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WET AND DRY CITRUS PULP ARE BOTH GOOD FEED FOR CATTLE

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In October or November, citrus processing plants begin squeezing citrus for concentrate. Currently, most of the pulp is dehydrated and sold to European markets. Since the early 1900's, many cattle producers have used wet and dry citrus feeds as energy supplements for dairy and beef cattle.

Feeding value of citrus by-products varies depending upon the type of fruit and processing method. Wet or dry pulp may or may not be pressed to remove press liquor for citrus molasses. Dehydrated pulp may contain varying amounts of fines, or the fines may be removed, pelleted and added back to the final product. Generally, citrus pulp is low in protein and high in energy value. As with molasses, citrus pulp is high in calcium, but low in phosphorus. Dr. Clarence Ammerman in Gainesville found the protein of citrus pulp to range from 4.9 to 9.3 percent and average 6.2 percent. Pulp containing the most seeds was greatest in protein. The total digestible nutrient (TDN) content of citrus pulp is approximately 80 percent. When fed at levels of no more than 40 percent of the diet, pulp has a feeding value 85 to 90 percent that of corn. Research from Belle Glade by Dr. H.L. Chapman, and recent work from the AREC-Ona suggests that citrus pulp has an energy value similar to that of molasses.

Current price for dry pulp is \$95/ ton FOB the plant. Dry pulp is about 88 percent dry matter (DM), making the price \$108/ton of DM. Transportation costs must be added. Dry pulp can be purchased pelleted or not pelleted. Pelletting increases bulk density, and reduces transportation costs. Dry pulp can be stored in bins or piled under cover. Adequate bunk space is needed, and labor requirements may be greater than feeding a liquid feed, but pulp provides an option when a dry feed is desired.

Many options are possible for feeding wet pulp. Many citrus processing plants do not have dehydrators, and sell wet pulp to plants that have dehydrators. Plants with dehydrators currently pay approximately \$5.50/ton for wet pulp, with the selling plant usually providing transportation. Cattle producers located a similar distance that the selling plant trucks wet pulp to a dehydrator, may arrange for the selling plant to deliver wet pulp to the ranch. With wet pulp containing 20 percent DM, the above price converts to \$27.50/ton of DM. If cattle producers arrange for transportation of the wet pulp, most plants without dehydrators do not charge for the pulp. As an example, using a hauling charge of \$2.50/mile for a 20 ton load, a distance of 50 miles from the plant to the ranch, and no charge for the pulp, price per ton of pulp DM is \$31.25. Percentage waste is greater when large piles are made, as compared to many small piles that will be consumed in a few days.

In one instance, several cattle producers located near a plant without a dehydrator purchased a dump truck. The plant does not charge for the pulp, and the producers share the wet pulp. When fresh pulp production exceeds drying capacity of a plant, or a dehydrator breaks, plants must dispose of the wet pulp. Producers near plants with dehydrators may inform the plant that they would be interested in wet pulp in these cases.

Cattle producers located near a citrus processing plant may consider feeding wet or dry pulp this winter. Even though wet pulp is 80 percent moisture, favorable economics may exist even accounting for transportation. The extent to which pulp is fed will depend upon the relative cost of nutrients in the pulp as compared to nutrients in other available feed ingredients. As with any energy supplement, when pulp is fed as a supplement to pasture, proper levels of supplemental protein and minerals should be included. The above information provides guidelines and ideas for use. Additional information can be obtained by calling the research center 941-735-1314.