Why feed cattle whole corn

- Roughage doesn't provide enough energy for high gains.
- Rumen bacteria are not efficient at digesting grain.
- Although 2-4% of kernels pass through undigested, the improved efficiency outweighs the small loss of corn
- If a small amount of roughage is fed, it is not utilized by the cattle. The specific bacteria and protozoa that digest fibrous roughage do not survive in the more acid rumen environment which results from grain digestion.

Whole corn is chewed in large pieces that pass into the intestines.

Additional factors to make whole corn, no-roughage feeding work

- Protein and mineral supplementation must be designed to fit the needs for the shift in digestion to the intestine and the higher potential rates of gain from less feed.
- Feed bunk or feeder management must ensure the cattle have access to feed at all times, so feed intake and digestion remains uniform, thus overloading the animal with grain for short periods of time should not occur.
- Summary of trials show ADG-6% advantage with whole corn and F: G-4% advantage.
- Ground corn can impact the rumen and damage the papilli.

Whole versus ground or cracked corn

- **Pennsylvania State University**
  Grinding dry shelled corn did not pay with cattle fed two pounds per head daily of alfalfa or grass hay.

- **University of Missouri-Columbia** (from Agriculture publication G02054)
  In general, corn between 14 and 19 percent in moisture is not improved by dry-rolling or grinding when fed in low roughage rations.

- **Panhandle Research and Extension Center, Nebraska**
  (As published in 2000 Nebraska Beef Report, pg. 38)
  Feeding trials with growing-finishing cattle have seldom shown performance benefits for cracking dry corn compared to feeding it whole.

Effects of corn particle size on ruminal pH