Pareo Dairy             | 729             | 6-11       | 1380       |
| * Mike Plyman Dairy  | 3190            | 5-0        | 1413       | Pareo Dairy             | 153             | 5-03       | 1371       |
| Shamrock Dairy       | 13299           | 6-3        | 1399       | Ken Miller Dairy        | 358             | 6-08       | 1370       |
| * Stotz Dairy West   | 7442            | 7-4        | 1389       | Pareo Dairy             | 1367            | 7-05       | 1338       |
| * Stotz Dairy West   | 12115           | 4-1        | 1384       | Pareo Dairy             | 1951            | 5-02       | 1338       |
| * Stotz Dairy West   | 10659           | 7-5        | 1348       | * Hafliger Dairy        | 206             | 7-06       | 1334       |
|                      |                 |            |            | * Hafliger Dairy        | 6218            | 4-03       | 1334       |

### PROTEIN

| <u>Arizona Owner</u> | <u>Barn Num</u> | <u>Age</u> | <u>Protein</u> | <u>New Mexico Owner</u> | <u>Barn Num</u> | <u>Age</u> | <u>Protein</u> |
|----------------------|-----------------|------------|----------------|-------------------------|-----------------|------------|----------------|
| * Stotz Dairy West   | 10659           | 7-5        | 1108           | Goff Dairy              | 2976            | 5-06       | 1110           |
| * Horizon Dairy      | 2223            | 3-3        | 1088           | Ken Miller Dairy        | 453             | 5-10       | 1105           |
| * Stotz Dairy West   | 19611           | 3-6        | 1081           | * Desperado Dairy       | 7894            | 4-03       | 1104           |
| * Stotz Dairy West   | 12523           | 3-10       | 1076           | * Break-Away Dairy      | 1011            | 6-06       | 1102           |
| * Stotz Dairy West   | 11736           | 4-3        | 1056           | * Desperado Dairy       | 7966            | 4-03       | 1100           |
| * Mike Pylman Dairy  | 4039            | 3-11       | 1055           | Goff Dairy              | 11061           | 4-03       | 1096           |
| * Rio Blanco Dairy   | 2674            | 4-7        | 1053           | Ken Miller Dairy        | 75              | 4-08       | 1085           |
| * Stotz Dairy West   | 11612           | 4-3        | 1051           | Ken Miller Dairy        | 358             | 6-08       | 1078           |
| * Stotz Dairy West   | 7768            | 7-4        | 1041           | Pareo Dairy             | 729             | 6-11       | 1067           |
| * Stotz Dairy West   | 19493           | 3-5        | 1038           | Pareo Dairy             | 1546            | 6-01       | 1054           |

\* 3X day milking

**NOVEMBER, 2001**  
**ARIZONA - TOP 50% FOR F.C.M.<sup>b</sup>**

| <b>OWNERS NAME</b>                | <b>Number of Cows</b> | <b>MILK</b> | <b>FAT</b> | <b>3.5 FCM</b> | <b>DAYS OPEN</b> |
|-----------------------------------|-----------------------|-------------|------------|----------------|------------------|
| * Stotz Dairy West                | 2137                  | 27,045      | 919        | 26,597         | 191              |
| University of Arizona Holsteins   | 144                   | 26,006      | 910        | 26,003         | 179              |
| * Red River Dairy                 | 3905                  | 25,968      | 905        | 25,906         | 172              |
| Martha Linda Dairy                | 1842                  | 24,659      | 897        | 25,211         | 190              |
| * Zimmerman Dairy                 | 1215                  | 24,269      | 871        | 24,619         | 192              |
| * Hillcrest Dairy                 | 2456                  | 25,052      | 842        | 24,488         | 200              |
| * Mike Pylman Dairy               | 2433                  | 24,998      | 846        | 24,528         | 164              |
| * Stotz Dairy East                | 1230                  | 24,391      | 829        | 23,990         | 199              |
| Desert Ridge Dairy LLC            | 542                   | 24,627      | 817        | 23,899         | 190              |
| Paul Rovey Dairy                  | 427                   | 23,820      | 842        | 23,954         | 136              |
| * Arizona Dairy Company North     | 2624                  | 22,812      | 815        | 23,082         | 206              |
| University of Arizona Brown Swiss | 150                   | 21,848      | 838        | 23,038         | 191              |
| * Del Rio Holsteins               | 1218                  | 22,547      | 812        | 22,918         | 182              |
| * Arizona Dairy Company South     | 3100                  | 22,370      | 800        | 22,647         | 199              |
| * Saddle Mountain Dairy           | 2362                  | 23,888      | 749        | 22,472         | 141              |
| * Viss Dairy #1                   | 1101                  | 21,761      | 799        | 22,367         | 156              |
| * Wigwam Dairy                    | 1450                  | 22,555      | 761        | 22,093         | 172              |
| Butler Dairy                      | 608                   | 21,943      | 765        | 21,895         | 207              |
| * Dutch View Dairy                | 1589                  | 21,386      | 754        | 21,475         | 189              |
| * Viss Dairy #2                   | 1247                  | 20,669      | 767        | 21,376         | 146              |
| * Del Rio Brown Swiss             | 147                   | 20,388      | 766        | 21,239         | 167              |
| Shamrock Dairy                    | 7533                  | 21,157      | 731        | 21,003         | 150              |
| Lunts Dairy                       | 560                   | 20,150      | 755        | 20,957         | 155              |
| * Horizon Dairy                   | 1384                  | 20,771      | 732        | 20,852         | 218              |
| Parker Dairy                      | 4510                  | 20,009      | 741        | 20,669         | 176              |

**TOP 50% ACTUAL MILK - OFFICIAL & UNOFFICIAL HERDS FOR NEW MEXICO**

| <b>OWNERS NAME</b>    | <b>Number of Cows</b> | <b>MILK</b> | <b>FAT</b> | <b>3.5 FCM</b> | <b>DAYS OPEN</b> |
|-----------------------|-----------------------|-------------|------------|----------------|------------------|
| Ken Miller Dairy      | 317                   | 25,157      | 849        | 24,647         | 158              |
| * Do-Rene Dairy       | 2315                  | 24,833      | 847        | 24,474         | 130              |
| * Hafliger Dairy      | 1794                  | 24,770      | 910        | 25,469         | 123              |
| Price's Roswell Farm  | 2743                  | 24,446      | 902        | 25,199         | 149              |
| * S.A.S. Dairy        | 1935                  | 24,261      | 854        | 24,341         | 161              |
| Pareo Dairy           | 2271                  | 24,236      | 922        | 25,433         | 139              |
| McCatharn North Dairy | 1085                  | 23,903      | 820        | 23,634         | 143              |
| * Tallmon Dairy       | 528                   | 23,728      | 803        | 23,283         | 166              |
| * Wayne Palla Dairy   | 3124                  | 23,536      | 844        | 23,865         | 138              |
| * Vaz Dairy           | 1553                  | 22,888      | 785        | 22,628         | 159              |
| * Break-Away Dairy    | 1134                  | 22,199      | 782        | 22,281         | 145              |

\*3X a day milking

<sup>b</sup> Average Milk & Fat figure may be different from monthly herd summary; figures used are last day/mo.

@ Unofficial herds on data processing center records system

**ARIZONA & NEW MEXICO HERD IMPROVEMENT SUMMARY FOR  
OFFICIAL HERDS TESTED NOVEMBER, 2001**

|     |                                               | ARIZONA       | NEW MEXICO |
|-----|-----------------------------------------------|---------------|------------|
| 1.  | Number of Herds                               | 47            | 22         |
| 2.  | Total Cows in Herd                            | 70,190        | 32,160     |
| 3.  | Average Herd Size                             | 1,493         | 1,462      |
| 4.  | Percent Days in Milk                          | 84            | 85         |
| 5.  | Average Days in Milk                          | 190           | 192        |
| 6.  | Average Milk - All Cows Per Day               | 57.4          | 58.5       |
| 7.  | Average Percent Fat - All Cows                | 3.6           | 3.7        |
| 8.  | Total Cows in Milk                            | 58,960        | 27,102     |
| 9.  | Average Daily Milk for Milking Cows           | 66.6          | 68.4       |
| 10. | Average Days in Milk 1 <sup>st</sup> Breeding | 85            | 75         |
| 11. | Average Days Open                             | 158           | 145        |
| 12. | Average Calving Interval                      | 14.0          | 13.9       |
| 13. | Percent Somatic Cell - Linear 0-4             | 84            | 82         |
| 14. | Percent Somatic Cell - Linear 5-6             | 7             | 13         |
| 15. | Percent Somatic Cell - Linear 7 & above       | 9             | 75         |
| 16. | Average Previous Days Dry                     | 63            | 71         |
| 17. | Percent Cows Leaving Herd                     | 31            | 34         |
|     | *****                                         | *****         | *****      |
|     |                                               | STATE AVERAGE |            |
|     | MILK                                          | 21,236        | 22,345     |
|     | Percent Butterfat                             | 3.6           | 3.6        |
|     | Percent Protein                               | 2.9           | 3.0        |
|     | Lbs. Fat                                      | 757           | 804        |
|     | Lbs. Protein                                  | 624           | 677        |

## **NMSU Dairy Judging Team Competes at Ft. Worth**

The 2002 Southwestern Exposition and Livestock Show were recently held in Fort Worth, Texas. In only its second year, the NMSU Dairy Judging team competed in the dairy cattle judging contest and placed fourth overall. Twelve teams competed in the event. Team members include Valerie Rivas, T.J. Harrison, and John Fury. Janelle Duffey coaches the team. The NMSU team was 3<sup>rd</sup> in the Holstein class, 5<sup>th</sup> in the Guernsey class, and 5<sup>th</sup> in oral reasons. The team will compete at three other national contests in 2002 including the World Dairy Expo in Madison, WI. For more information on the NMSU Dairy Judging team, contact Dr. Michael Looper, Extension Dairy Specialist, at (505) 646-3019 or [mlooper@nmsu.edu](mailto:mlooper@nmsu.edu).

# High Cow Report

## December, 2001

### MILK

| <u>Arizona Owner</u> | <u>BarnNum.</u> | <u>Age</u> | <u>Milk</u> |
|----------------------|-----------------|------------|-------------|
| * Red River Dairy    | 133             | 4-4        | 41,554      |
| * Red River Dairy    | 6439            | 7-8        | 40,410      |
| * Stotz Dairy West   | 19638           | 3-7        | 403100      |
| * Hillcrest Dairy    | 2303            | 3-5        | 37,982      |
| * Rio Blanco Dairy   | 2451            | 4-10       | 37,320      |
| * Stotz Dairy West   | 7698            | 7-6        | 36,830      |
| * Rio Blanco Dairy   | 273             | 8-3        | 36,670      |
| * Mike Pylman Dairy  | 3001            | 5-8        | 36,580      |
| * Mike Pylman Dairy  | 59322           | 4-9        | 36,250      |
| * Red River Dairy    | 3730            | 6-6        | 36,278      |

| <u>New Mexico Owner</u> | <u>BarnNum.</u> | <u>Age</u> | <u>Milk</u> |
|-------------------------|-----------------|------------|-------------|
| * Hafliger Dairy        | 5988            | 6-06       | 39,080      |
| * Hafliger Dairy        | 3850            | 6-06       | 37,700      |
| Price's Roswell Farm    | 306             | 6-03       | 36,690      |
| S.A.S. Dairy            | 1294            | 5-05       | 36,688      |
| * Desperado Dairy       | 7955            | 4-03       | 36,110      |
| Pareo Dairy             | 1695            | 5-03       | 35,627      |
| Ken Miller Dairy        | 514             | 5-03       | 34,951      |
| Goff Dairy              | 3920            | 5-06       | 34,450      |
| Goff Dairy              | 14059           | 3-04       | 34,290      |
| * Do-Rene Dairy         | 58              | 6-06       | 34,250      |

### FAT

| <u>Arizona Owner</u> | <u>Barn Num</u> | <u>Age</u> | <u>Fat</u> |
|----------------------|-----------------|------------|------------|
| * Rio Blanco Dairy   | 273             | 8-3        | 1523       |
| * Mike Pylman Dairy  | 4469            | 4-0        | 1477       |
| * Stotz Dairy West   | 19638           | 3-7        | 1470       |
| * Mike Pylman Dairy  | 3807            | 4-3        | 1455       |
| * Red River Dairy    | 9994            | 4-4        | 1447       |
| * Red River Dairy    | 7200            | 6-6        | 1429       |
| * Red River Dairy    | 8666            | 6-7        | 1362       |
| * Stotz Dairy West   | 13491           | 3-2        | 1361       |
| * Red River Dairy    | 7585            | 6-6        | 1346       |
| * Rio Blanco Dairy   | 2155            | 5-6        | 1336       |

| <u>New Mexico Owner</u> | <u>Barn Num</u> | <u>Age</u> | <u>Fat</u> |
|-------------------------|-----------------|------------|------------|
| * Hafliger Dairy        | 5988            | 6-06       | 1587       |
| * Hafliger Dairy        | 3850            | 6-06       | 1472       |
| Pareo Dairy             | 1360            | 4-01       | 1323       |
| Goff Dairy              | 14059           | 3-04       | 1306       |
| * Hafliger Dairy        | 879             | 5-06       | 1298       |
| Pareo Dairy             | 1697            | 5-03       | 1283       |
| Pareo Dairy             | 720             | 6-01       | 1283       |
| * Desperado Dairy       | 7955            | 4-03       | 1274       |
| * Hafliger Dairy        | 5930            | 6-06       | 1270       |
| * Do-Rene Dairy         | 2168            | 5-06       | 1268       |

### PROTEIN

| <u>Arizona Owner</u> | <u>Barn Num</u> | <u>Age</u> | <u>Protein</u> |
|----------------------|-----------------|------------|----------------|
| * Red River Dairy    | 133             | 4-41       | 1241           |
| * Stotz Dairy West   | 19638           | 3-7        | 1240           |
| * Red River Dairy    | 6439            | 7-8        | 1173           |
| * Mike Pylman Dairy  | 3001            | 6-2        | 1108           |
| * Red River Dairy    | 841             | 4-4        | 1100           |
| * Rio Blanco Dairy   | 2451            | 4-10       | 1093           |
| * Mike Pylman Dairy  | 2889            | 5-8        | 1061           |
| * Rio Blanco Dairy   | 2242            | 5-5        | 1057           |
| * Stotz Dairy West   | 11728           | 4-5        | 1052           |
| * Rio Blanco Dairy   | 273             | 8-3        | 1048           |

| <u>New Mexico Owner</u> | <u>Barn Num</u> | <u>Age</u> | <u>Protein</u> |
|-------------------------|-----------------|------------|----------------|
| * Desperado Dairy       | 7955            | 4-03       | 1127           |
| * Hafliger Dairy        | 5988            | 6-06       | 1101           |
| Goff Dairy              | 11824           | 5-06       | 1084           |
| Goff Dairy              | 3920            | 5-06       | 1073           |
| Goff Dairy              | 14059           | 3-04       | 1071           |
| * Hideaway Dairy        | 1888            | 6-06       | 1043           |
| Goff Dairy              | 4677            | 5-06       | 1041           |
| Goff Dairy              | 13476           | 3-04       | 1040           |
| S.A.S. Dairy            | 1294            | 5-05       | 1040           |
| Pareo Dairy             | 1695            | 5-03       | 1038           |

\* 3X day milking

**DECEMBER, 2001**  
**ARIZONA - TOP 50% FOR F.C.M.<sup>b</sup>**

| <b>OWNERS NAME</b>                | <b>Number of Cows</b> | <b>MILK</b> | <b>FAT</b> | <b>3.5 FCM</b> | <b>D.I.M.</b> |
|-----------------------------------|-----------------------|-------------|------------|----------------|---------------|
| * Stotz Dairy West                | 2162                  | 26,895      | 916        | 26,483         | 216           |
| University of Arizona Holsteins   | 144                   | 25,978      | 915        | 26,072         | 173           |
| * Red River Dairy                 | 3905                  | 25,968      | 905        | 25,906         | 172           |
| Martha Linda Dairy                | 1842                  | 24,659      | 897        | 25,211         | 190           |
| * Zimmerman Dairy                 | 1215                  | 24,269      | 871        | 24,619         | 218           |
| * Hillcrest Dairy                 | 2451                  | 25,112      | 844        | 24,546         | 200           |
| * Mike Pylman Dairy               | 2498                  | 25,000      | 840        | 24,431         | 217           |
| Paul Rovey Dairy                  | 440                   | 24,238      | 859        | 24,411         | 191           |
| * Stotz Dairy East                | 1341                  | 24,688      | 839        | 24,280         | 215           |
| * Arizona Dairy Company North     | 2624                  | 22,812      | 815        | 23,082         | 206           |
| University of Arizona Brown Swiss | 147                   | 21,841      | 840        | 23,067         | 189           |
| * Del Rio Holsteins               | 1198                  | 22,547      | 812        | 22,918         | 182           |
| * Arizona Dairy Company South     | 3100                  | 22,370      | 800        | 22,647         | 199           |
| * Saddle Mountain Dairy           | 2320                  | 23,861      | 756        | 22,576         | 197           |
| DC Dairy, LLC                     | 1079                  | 21,849      | 801        | 22,438         | 200           |
| * Wigwam Dairy                    | 1441                  | 22,567      | 760        | 22,082         | 230           |
| Butler Dairy                      | 608                   | 21,978      | 762        | 21,861         | 206           |
| * Dutch View Dairy                | 1591                  | 21,372      | 749        | 21,388         | 224           |
| Danzeisen Dairy, LLC              | 1247                  | 20,699      | 767        | 21,376         | 188           |
| * Del Rio Brown Swiss             | 147                   | 20,388      | 766        | 21,239         | 167           |
| * Gladtime West Holsteins         | 337                   | 20,813      | 742        | 21,034         | 213           |
| Lunts Dairy                       | 574                   | 20,130      | 753        | 20,994         | 203           |
| Shamrock Dairy                    | 7434                  | 21,089      | 726        | 20,892         | 203           |
| * Horizon Dairy                   | 1384                  | 20,771      | 732        | 20,852         | 218           |
| Dairyland Milk Company            | 663                   | 20,238      | 734        | 20,654         | 211           |
| Parker Dairy                      | 4520                  | 19,987      | 738        | 20,611         | 218           |

**TOP 50% ACTUAL MILK - OFFICIAL & UNOFFICIAL HERDS FOR NEW MEXICO**

| <b>OWNERS NAME</b>    | <b>Number of Cows</b> | <b>MILK</b> | <b>FAT</b> | <b>3.5 FCM</b> | <b>D.I.M.</b> |
|-----------------------|-----------------------|-------------|------------|----------------|---------------|
| Ken Miller Dairy      | 313                   | 24,990      | 844        | 24,494         | 218           |
| * Do-Rene Dairy       | 2320                  | 24,985      | 847        | 24,540         | 181           |
| * Hafliger Dairy      | 1795                  | 24,825      | 919        | 25,639         | 185           |
| Price's Roswell Farm  | 2728                  | 24,411      | 902        | 25,184         | 201           |
| * Pareo Dairy         | 2355                  | 24,189      | 922        | 25,412         | 181           |
| * S.A.S. Dairy        | 1909                  | 24,179      | 858        | 24,370         | 195           |
| McCatharn North Dairy | 1068                  | 24,131      | 829        | 23,879         | 179           |
| * Tallmon Dairy       | 532                   | 23,877      | 815        | 23,542         | 218           |
| * Wayne Palla Dairy   | 3124                  | 23,536      | 844        | 23,865         | 194           |
| * Vaz Dairy           | 1553                  | 22,888      | 785        | 22,628         | 204           |
| * Wormont Dairy       | 1317                  | 22,273      | 795        | 22,524         | 193           |
| * Break-Away Dairy    | 1197                  | 22,140      | 765        | 21,980         | 193           |

\*3X a day milking

<sup>b</sup> Average Milk & Fat figure may be different from monthly herd summary; figures used are last day/mo.

@ Unofficial herds on data processing center records system

**ARIZONA & NEW MEXICO HERD IMPROVEMENT SUMMARY FOR  
OFFICIAL HERDS TESTED DECEMBER, 2001**

|     |                                               | ARIZONA       | NEW MEXICO |
|-----|-----------------------------------------------|---------------|------------|
| 1.  | Number of Herds                               | 49            | 24         |
| 2.  | Total Cows in Herd                            | 73,499        | 37,039     |
| 3.  | Average Herd Size                             | 1,500         | 1,543      |
| 4.  | Percent Days in Milk                          | 84            | 85         |
| 5.  | Average Days in Milk                          | 182           | 197        |
| 6.  | Average Milk - All Cows Per Day               | 57.1          | 60.0       |
| 7.  | Average Percent Fat - All Cows                | 3.7           | 3.7        |
| 8.  | Total Cows in Milk                            | 61,739        | 32,013     |
| 9.  | Average Daily Milk for Milking Cows           | 68.0          | 69.6       |
| 10. | Average Days in Milk 1 <sup>st</sup> Breeding | 82            | 79         |
| 11. | Average Days Open                             | 157           | 149        |
| 12. | Average Calving Interval                      | 13.9          | 14.1       |
| 13. | Percent Somatic Cell - Linear 0-4             | 80            | 78         |
| 14. | Percent Somatic Cell - Linear 5-6             | 14            | 16         |
| 15. | Percent Somatic Cell - Linear 7 & above       | 6             | 6          |
| 16. | Average Previous Days Dry                     | 63            | 69         |
| 17. | Percent Cows Leaving Herd                     | 31            | 33         |
|     | *****                                         | *****         | *****      |
|     |                                               | STATE AVERAGE |            |
|     | MILK                                          | 21,628        | 22,003     |
|     | Percent Butterfat                             | 3.6           | 3.7        |
|     | Percent Protein                               | 2.9           | 3.0        |
|     | Lbs. Fat                                      | 771           | 808        |
|     | Lbs. Protein                                  | 627           | 672        |

ARIZONA COOPERATIVE EXTENSION  
U.S. DEPARTMENT OF AGRICULTURE  
THE UNIVERSITY OF ARIZONA  
TUCSON, ARIZONA 85721

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