

TI/59 Program Based on Somatic Cell Counts for Estimating Subclinical Mastitis Loss

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Veterinary preventive medicine programs targeted to control disease and economic losses at the herd level require methods of monitoring the efficacy of the program. The monitoring system should estimate the level of infection and dollars lost for each disease. Mastitis is one of the most common and costly diseases of dairy cattle. Somatic cell counting is available to many dairymen and veterinarians and these counts are very useful as a method of monitoring level of infection, new infection rate and possibly duration of infection.¹⁻⁶ The somatic cell counts have also been related to production loss. This article presents a program based on individual cow somatic cell counts which estimates production loss. The program is written for the TI/59 programmable calculator and TC100 printer⁹.

Basis for Loss Estimates

Various researches have estimated the relationship of milk production loss to somatic cell counts made on composite milk samples from individual cows.^{1,5-8} Recent studies have indicated that even low counts may be related to significant reduction in production. The loss estimates and factors used in this program are listed below:

| Somatic Cell Count (x 100000) | % Lost Milk per Cow | Loss Factor |
|----------------------------------|------------------------|----------------|
| 0-3 | 3 | .97 |
| 4-7 | 7 | .93 |
| 8-15 | 10 | .90 |
| 16-25 | 15 | .85 |
| 26-35 | 22 | .78 |
| 36-45 | 25 | .75 |
| 45 and up | 30 | .70 |

As the loss percentages are further refined and more accurate estimates become available, these loss factors can be adjusted within the program to better suit the user's intentions.

The loss factors which are actually used in the program are derived in the following equation:

$$\text{Potential Production} = \text{Presentation Production} + \text{Mastitis Loss}$$

$$X = Y + \%X$$

By substituting into the equation for the various somatic cell groupings, the loss factors can be calculated. As an example, the loss factor for the 0-3 group would be .97 using a percentage loss of 3.

$$X = Y + \%X$$

$$X = Y + .03X$$

$$X - .03X = Y$$

$$.97X = Y$$

$$X = Y \div .97$$

For a cow producing 45 pounds of milk per day with a somatic cell count of 3, the loss would be as follows:

$$X = Y + \%X$$

$$X = + .03X$$

OR

$$X = 45 \div .97$$

$$X = 46.39$$

The loss would be

$$46.39 - 45 = 1.39 \text{ pounds per day lost.}$$

The program estimates for each group of somatic cell counts the present amount of milk being lost due to mastitis. The total lost for the herd is the sum of all the groups. The program further projects the production loss at a goal level. The goal level of infection is 90% of the cows in somatic cell group 0-3, 9% in group 4-7 and 1% in group 8-15. The program also determines the difference between the present and goal situations.

Program Results

The calculator first displays the numbers of cows in each somatic cell group under present conditions followed by the projected distribution at the goal level of infection. The pounds lost per day (LBS) for the present situation is then displayed. This is followed by the dollars lost per day (D/DA), the dollars lost per month (D/OM) and the dollars per cow per month (D/CM). The two remaining groups are the same figures for the goal level (GOAL LOSS) and the difference between the present and goal level (SAVED). An example of the program results is shown in Table 1. These results can be used to check the accuracy of the program after it is entered into the calculator and onto the magnetic cards.

Entering the Program into the Calculator

The entire program is listed in Table 2. Prior to entering

⁹Texas Instruments Co., Inc. Dallas, Texas.

Table 1. Program Example

| | | GOAL | | GOAL LOSS |
|---------|-----|--------------|------|-------------|
| | | 31.5 | 0-3 | 43.91935484 |
| | | 3.15 | -7 | 5.819314516 |
| PRESENT | | 0.35 | -15 | 174.5794355 |
| | | | | 4.987983871 |
| 15. | 0-3 | | | |
| 10. | -7 | PRESENT LOSS | | |
| 8. | -15 | | | SAVED |
| 1. | -25 | 115.3807406 | LBS | |
| 1. | -35 | 15.28794812 | D/DA | 71.46138573 |
| 0. | -45 | 458.6384437 | D/MO | 9.468633609 |
| 0. | 46† | 13.10395554 | D/CM | 284.0590083 |
| | | | | 8.115971665 |

The program calculates the mastitis loss for a herd of 35 dairy cows milking 45 pounds per cow per day. The value of the milk was \$13.25 cwt.

Table 2. Program Listing

| | | | | | | | | | | | | | | |
|-----|----|-----|-----|----|-----|-----|----|-----|-----|----|-----|-----|----|-----|
| 000 | 76 | LBL | 034 | 00 | 0 | 068 | 00 | 0 | 102 | 00 | 0 | 136 | 43 | RCL |
| 001 | 11 | A | 035 | 04 | 4 | 069 | 06 | 6 | 103 | 07 | 7 | 137 | 01 | 01 |
| 002 | 69 | OP | 036 | 69 | OP | 070 | 69 | OP | 104 | 06 | 6 | 138 | 65 | X |
| 003 | 00 | 00 | 037 | 04 | 04 | 071 | 04 | 04 | 105 | 00 | 0 | 139 | 93 | . |
| 004 | 03 | 3 | 038 | 43 | RCL | 072 | 43 | RCL | 106 | 69 | OP | 140 | 09 | 9 |
| 005 | 03 | 3 | 039 | 04 | 04 | 073 | 07 | 07 | 107 | 04 | 04 | 141 | 95 | = |
| 006 | 03 | 3 | 040 | 69 | OP | 074 | 69 | OP | 108 | 43 | RCL | 142 | 42 | STO |
| 007 | 05 | 5 | 041 | 06 | 06 | 075 | 06 | 06 | 109 | 10 | 10 | 143 | 23 | 23 |
| 008 | 01 | 1 | 042 | 02 | 2 | 076 | 02 | 2 | 110 | 69 | OP | 144 | 69 | OP |
| 009 | 07 | 7 | 043 | 00 | 0 | 077 | 00 | 0 | 111 | 06 | 06 | 145 | 06 | 06 |
| 010 | 03 | 3 | 044 | 01 | 1 | 078 | 00 | 0 | 112 | 98 | ADV | 146 | 02 | 2 |
| 011 | 06 | 6 | 045 | 00 | 0 | 079 | 04 | 4 | 113 | 98 | ADV | 147 | 00 | 0 |
| 012 | 01 | 1 | 046 | 69 | OP | 080 | 00 | 0 | 114 | 69 | OP | 148 | 01 | 1 |
| 013 | 07 | 7 | 047 | 04 | 04 | 081 | 06 | 6 | 115 | 00 | 00 | 149 | 00 | 0 |
| 014 | 69 | OP | 048 | 43 | RCL | 082 | 69 | OP | 116 | 02 | 2 | 150 | 69 | OP |
| 015 | 01 | 01 | 049 | 05 | 05 | 083 | 04 | 04 | 117 | 02 | 2 | 151 | 04 | 04 |
| 016 | 03 | 3 | 050 | 69 | OP | 084 | 43 | RCL | 118 | 03 | 3 | 152 | 43 | RCL |
| 017 | 01 | 1 | 051 | 06 | 06 | 085 | 08 | 08 | 119 | 02 | 2 | 153 | 01 | 01 |
| 018 | 03 | 3 | 052 | 02 | 2 | 086 | 69 | OP | 120 | 01 | 1 | 154 | 65 | X |
| 019 | 07 | 7 | 053 | 00 | 0 | 087 | 06 | 06 | 121 | 03 | 3 | 155 | 93 | . |
| 020 | 00 | 0 | 054 | 00 | 0 | 088 | 02 | 2 | 122 | 02 | 2 | 156 | 00 | 0 |
| 021 | 00 | 0 | 055 | 02 | 2 | 089 | 00 | 0 | 123 | 07 | 7 | 157 | 09 | 9 |
| 022 | 00 | 0 | 056 | 00 | 0 | 090 | 00 | 0 | 124 | 69 | OP | 158 | 95 | = |
| 023 | 00 | 0 | 057 | 06 | 6 | 091 | 05 | 5 | 125 | 01 | 01 | 159 | 42 | STO |
| 024 | 00 | 0 | 058 | 69 | OP | 092 | 00 | 0 | 126 | 69 | OP | 160 | 24 | 24 |
| 025 | 00 | 0 | 059 | 04 | 04 | 093 | 06 | 6 | 127 | 05 | 05 | 161 | 69 | OP |
| 026 | 69 | OP | 060 | 43 | RCL | 094 | 69 | OP | 128 | 00 | 0 | 162 | 06 | 06 |
| 027 | 02 | 02 | 061 | 06 | 06 | 095 | 04 | 04 | 129 | 01 | 1 | 163 | 02 | 2 |
| 028 | 69 | OP | 062 | 69 | OP | 096 | 43 | RCL | 130 | 02 | 2 | 164 | 00 | 0 |
| 029 | 05 | 05 | 063 | 06 | 06 | 097 | 09 | 09 | 131 | 00 | 0 | 165 | 00 | 0 |
| 030 | 00 | 0 | 064 | 02 | 2 | 098 | 69 | OP | 132 | 00 | 0 | 166 | 02 | 2 |
| 031 | 01 | 1 | 065 | 00 | 0 | 099 | 06 | 06 | 133 | 04 | 4 | 167 | 00 | 0 |
| 032 | 02 | 2 | 066 | 00 | 0 | 100 | 00 | 0 | 134 | 69 | OP | 168 | 06 | 6 |
| 033 | 00 | 0 | 067 | 03 | 3 | 101 | 05 | 5 | 135 | 04 | 04 | 169 | 69 | OP |

Table 2. Program Listing (Continued)

| | | | | | | | | | | | | | | |
|-----|----|-----|-----|----|-----|-----|----|-----|-----|----|-----|-----|----|-----|
| 170 | 04 | 04 | 215 | 00 | 0 | 262 | 53 | (| 309 | 43 | RCL | 356 | 07 | 7 |
| 171 | 43 | RCL | 216 | 00 | 0 | 263 | 53 | (| 310 | 02 | 02 | 357 | 01 | 1 |
| 172 | 01 | 01 | 217 | 00 | 0 | 264 | 43 | RCL | 311 | 54 |) | 358 | 04 | 4 |
| 173 | 65 | X | 218 | 00 | 0 | 265 | 02 | 02 | 312 | 65 | X | 359 | 03 | 3 |
| 174 | 93 | . | 219 | 00 | 0 | 266 | 55 | ÷ | 313 | 43 | RCL | 360 | 06 | 6 |
| 175 | 00 | 0 | 220 | 69 | OP | 267 | 93 | . | 314 | 08 | 08 | 361 | 69 | OP |
| 176 | 01 | 1 | 221 | 03 | 03 | 268 | 09 | 9 | 315 | 95 | = | 362 | 04 | 04 |
| 177 | 95 | = | 222 | 69 | OP | 269 | 54 |) | 316 | 44 | SUM | 363 | 43 | RCL |
| 178 | 42 | STO | 223 | 05 | 05 | 270 | 75 | - | 317 | 11 | 11 | 364 | 11 | 11 |
| 179 | 25 | 25 | 224 | 53 | (| 271 | 43 | RCL | 318 | 53 | (| 365 | 69 | OP |
| 180 | 69 | OP | 225 | 53 | (| 272 | 02 | 02 | 319 | 53 | (| 366 | 06 | 06 |
| 181 | 06 | 06 | 226 | 43 | RCL | 273 | 54 |) | 320 | 43 | RCL | 367 | 01 | 1 |
| 182 | 98 | ADV | 227 | 02 | 02 | 274 | 65 | X | 321 | 02 | 02 | 368 | 06 | 6 |
| 183 | 98 | ADV | 228 | 55 | ÷ | 275 | 43 | RCL | 322 | 55 | ÷ | 369 | 06 | 6 |
| 184 | 69 | OP | 229 | 93 | . | 276 | 06 | 06 | 323 | 93 | . | 370 | 03 | 3 |
| 185 | 00 | 00 | 230 | 09 | 9 | 277 | 95 | = | 324 | 07 | 7 | 371 | 01 | 1 |
| 186 | 03 | 3 | 231 | 07 | 7 | 278 | 44 | SUM | 325 | 05 | 5 | 372 | 06 | 6 |
| 187 | 03 | 3 | 232 | 54 |) | 279 | 11 | 11 | 326 | 54 |) | 373 | 01 | 1 |
| 188 | 03 | 3 | 233 | 75 | - | 280 | 53 | (| 327 | 75 | - | 374 | 03 | 3 |
| 189 | 05 | 5 | 234 | 43 | RCL | 281 | 53 | (| 328 | 43 | RCL | 375 | 69 | OP |
| 190 | 01 | 1 | 235 | 02 | 02 | 282 | 43 | RCL | 329 | 02 | 02 | 376 | 04 | 04 |
| 191 | 07 | 7 | 236 | 54 |) | 283 | 02 | 02 | 330 | 54 |) | 377 | 43 | RCL |
| 192 | 03 | 3 | 237 | 65 | X | 284 | 55 | ÷ | 331 | 65 | X | 378 | 03 | 03 |
| 193 | 06 | 6 | 238 | 43 | RCL | 285 | 93 | . | 332 | 43 | RCL | 379 | 55 | ÷ |
| 194 | 01 | 1 | 239 | 04 | 04 | 286 | 08 | 8 | 333 | 09 | 09 | 380 | 01 | 1 |
| 195 | 07 | 7 | 240 | 95 | = | 287 | 05 | 5 | 334 | 95 | = | 381 | 00 | 0 |
| 196 | 69 | OP | 241 | 42 | STO | 288 | 54 |) | 335 | 44 | SUM | 382 | 00 | 0 |
| 197 | 01 | 01 | 242 | 11 | 11 | 289 | 75 | - | 336 | 11 | 11 | 383 | 95 | = |
| 198 | 03 | 3 | 243 | 54 |) | 290 | 43 | RCL | 337 | 53 | (| 384 | 42 | STO |
| 199 | 01 | 1 | 244 | 54 |) | 291 | 02 | 02 | 338 | 53 | (| 385 | 19 | 19 |
| 200 | 03 | 3 | 245 | 43 | RCL | 292 | 54 |) | 339 | 43 | RCL | 386 | 43 | RCL |
| 201 | 07 | 7 | 246 | 02 | 02 | 293 | 65 | X | 340 | 02 | 02 | 387 | 11 | 11 |
| 202 | 00 | 0 | 247 | 55 | ÷ | 294 | 43 | RCL | 341 | 55 | ÷ | 388 | 65 | X |
| 203 | 00 | 0 | 248 | 93 | . | 295 | 07 | 07 | 342 | 93 | . | 389 | 43 | RCL |
| 204 | 02 | 2 | 249 | 09 | 9 | 296 | 95 | = | 343 | 07 | 7 | 390 | 19 | 19 |
| 205 | 07 | 7 | 250 | 03 | 3 | 297 | 44 | SUM | 344 | 54 |) | 391 | 95 | = |
| 206 | 03 | 3 | 251 | 54 |) | 298 | 11 | 11 | 345 | 75 | - | 392 | 42 | STO |
| 207 | 02 | 2 | 252 | 75 | - | 299 | 53 | (| 346 | 43 | RCL | 393 | 20 | 20 |
| 208 | 69 | OP | 253 | 43 | RCL | 300 | 53 | (| 347 | 02 | 02 | 394 | 69 | OP |
| 209 | 02 | 02 | 254 | 02 | 02 | 301 | 43 | RCL | 348 | 54 |) | 395 | 06 | 06 |
| 210 | 03 | 3 | 255 | 54 |) | 302 | 02 | 02 | 349 | 65 | X | 396 | 01 | 1 |
| 211 | 06 | 6 | 256 | 65 | X | 303 | 55 | ÷ | 350 | 43 | RCL | 397 | 06 | 6 |
| 212 | 03 | 3 | 257 | 43 | RCL | 304 | 93 | . | 351 | 10 | 10 | 398 | 06 | 6 |
| 213 | 06 | 6 | 258 | 05 | 05 | 305 | 07 | 7 | 352 | 95 | = | 399 | 03 | 3 |
| 214 | 00 | 0 | 259 | 95 | = | 306 | 08 | 8 | 353 | 44 | SUM | 400 | 03 | 3 |
| | | | 260 | 44 | SUM | 307 | 54 |) | 354 | 11 | 11 | | | |
| | | | 261 | 11 | 11 | 308 | 75 | - | 355 | 02 | 2 | | | |

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Table 2. Program Listing (Continued)

| | | | | | | | | | | | | | | |
|-----|----|-----|-----|----|-----|-----|----|-----|-----|----|-----|-----|----|-----|
| 401 | 00 | 0 | 446 | 02 | 2 | 491 | 09 | 9 | 536 | 00 | 0 | 581 | 65 | X |
| 402 | 03 | 3 | 447 | 07 | 7 | 492 | 03 | 3 | 537 | 95 | = | 582 | 43 | RCL |
| 403 | 02 | 2 | 448 | 00 | 0 | 493 | 54 |) | 538 | 42 | STO | 583 | 19 | 19 |
| 404 | 69 | OP | 449 | 00 | 0 | 494 | 75 | - | 539 | 13 | 13 | 584 | 95 | = |
| 405 | 04 | 04 | 450 | 69 | OP | 495 | 43 | RCL | 540 | 43 | RCL | 585 | 42 | STO |
| 406 | 43 | RCL | 451 | 01 | 01 | 496 | 02 | 02 | 541 | 13 | 13 | 586 | 16 | 16 |
| 407 | 20 | 20 | 452 | 02 | 2 | 497 | 54 |) | 542 | 99 | PRT | 587 | 43 | RCL |
| 408 | 65 | X | 453 | 07 | 7 | 498 | 65 | X | 543 | 55 | ÷ | 588 | 16 | 16 |
| 409 | 03 | 3 | 454 | 03 | 3 | 499 | 43 | RCL | 544 | 43 | RCL | 589 | 99 | PRT |
| 410 | 00 | 0 | 455 | 02 | 2 | 500 | 24 | 24 | 545 | 01 | 01 | 590 | 65 | X |
| 411 | 95 | = | 456 | 03 | 3 | 501 | 95 | = | 546 | 95 | = | 591 | 03 | 3 |
| 412 | 42 | STO | 457 | 06 | 6 | 502 | 44 | SUM | 547 | 42 | STO | 592 | 00 | 0 |
| 413 | 21 | 21 | 458 | 03 | 3 | 503 | 26 | 26 | 548 | 14 | 14 | 593 | 95 | = |
| 414 | 69 | OP | 459 | 06 | 6 | 504 | 53 | (| 549 | 43 | RCL | 594 | 42 | STO |
| 415 | 06 | 06 | 460 | 00 | 0 | 505 | 53 | (| 550 | 14 | 14 | 595 | 17 | 17 |
| 416 | 01 | 1 | 461 | 00 | 0 | 506 | 43 | RCL | 551 | 99 | PRT | 596 | 43 | RCL |
| 417 | 06 | 6 | 462 | 69 | OP | 507 | 02 | 02 | 552 | 98 | ADV | 597 | 17 | 17 |
| 418 | 06 | 6 | 463 | 02 | 02 | 508 | 55 | ÷ | 553 | 98 | ADV | 598 | 99 | PRT |
| 419 | 03 | 3 | 464 | 69 | OP | 509 | 93 | . | 554 | 69 | OP | 599 | 55 | ÷ |
| 420 | 01 | 1 | 465 | 05 | 05 | 510 | 09 | 9 | 555 | 00 | 00 | 600 | 43 | RCL |
| 421 | 05 | 5 | 466 | 53 | (| 511 | 54 |) | 556 | 03 | 3 | 601 | 01 | 01 |
| 422 | 03 | 3 | 467 | 53 | (| 512 | 75 | - | 557 | 06 | 6 | 602 | 95 | = |
| 423 | 00 | 0 | 468 | 43 | RCL | 513 | 43 | RCL | 558 | 01 | 1 | 603 | 42 | STO |
| 424 | 69 | OP | 469 | 02 | 02 | 514 | 02 | 02 | 559 | 03 | 3 | 604 | 18 | 18 |
| 425 | 04 | 04 | 470 | 55 | ÷ | 515 | 54 |) | 560 | 04 | 4 | 605 | 43 | RCL |
| 426 | 43 | RCL | 471 | 93 | . | 516 | 65 | X | 561 | 02 | 2 | 606 | 18 | 18 |
| 427 | 21 | 21 | 472 | 09 | 9 | 517 | 43 | RCL | 562 | 01 | 1 | 607 | 99 | PRT |
| 428 | 55 | ÷ | 473 | 07 | 7 | 518 | 25 | 25 | 563 | 07 | 7 | 608 | 98 | ADV |
| 429 | 43 | RCL | 474 | 54 |) | 519 | 95 | = | 564 | 01 | 1 | 609 | 98 | ADV |
| 430 | 01 | 01 | 475 | 75 | - | 520 | 44 | SUM | 565 | 06 | 6 | 610 | 98 | ADV |
| 431 | 95 | = | 476 | 43 | RCL | 521 | 26 | 26 | 566 | 69 | OP | | | |
| 432 | 42 | STO | 477 | 02 | 02 | 522 | 43 | RCL | 567 | 01 | 01 | | | |
| 433 | 22 | 22 | 478 | 54 |) | 523 | 26 | 26 | 568 | 69 | OP | | | |
| 434 | 69 | OP | 479 | 65 | X | 524 | 99 | PRT | 569 | 05 | 05 | | | |
| 435 | 06 | 06 | 480 | 43 | RCL | 525 | 65 | X | 570 | 43 | RCL | | | |
| 436 | 98 | ADV | 481 | 23 | 23 | 526 | 43 | RCL | 571 | 11 | 11 | | | |
| 437 | 98 | ADV | 482 | 95 | = | 527 | 19 | 19 | 572 | 75 | - | | | |
| 438 | 69 | OP | 483 | 42 | STO | 528 | 95 | = | 573 | 43 | RCL | | | |
| 439 | 00 | 00 | 484 | 26 | 26 | 529 | 42 | STO | 574 | 26 | 26 | | | |
| 440 | 02 | 2 | 485 | 53 | (| 530 | 12 | 12 | 575 | 95 | = | | | |
| 441 | 02 | 2 | 486 | 53 | (| 531 | 43 | RCL | 576 | 42 | STO | | | |
| 442 | 03 | 3 | 487 | 43 | RCL | 532 | 12 | 12 | 577 | 15 | 15 | | | |
| 443 | 02 | 2 | 488 | 02 | 02 | 533 | 99 | PRT | 578 | 43 | RCL | | | |
| 444 | 01 | 1 | 489 | 55 | ÷ | 534 | 65 | X | 579 | 15 | 15 | | | |
| 445 | 03 | 3 | 490 | 93 | . | 535 | 03 | 3 | 580 | 99 | PRT | | | |

the program, the calculator must be repartitioned to contain 719 program locations and 29 memory locations. The steps to repartition the calculator, enter the program into the calculator and prepare magnetic cards for permanent recording are listed on the next page. The program requires two cards (A and B).

| Steps | Key Strokes | Display |
|-------|---|---------|
| 1 | 3 | 3 |
| 2 | 2nd OP | 3 |
| 3 | 17 | 719,29 |
| 4 | LRN | 00000 |
| 5 | Enter the program from Table 2, then return to Step 6 | |
| 6 | LRN | 719.29 |
| 7 | 1 | 1 |
| 8 | INV | 1 |
| 9 | WRITE | "[" |
| 10 | Enter card A, side 1 | 1 |
| 11 | 2 | 2 |
| 12 | INV | 2 |
| 13 | Write | "[" |
| 14 | Enter card A, side 2 | 2 |
| 15 | 3 | 3 |
| 16 | INV | 3 |
| 17 | Write | "[" |
| 18 | Enter card B, side 1 | 3 |

Table 3. Program Input Variables

| Entry | Key Stroke |
|-----------------------------|------------|
| Number of cows in herd | STO 01 |
| Production/cow/day | STO 02 |
| Price per cwt milk | STO 03 |
| Cows in somatic cell groups | |
| 0-3 | STO 04 |
| 4-7 | STO 05 |
| 8-15 | STO 06 |
| 16-25 | STO 07 |
| 26-35 | STO 08 |
| 36-45 | STO 09 |
| 46 and up | STO 10 |

Using the Program

To use the program from the magnetic cards at a later date, the calculator must be repartitioned to match the partitions on the card. The repartitioned calculator will then accept the program from the cards. The procedure to use the cards is outlined below:

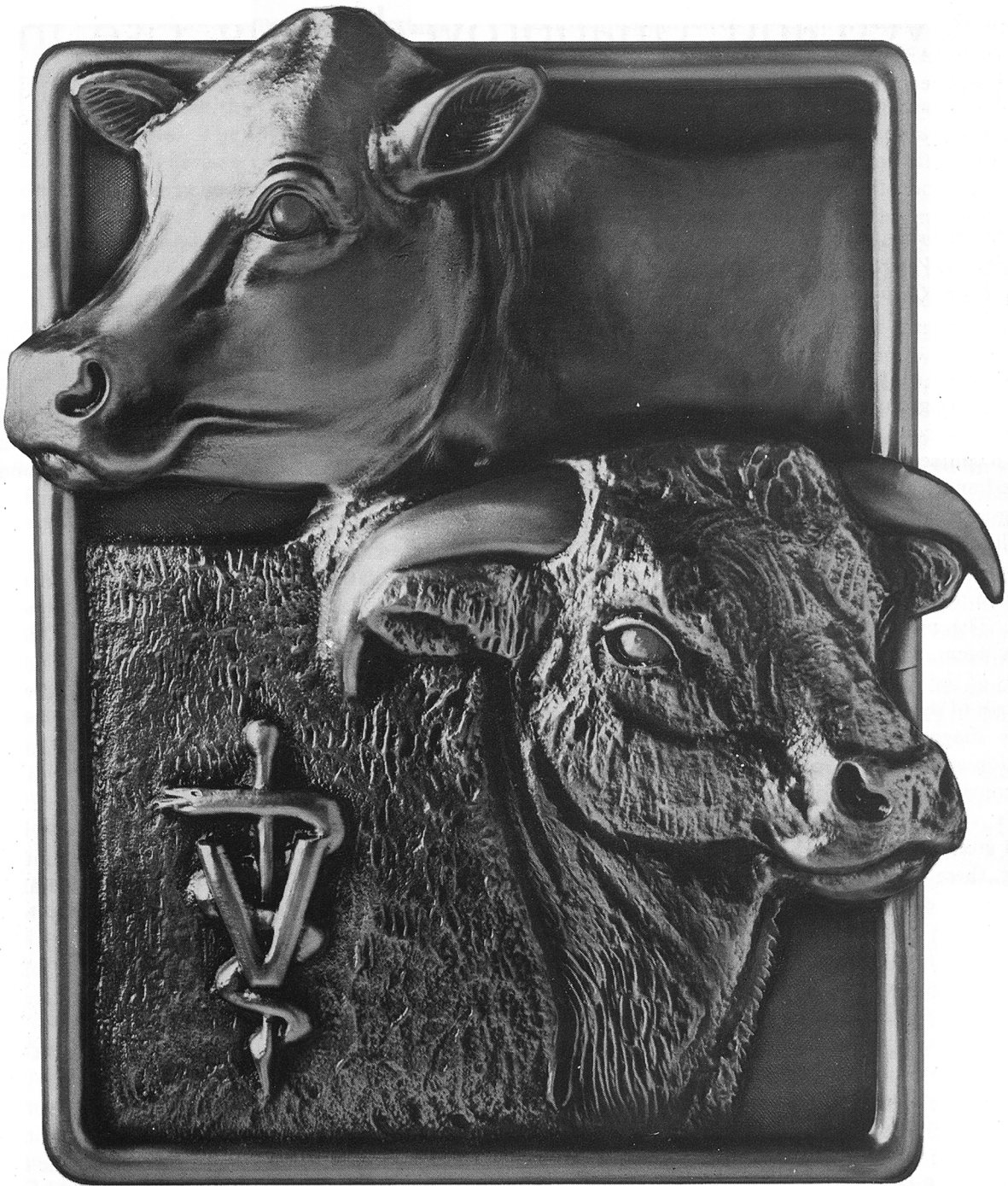
| Steps | Key Strokes | Display |
|-------|-------------------------------|---------|
| 1 | 3 | 3 |
| 2 | 2nd | 3 |
| 3 | 17 | 719.29 |
| 4 | 1 | 1 |
| 5 | INV | 1 |
| 6 | 2nd | |
| 7 | Write | "[" |
| 8 | Enter card A, side 1 | 1 |
| 9 | 2 | 2 |
| 10 | INV | 2 |
| 11 | 2nd | |
| 12 | Write | "[" |
| 13 | Enter card A, side 2 | 2 |
| 14 | 3 | 3 |
| 15 | INV | 3 |
| 16 | 2nd | |
| 17 | Write | "[" |
| 18 | Enter card B, side 1 | 3 |
| 19 | Enter Variables as in Table 3 | |
| 20 | Press A to run program | |

Conclusion

Monitoring the progress of a mastitis control program requires that the level of infection be known. The level of infection is more meaningful to the dairyman if it is expressed in terms of economic values—dollars and cents. The program presented in this article allows an economic appraisal of the effect of mastitis control to be easily and quickly estimated based on individual cow somatic cell counts. When a veterinarian is able to demonstrate to his dairy clientele that their mastitis control programs are increasing production and profit, the likelihood of continuing programs is greatly enhanced.

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