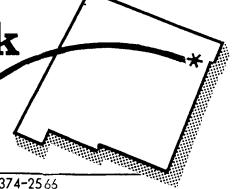


Clayton Livestock Research Center

PROGRESS REPORT



Route 1 Box 109

Clayton, New Mexico 88415

Tel. (505) 374-2566

Progress Report No. 52 (February 1988)

WHOLE SHELLED CORN IN RECEIVING FEEDS FOR NEWLY RECEIVED CALVES Glen P. Lofgreen, Mark Branine, Mike Hubbert and Danny Garcia

Whole shelled corn has been used in cattle feeding for many years and has proven useful under many feeding and management conditions. The purpose of the study reported herein was to determine if whole shelled corn could be used as an ingredient in rations for receiving stressed calves.

hundred and thirty calves were purchased from an order buyer in Missouri and shipped to Clayton, New Mexico, a haul of approximately 750 miles. Upon arrival the calves were given free access to native grass hay and water over night. following morning they were processed and placed on their respective nutritional treatments as predetermined on a random basis. Processing consisted of weighing, ear-tagging, branding, implanting, dehorning and castrating as necessary, vaccinating for IBR-PI, and 7-way blackleg, injection of ivermectin and vitamin A. As preventative medication all calves were given LA 200® and Albon SR®.

Following processing three pens of 10 or 11 head each were placed on the following nutritional treatments: (1) native grass hay only; (2) whole shelled corn plus native grass hay; (3) whole shelled corn plus a pelleted protein supplement containing 20% crude protein fed in a 3:1 ratio plus native grass hay; (4) a 75% concentrate milled feed with native grass hay being limited to the first week.

Feed consumption, performance and health data are presented in the accompanying table. Although calves supplied native

grass hay and whole shelled corn consumed corn readily the addition of a protein supplement increased both feed consumption and weight gains and improved the feed to gain ratio. Weight gains achieved by calves fed whole shelled corn and a protein supplement plus native grass hay were nearly equal to the gains made by calves fed the standard receiving feed used at this center, consisting of a 75% concentrate milled feed plus native grass hay limited to the first week. Calves supplied native grass hay appeared to gain as rapidly as those fed whole shelled corn plus hay. earlier work has shown gains made by calves fed native grass hay alone consist primarily of fill. Weight gains achieved in this trial by calves fed only native grass hay reached a peak in the second week following arrival but dropped to -.03 lb. daily during the fourth week. Apparently they could not consume sufficient hay to increase the fill. Hay consumption also dropped during the fourth week.

Purchase price of this load of calves was \$99.67 per cwt. delivered to Clayton, NM. After four weeks on the above receiving rations the cost had been reduced to below \$90.00 per cwt. on whole corn plus the protein supplement and on the 75% concentrate milled feed. The cost of the five deads was applied to all treatments by dividing the cost of the deads by the number of calves remaining and dividing it equally among the four groups.

From this study it appears feasible to feed whole shelled corn and a protein supplement with grass hay.

Performance, Health and Costs for a 28-Day Receiving Period

| Treatment days Trea | | Receiving Feed | | | |
|--|----------------------------------|---------------------------|-------------------|--------------|--------------|
| Item | | | | | |
| Stem | | | | Whole corn | |
| Stass hay only only hay and grass hay first week | | _ | | plus protein | 75% conc. |
| Number of calves purchased 33 32 32 32 33 33 32 32 33 33 35 352 371 365 Daily feed intake, 1b. Native grass hay 9.7 3.0 3.0 1.2 Native grass hay 9.7 3.0 3.0 1.2 Whole shelled corn 0 7.7 7.3 0 Protein supplement 0 0 2.4 0 75% conc. milled feed 0 0 2.4 0 Totals 9.7°a 10.7°a 12.7°b 12.1°b Gross daily weight gain, 1b. 1.96°a 1.96°a 3.25°b 3.39°b Feed to gain ratio 4.95 5.46 3.91 3.57 Number of calves treated for BRD 2 3 4 2 Treatment days 6 7 15 7 Treatment days per sick calf 3.0 2.3 3.8 2.3 Deads 0 2 1 2 <th>T+</th> <th>_</th> <th>plus grass</th> <th></th> <th></th> | T+ | _ | plus grass | | |
| Purchase weight, lb. per calf 353 352 371 365 Daily feed intake, lb. Native grass hay 9.7 3.0 3.0 1.2 Whole shelled corn 0 7.7 7.3 0 Protein supplement 0 0 2.4 0 75% conc. milled feed 0 0 10.7 12.7 12.7 12.1 15 Gross daily weight gain, lb. 1.96 1.96 3.25 3.39 13.57 Number of calves treated for BRD 2 3 4 2 Treatment days 6 7 15 7 Treatment days per sick calf 3.0 2.3 3.8 2.3 Deads 0 2 1 2 Cost of Medication, \$ per pen 10.30 13.60 29.86 10.98 Medication cost per head, \$ 351.84 350.84 369.78 363.80 Medication cost per head, \$ 9.64 12.36 17.12 17.67 Death loss, \$ per head 14.35 14.35 14.35 14.35 Cost per head at 28 days, \$ 376.14 377.98 603.18 | | | hay | | |
| Daily feed intake, 1b. Daily feed intake, 1b. Native grass hay Whole shelled corn Protein supplement O O O O O O O O O O O O O O O O O O O | Number of calves purchased | 33 | 32 | | |
| Native grass hay Whole shelled corn Protein supplement O O O O O O O O O O O O O O O O O O O | Purchase weight, lb. per calf | 353 | 352 | | |
| Whole shelled corn Protein supplement O O O O O O O O O O O O O O O O O O O | | | | 3,1 | 307 |
| Whole shelled corn Protein supplement 75% conc. milled feed Totals Gross daily weight gain, 1b. Feed to gain ratio Number of calves treated for BRD Treatment days Treatment days per sick calf Deads Cost of Medication, \$ per pen Purchase price per head, \$ Medication cost per head, \$ Medication cost per head, \$ Death loss, \$ per head Cost per head at 28 days, \$ Modication Protein supplement 0 7.7 7.3 0 0 10.7 10.9 | | 9.7 | 3.0 | 3 0 | 1 0 |
| Protein supplement 75% conc. milled feed | | 0 | | | |
| 75% conc. milled feed Totals Gross daily weight gain, 1b. Feed to gain ratio Number of calves treated for BRD Treatment days Feed to gain ratio Treatment days Treat | Protein supplement | 0 | | | - |
| Totals Gross daily weight gain, 1b. 1.96 Feed to gain ratio Number of calves treated for BRD Treatment days Freatment days Cost of Medication, \$ per pen Purchase price per head, \$ Medication cost per head, \$ Medication s, \$ per pen Purchase price per head, \$ Medication cost per head, \$ Medica | | | | | - |
| Feed to gain ratio 1.96 | | $\frac{-\frac{3}{9}}{7}a$ | $\frac{0}{10.7}a$ | ———— h | |
| Feed to gain ratio 4.95 5.46 3.91 3.57 Number of calves treated for BRD 2 Treatment days 6 7 Treatment days per sick calf 3.0 2.3 Cost of Medication, \$ per pen 10.30 Purchase price per head, \$ Medication cost per head, \$ Medication cost per head, \$ Death loss, \$ per head Cost per head at 28 days, \$ 3.69 3.91 3.57 3.39 3.57 4 2 2 3 4 2 15 7 7 15 7 15 7 15 7 15 7 15 7 15 7 15 7 15 7 15 7 15 7 15 7 15 7 15 7 15 7 15 15 | Gross daily weight gain, 1b. | 1 96 a | 10.7 | | |
| Number of calves treated for BRD 2 3 4 2 Treatment days 6 7 15 7 Treatment days per sick calf 3.0 2.3 3.8 2.3 Deads 0 2 1 2 Cost of Medication, \$ per pen 10.30 13.60 29.86 10.98 Purchase price per head, \$ 351.84 350.84 369.78 363.80 Medication cost per head, \$ 31 .43 .93 .33 Feed cost per head, \$ 9.64 12.36 17.12 17.67 Death loss, \$ per head 1 14.35 14.35 14.35 Cost per head at 28 days, \$ 376.14 377.98 402.18 | Feed to gain ratio | | | | 3.39 |
| Treatment days 6 7 15 7 Treatment days per sick calf 3.0 2.3 3.8 2.3 Deads 0 2 1 2 Cost of Medication, \$ per pen 10.30 13.60 29.86 10.98 Purchase price per head, \$ 351.84 350.84 369.78 363.80 Medication cost per head, \$.31 .43 .93 .33 Feed cost per head, \$ 9.64 12.36 17.12 17.67 Death loss, \$ per head 1.4.35 14.35 14.35 Cost per head at 28 days, \$ 376.14 377.98 402.18 | - G | 4.70 | J.46 | 3.91 | 3.57 |
| Treatment days 6 7 15 7 Treatment days per sick calf 3.0 2.3 3.8 2.3 Deads 0 2 1 2 Cost of Medication, \$ per pen 10.30 13.60 29.86 10.98 Purchase price per head, \$ 351.84 350.84 369.78 363.80 Medication cost per head, \$.31 .43 .93 .33 Feed cost per head, \$ 9.64 12.36 17.12 17.67 Death loss, \$ per head 14.35 14.35 14.35 Cost per head at 28 days, \$ 376.14 377.98 402.18 | Number of calves treated for BRD | 2 | 3 | /4 | 0 |
| Treatment days per sick calf Deads Cost of Medication, \$ per pen 10.30 Purchase price per head, \$ Medication cost per head, \$ Death loss, \$ per head Cost per head at 28 days, \$ 3.0 2.3 3.8 2.3 2.3 2.3 2.3 2.3 2.3 | | | 7 | | |
| Deads 0 2 1 2 Cost of Medication, \$ per pen 10.30 13.60 29.86 10.98 Purchase price per head, \$ 351.84 350.84 369.78 363.80 Medication cost per head, \$.31 .43 .93 .33 Feed cost per head, \$ 9.64 12.36 17.12 17.67 Death loss, \$ per head 14.35 14.35 14.35 Cost per head at 28 days, \$ 376.14 377.98 402.18 | | | | | • |
| Cost of Medication, \$ per pen 10.30 13.60 29.86 10.98 Purchase price per head, \$ 351.84 350.84 369.78 363.80 Medication cost per head, \$.31 .43 .93 .33 Feed cost per head, \$ 1.2.36 17.12 17.67 Death loss, \$ per head 14.35 14.35 14.35 Cost per head at 28 days, \$ 376.14 377.98 402.18 | | | | 3.8 | |
| Purchase price per head, \$ 351.84 350.84 369.78 363.80 Medication cost per head, \$.31 .43 .93 .33 Feed cost per head, \$ 9.64 12.36 17.12 17.67 Death loss, \$ per head 14.35 14.35 14.35 Cost per head at 28 days, \$ 376.14 377.98 402.18 | Cost of Medication S per pen | • | | 1 | 2 |
| Medication cost per head, \$.31 .43 .93 .33 Feed cost per head, \$ 1 .43 .93 .33 Death loss, \$ per head 14.35 .14.35 .14.35 Cost per head at 28 days, \$ 376.14 .377.98 .402.18 | Purchase price per hand & | | | | 10.98 |
| Feed cost per head, \$ 9.64 12.36 17.12 17.67 Death loss, \$ per head 14.35 14.35 Cost per head at 28 days, \$ 376.14 377.98 402.18 | Medication cost per head s | | | 369.78 | 363.80 |
| Death loss, \$ per head 14.35 14.35 14.35 14.35 Cost per head at 28 days, \$ 376.14 377.98 402.18 | Feed cost per head & | | | .93 | .33 |
| Cost per head at 28 days, \$ 376.14 377.98 402.18 | Dooth loss & read, \$ | | | 17.12 | 17.67 |
| cost per head at 28 days, \$ 376.14 377.98 402.19 | Cont nor band of one | | 14.35 | 14.35 | |
| | Woight and Land 28 days, \$ | | 377.98 | 402.18 | 396.15 |
| weight per head at 28 days, 1b. 408 407 462 | weight per head at 28 days, 1b. | 408 | 407 | | |
| Cost per cwt. at 28 days, \$ 92.19 92.87 87.05 86.12 | cost per cwt. at 28 days, \$ | 92.19 | 92.87 | | |

Mean purchase weight x purchase price per pound x no. of deads number of surviving calves = $\frac{(360)(.9967)(5)}{125} = 14.35

Bobby J. Rankin, Head, Department of Animal and Range Sciences

AGRICULTURAL EXPERIMENT STATION
NEW MEXICO STATE UNIVERSITY
LAS CHUCES, NEW MEXICO 88003-0058
DINNEM. Bright, Acting Director
Publication

PENALTY FOR PRIVATE USE, \$300

BULK RATE
POSTAGE & FEES PAID
USDA
PERMIT No. G269

a,b Values having unlike superscripts are significantly different.