Ups and Downs Of Cattle Weights In Ceara, Brazil

By Ray Anderson
and
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It is known that the productivity of the cattle industry of Ceará and Northeast Brazil is low and also that the cattle are not provided with supplemental feed during the season of natural forage shortages. An effective means of analyzing this existing situation is to determine what the animal weight response is to the conditions that surround them. That is, when they gain or lose weight and how this is related to the rainfall and seasonal pattern, and when and what form of feed supplement should be provided. The cattle of Ceará have never been weighed periodically on the range.

If a regular annual weight loss does occur and can be documented, then this loss can presumably be translated to monetary terms and thereby utilized as effective ammunition in encouraging stockmen to undertake measures to avoid or overcome the problem.

A Case Study

A pilot study was initiated at the beginning of the dry season in August, 1966, to determine the weight pattern of cattle during a one-year cycle of dry and wet seasons. A fazenda having typical management and forage conditions ("caatinga," or brush and tree range) was selected in the interior of the state where fifty head of cattle of four age groups could be identified and weighed every six weeks. The equipment used was a portable, single-animal scale.

The dry season normally begins in July or August and ends in February or March. As indicated above it was suspected that the cattle would progressively fall off in weight as the dry season advanced and the objective was to simply measure this loss for ultimate extension efforts with the stockmen. As shown by the chart the animals did in fact progressively lose weight until mid-November. By late December they had recuperated all of the previous loss.

Cotton Pasture

Nearly all stockmen of the state also grow cotton and it is the normal practice to turn cattle into the cotton enclosure after the cotton harvest in November. The strong benefit to the cattle from this practice was not previously appreciated by either the ranch owner or the Brazilian technicians involved in the study. The net effect on the cattle was the same as though they had been fed preserved forage or other supplemental feed. Although the end result is only weight maintenance rather than a net gain, a substantial part of the weight loss problem for the dry season is thereby resolved and there remains only a weakened extension argument for additional efforts on the part of the stock grower — at that time of year.

Having consumed all of the reserve forage of the cotton fields by January, the cattle again began to decline in weight.

Surprise Number Two

The rains began suddenly and vigorously on February first, presumably indication that the season of feed

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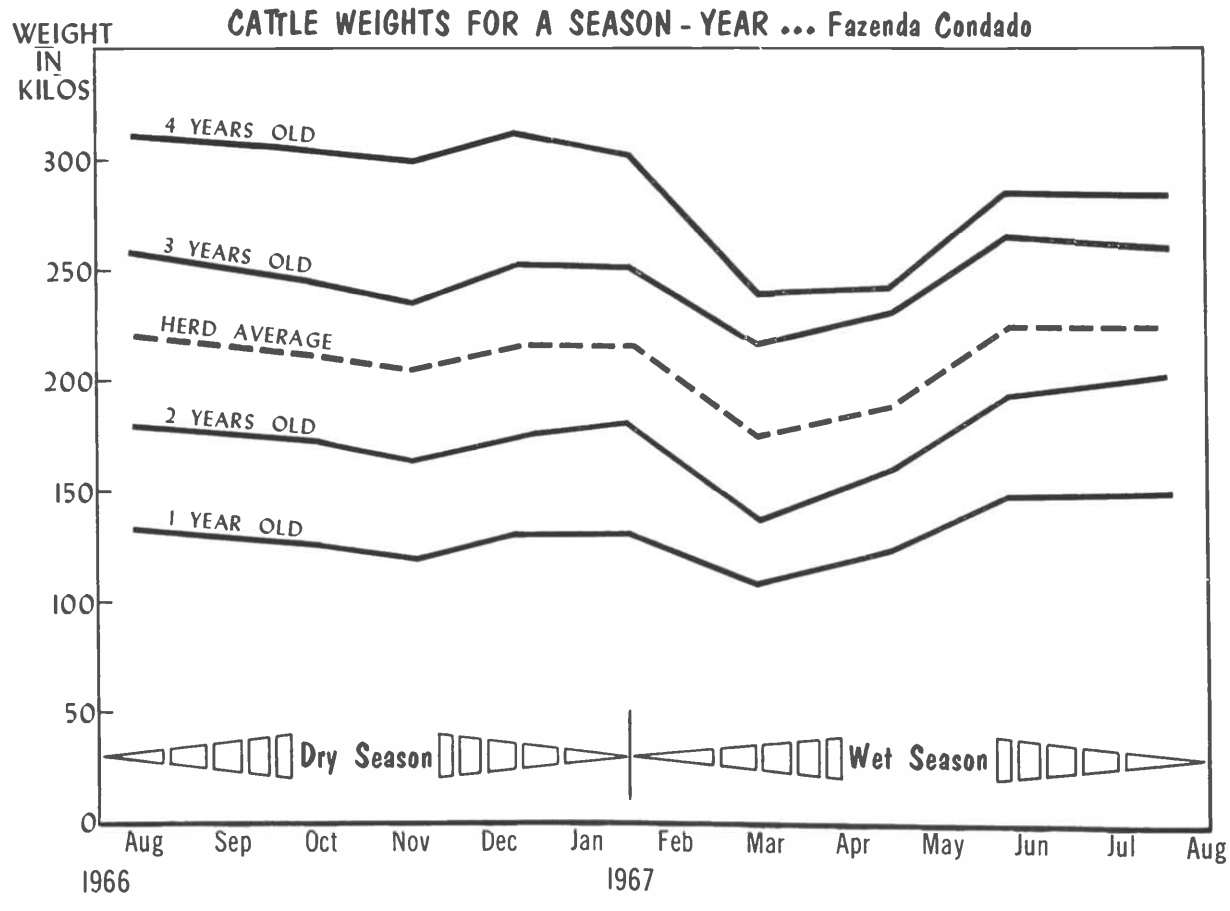
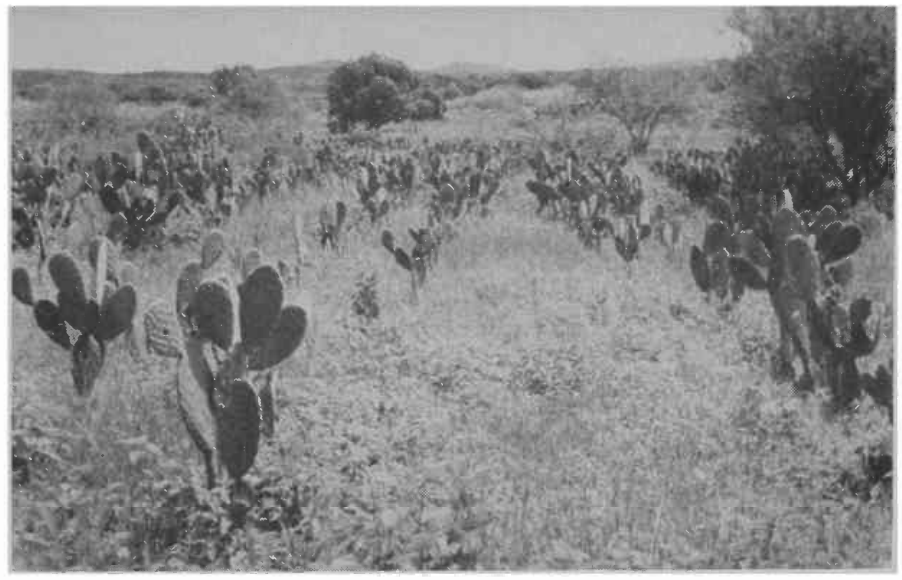


ABOUT THE AUTHORS: Mr. Anderson is Extension Livestock Specialist with a group of 12 agriculturalists from The University of Arizona. The Arizona Team is under contract to the U S. Agency for International Development to provide assistance to the University of Ceará, located in Brazil's depressed Northeast. Anderson's background includes previous foreign experience in livestock counselling in Venezuela and management of a large ranch and farm in Mexico; as well as earlier livestock work in Arizona and Utah. He is a graduate of Utah State University and the American Institute for Foreign Trade at Phoenix.

Mr. Sandoval graduated from the University of Ceará in 1965, as an agronomy engineer. During his last year of study he worked as a part time assistant to Dr. Robert Humphry in establishing the forage plots on the school of agronomy campus. He is scheduled for work on his Masters degree at Arizona beginning next year. His present position within the Institute of Animal Science is as a forage researcher.

TYPICAL DRY SEASON landscape of the interior of Ceará. Larger open areas apparently are formerly cultivated plots. This same area will be a solid dense mass of greenery during the wet season.

SMALL GASOLINE-POWERED stationery chopper is used to slowly fill a trench silo. Forage is cut by hand and hauled to the chopper on burros or on small carts. While slow and awkward by North American standards, this represents a great step forward in a drought-susceptible area where no livestock feeds of any kind were preserved up to the present time.



THIS SPINELESS Prickly Pear-type cactus sometimes is used as emergency feed. Its nutritional value is questionable, and its effectiveness doubtful except in most extreme drought emergencies. However, at times just survival itself is the key consideration, not maintenance or gain of animal weight.

TYPICAL CATTLE of Northeast Brazil. Breeding is various amounts of Zebu crossed on the native "criolla" stock of type brought over by the Portuguese settlers. This type of animal is slow growing and late maturing. Six-year-old "heifers" are not uncommon, when they should have produced two or three calves at that age. But the Brazilian cow is better adapted to her harsh environment than the more productive European breeds. These animals have just been milked for farm-produced cheese, leaving little for the calves. Animals in photo are in maximum annual flesh condition.

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shortage was over and that the weight lost during the dry season was a nominal or perhaps an acceptable economic loss. In mid-March, six weeks after the brush vegetation had suddenly returned to a lush leafy state, the cattle had fallen off to a new and grave minimum weight (up to 25% of previous body weight). This was totally unexpected by everyone concerned, although it was eventually learned that such a condition at that time is vaguely known by most stockmen and cowboys. No one had ever thought much about it or bothered to weigh cattle during that period. After all, rapid gains are just around the corner at that time.

In April of 1967 the cattle had begun to recover some of their lost weight and by June they had regained their original weight of the previous August. This left only two months to develop a net gain for an entire year of cattle ranching activities.

Facts and Speculation

The study rather clearly points out the time periods and degree of weight gain and loss, the original objective, even though the time of occurrence was largely unexpected. A firm conclusion possible from the study is the value of the cotton and associated forages during a stress period, previously unappreciated. This nutritional boost at that time is made the more important by the fact that it is soon followed by an even more critical period than the first. One can only speculate on what would finally happen in March to the stock owned by the operator who had no cotton fields to offer in December. Apparently some mortality does occasionally occur at this time.

The graph also shows that in a full year's time the various age groups failed to reach the original weight of a year earlier of their older brothers and sisters. This strange state of affairs is explained by the rather absurd fact that the cattle manager of the fazenda, informed that the August weighing would be the last of the study, simply held the cattle in a convenient but small holding pasture for seven weeks, rather than turning them onto the range area where they would normally be at that time of year. (This incident indicates the unpredictable difficulties encountered in attempting to obtain reliable field information in a remote undeveloped area.)

It must be remembered that the native brushy vegetation presents a rather direct ecological clash with the bovine grazing beast. This assumption is born out by the wretched condition of the cattle at the very time when one would think that they should be enjoying the maximum rate of gain for the year (March). The

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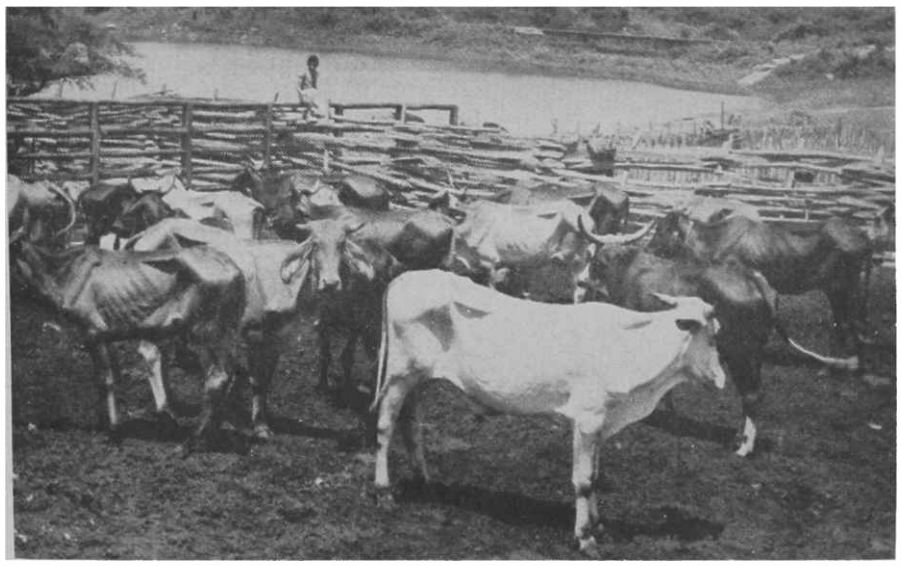
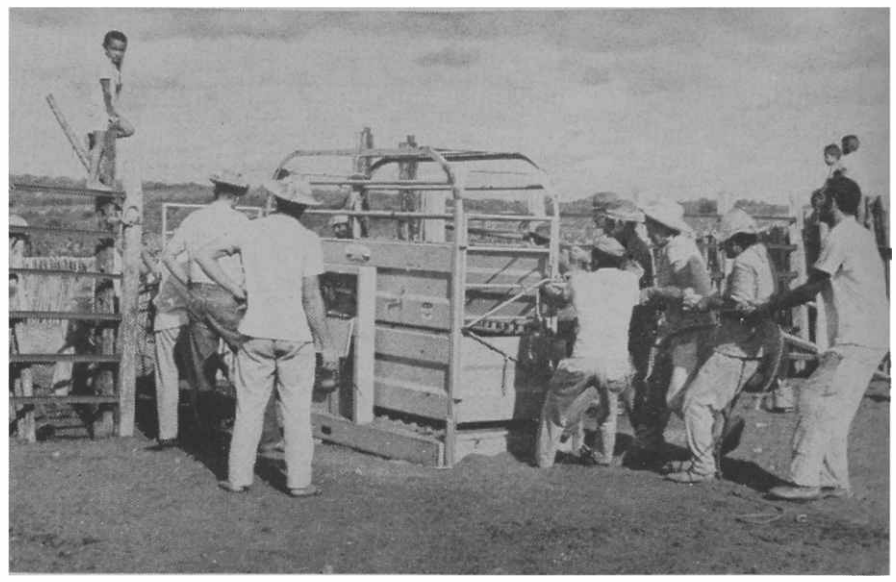


ANIMALS PHOTOGRAPHED at March 1967 weighing. Though held overnight in a dry corral, these animals show severe emaciation. Extreme drawn-up appearance probably due to lack of volume in the diet during this period. Note lush foliage in the background.



WEIGHING CATTLE on a Ceará fazenda. There was no chute to channel the animals into the scale, so they were roped and dragged in by unmounted barefoot men. Western hat and Levis identify Bill Saba, former UA animal nutritionist on the UA Brazil team.

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incongruous aspect is that the cattle are starving while living in a sea of green.

Several explanations have been offered by local stockmen and cowboys for this early wet season minimum weight. When distant rain is sensed by cattle they stop grubbing on the bare twigs and dried remains of forbs and grasses and simply wait for the first new green shoots, thereby encouraging the onset of a very critical period. The first rains completely leach and then rot the remaining dry vegetation. The green shoots that soon appear on the ground are greedily taken, but they offer only high moisture and low volume with scant nutrients, resulting in poor rumination and continuous diarrhea. Apparently the voluminous new foliage of the shrubs and trees is not taken at this time, judging from the empty and drawn-up appearance of the animals. The problem diminishes as the grasses and other low growing plants mature.

Questions and Sidelights

Due to the difficult and hazardous conditions of hay curing during the humid and nearly daily rainfall of the growing season, it has been generally reasoned that silage offers the best possibilities for home grown supplemental feed for this area, as well as for the tropics in general. But, given the high moisture content and laxative nature of the available forage during the most stressing period of the year, silage then becomes a highly questionable supplement. This new problem demands further inquiry and a review of earlier impressions.

Brush and tree removal and the cultivation of artificial pastures of course very effectively improves the lot of the cattle. However, can an economically depressed region undertake the enormous expense of such complete revegetation, and then maintain this situation against the forces of nature? Tremendous resources in the form of funds, equipment, and trained personnel would be necessary to accomplish this on a grand scale.

Additional projects are planned that would clarify and expand upon the results of this study and make controlled comparisons to animal response under the contrasting conditions of supplementary feed and established artificial pastures.

Stains on Synthetics Need Instant Attention

Grease and water stains are harder to remove from synthetics and treated cottons. Those who have tried to remove one from dura-press garments are familiar with this added problem.

Clothing specialist Helen Church, with the University of Arizona Extension Service, offers these tips for stain removal.

Flush non-greasy stains like coffee, fruit juices and carbonated drinks immediately with water. Then blot with dry towels.

Coffee with cream may need a second treatment to remove the grease in the cream.

Greasy stains may need a dry cleaning solvent and blotter. Work from the underside in adequately ventilated surroundings.

Hot water, ironing and time will "set" a stain.

If the stain has dried on color-fast washables, soak in cold water for 20 to 30 minutes, rub in detergent and inspect. If the stain begins to disappear, the solvent procedure will not be necessary.

Sometimes a fruit juice stain (like grape) will require hot water for flushing. Try this if cold water washing doesn't work, says Miss Church.

Billion-Dollar Bouquet

A best man's boutonniere isn't very big. But add it to the rest of the wedding flowers and to those used on other occasions, funerals especially, and it becomes part of a bouquet worth over $1.1 billion.

That's about the amount of our annual bill at the retail florist. Split nationwide, it comes out to around $5.50 per person.

We turn to the retail florist for about 85 percent of all our needs in the floral line. Cut flowers account for about two-thirds of our bill. The rest is for garden supplies, plants, nursery stock and landscaping services.

Most of the nation's 22,500 florist shops are small and owner-managed. Altogether they provide 100,000 jobs and retail the floral crops of over 20,000 growers.