During growth protein needs are high; the younger the cattle are, the higher the percentage of protein needed in the ration. More pounds of protein are required as weight increases. Perhaps the most practical approach to this problem is to feed the same daily allowance of protein supplement throughout the fattening period. As the cattle gain weight they will eat more total feed and thus get more pounds of protein from other sources, but at the same time the percentage of protein supplement in the ration will decrease as the corn consumption increases.

Minerals.—Thirteen mineral elements are known to be needed in the feed, but deficiencies of only a few of these are likely to occur. Salt, calcium and phosphorus should be given special attention. Under certain Florida conditions additional sources of iron, copper and cobalt are needed. The remaining elements are present in adequate quantities in Florida feeds. Salt is always lacking and calcium and possibly phosphorus may be deficient in dry lot fattening rations.

At the North Florida Station steers in dry lot are self-fed common salt and steamed bonemeal in a two-compartment trough. This satisfies the need for salt in the ration and insures against any possible lack of either calcium or phosphorus, since bonemeal is a good source of both.

Vitamins.—Vitamin A is the vitamin most likely to be lacking in dry lot rations. Feeding bright green hays is a good safeguard to prevent vitamin A deficiencies. Yellow corn is a fairly good source. Rations such as cottonseed meal and hulls are very low in vitamin A. Cases of so-called "cottonseed meal poisoning" resulting from feeding cottonseed meal and hulls for an extended period have been found to be due to a lack of vitamin A.

Fortunately, cattle are able to store considerable quantities of vitamin A while on green feed, and deficiencies do not occur during short feeding periods. The Texas Station (*11*, *20*) found that 250- to 400-pound calves may be expected to show deficiency symptoms after 40 to 80 days' feeding on rations low in vitamin A. Calves weighing over 400 pounds showed this condition in 80 to 120 days and yearlings after 100 to 150 days. The first deficiency symptom is night blindness, followed by sluggishness, eye discharge, failure to gain, rapid breathing, swollen joints, total blindness, and convulsions. Death finally ensues if cor-