

reciprocal ( $r = 0.29$ ) between ration roughage and daily gain.

Replacing part of the cottonseed meal with urea reduced rate of gain and increased nutrients required for maintenance and gain. Recent advances in feeding cattle (6) show that nutrient deficiencies of urea can be corrected by adequate nutrition of rumen organisms.

Transit shrink, based on pen and slaughter plant weights, ranged from 0.9% to 6.3%. Much of this difference was due to the rations fed, intestinal fill, degree of fleshing, disposition of animals and the distance cattle were hauled — 42 miles in early trials, 80 miles when delivered at Tampa, and 196 when cattle were slaughtered at Gainesville.

Average carcass grade of all cattle slaughtered was Low Good with a range for groups from Standard to Low Choice. Most cattle had a potential of Good to Choice carcass grades, but many failed to reach these grades because of shortness of feeding period and rations lacking either in palatability or in energy. Feeding urea, ammoniated pulp, and bagasse reduced palatability, and giving cattle free access to either good quality pangolagrass hay or silage reduced ration TDN, with a resultant lower rate of gain.

## CONCLUSIONS

The two most available Florida citrus feed products are citrus pulp and citrus molasses. Their known value is substantiated by the combined statistical study of data from several feeding trials.

### Citrus pulp:

1. Readily available in large quantities.
2. It is rich in energy nutrients. It can be the main source of energy nutrients in rations for calves, yearlings, and older cattle.
3. Palatable to cattle and combines easily with other feed ingredients in balanced rations.
4. Citrus pulp, because of its bulk, reduced digestive disturbances to a minimum with cattle on full feed.
5. Cattle fed citrus pulp had dressing per cent and carcass grade consistent with quality of experimental animals and length of feeding period.