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FASTER, CHEAPER CATTLE GAINS

A new feed ingredient tested by the Iowa Agricultural Experiment Station has resulted in cheaper, faster gains on beef cattle in feed lots. The new drug is known as stilbestrol. The material is a synthetic chemical which has been manufactured for 15 or 20 years. Its principal use has been for physiological effects in the treatment of certain human disorders involving the reproductive organs. More recently, it has been used to some extent in poultry, but only in the past year or two has the material been used in cattle feed.

The material currently is available in certain commercial feeds, and its use, under certain specified conditions, has been approved by the Food and Drug Administration. Because of its harmful effect upon humans when used in excessive quantities and because of the small amount of the drug which should be used in proportion to total feed in cattle feeding operations, the Food and Drug Administration has set up relatively strict control regulations. These apply primarily to the feed manufacturer, who must follow certain specifications in maintaining control of the quantity included in the feed. For example, the final cattle supplement using the approved mixture results in only 5 milligrams of stilbestrol per pound of feed.

Because of the necessity for careful and rigid control in mixing the feeds, farmers are not permitted to purchase the material and mix their own feeds. However, all feed manufacturers who have adequate mixing and control facilities and who can meet the

Federal and state regulations can use the material in cattle feeds.

Use of stilbestrol in cattle feed tests in Iowa resulted in live-weight gains as much as 37 percent greater than on similar rations which did not contain the material. In high-roughage rations, where cattle were being wintered to gain moderately, stilbestrol stimulated gains of 10 to 15 percent above those of the check groups. Considering all costs and the increased rate of gain (and based on 1954 feed prices), the average result of six experiments using different types of cattle was a saving of 2 to 4 cents per pound of live-beef gain.

An Illinois farmer using the material reported that his steers on rations containing stilbestrol gained an average of 3.46 pounds per head daily, or slightly more than $\frac{3}{4}$ pound over the average of the control group receiving no stilbestrol. Profits from the stilbestrol-fed steers were \$27.15 per head more than from those in the control group.

The material acts very much in the manner of a hormone, stimulating some of the growth factors in the animals. The material is relatively inexpensive and does not add substantially to the feed cost.

There is no indication that the use of stilbestrol is of value in dairy cows, bulls, or beef breeding cows and bulls. There is no experimental evidence that low feeding levels of stilbestrol would be injurious to breeding animals. Nevertheless, until proved safe and beneficial, it should not be fed to

any dairy or beef breeding animals. Also, it should not be fed to sheep, poultry, or swine, as feeding procedures have not yet been developed and approved for these animals.

Wheat Pasture Poisoning Hits Mature Cows

Wheat pasture poisoning occurs primarily in mature cows 2 years of age and over which are in the late stages of pregnancy or have suckling calves, research workers at PanTech Field Laboratory at Panhandle, Texas, have reported.

Most of the cases of wheat poisoning developed after 60 days and before 150 days of grazing on wheat and before the calf was 60 days old. The symptoms of the poisoning were noted in beef and dairy, as well as crossbred, cows.

Salt, cottonseed meal, mineral mixtures, silage, and various dry feeds—fed alone or in combination—gave little or no protection against wheat pasture poisoning. It is possible that the supplements, because of their diluting effect, may prolong the time required for the attack to occur.

The best treatment seems to be the injection of a calcium gluconate solution fortified with magnesium and phosphorus. Removal of the cow from the wheat pasture for a few days may speed recovery.

There is little chance for the animal's recovery if treatment is not begun before coma sets in, which usually happens 6 to 10 hours after the appearance of the first symptoms. Beginning symptoms are undue excitement, poor coordination, and loss of appetite.

Larger Litters with Aureomycin

Results from recent tests show that, when sows get a little aureomycin in their rations, they farrow larger litters than those not

given aureomycin, states a recent release from Louisiana State University. Also, fewer pigs died during the first 3 days after farrowing in litters farrowed by aureomycin-fed sows.

Profitable Use of Diverted Acres in Louisiana

Agriculturists at Louisiana State University indicate that there are several general possibilities for profitably using acres taken out of cotton, rice, and sugar cane. For example, cotton acreage diverted to corn and soybeans may be hogged off. This practice has proved profitable and is a good soil builder in the cotton areas of Louisiana.



Rice and beef pasture rotation has been very practical in the rice areas and is now being adapted where sugar cane is grown. By using livestock in connection with his cropping operations, the farmer not only produces pork and beef but also has higher yields when the land is replanted to cotton, rice, or cane.

Not all farms with diverted acres should go into livestock production or necessarily increase existing livestock numbers. Many farms which already have livestock could use more pastures and grow more hay and silage profitably.

On other Louisiana farms, the commercial production of hay may be profitable this year, since about twice as much hay and silage could be used as is being used now. There are many soil-building practices farmers may use which can qualify for payments under the agricultural conservation program.

The specialists indicate that, in those cases where profitable production can be combined with soil-building work and diver-

sification, the farmer with acres diverted from controlled crops may be better off in the long run.

Blackstrap Used for Dairy Feed

Blackstrap molasses can replace up to one-half of the concentrate in the ration of dairy cows, a recent release from Louisiana State University notes.

In recent tests, three groups of cows were observed. One group of cows was fed 4 pounds of molasses per cow daily to replace one-fourth of the concentrate. Another group was fed 8 pounds of molasses to replace one-half of the concentrate. These two groups of molasses-fed cows produced as well as cows in the control group, to which no molasses was fed.

The feed cost per 100 pounds of milk averaged \$2.60 for the control group, \$2.55 for the cows fed 4 pounds of molasses per cow, and \$2.49 for the cows fed 8 pounds of molasses.

Prickly Pear Used in Cattle Feeding

A ration of singed prickly pear supplemented with cottonseed cake makes a satisfactory maintenance feed for steers in poor condition, according to Leo B. Merrill of the Sonora Agricultural Experiment Station. The feed is not satisfactory for steers which have been on a high level of nutrition.

For the test, two groups of steers were used. When placed on the prickly pear diet, steers weighing less than 640 pounds gained weight during a 3-month feeding period. Steers weighing 720 pounds or more actually lost weight on the ration. Both groups of animals were fed 2 pounds of cottonseed cake per head per day.

Many studies have found that prickly pear is valuable as a maintenance ration in

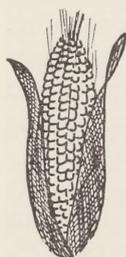
areas of severe drought. Scientists at the Sonora station say that the differences of opinion regarding the value of prickly pear as a livestock feed are due to the conditions under which it has been used.

In the tests, the 640-pound animals made little gain on pasturage prior to the prickly pear feeding trials. This indicates that the pastures they were grazing were providing little more than a sustaining ration. Consequently, the prickly pear and cottonseed ration was as good as or better than their previous pasturage.

On the other hand, the loss in weight of the heavier group of animals while on the prickly pear ration indicates that the ration was poorer than the previous pasturage they had grazed.

New Corn Varieties Available

Two new corn hybrids were made available by the Texas Agricultural Experiment Station in time for 1955 planting. The varieties are Texas 17W, a white hybrid, and Texas 32, a yellow hybrid. The seed can be purchased from established seed dealers.



According to Dr. J. S. Rogers of Texas A. & M. College, the new hybrids are the first to be produced in Texas without detasseling. In comparison with Texas 11W and 15W, Texas 17W is 3 or 4 days earlier and produces a larger grain. It has shown excellent resistance to root lodging and stalk breaking and is reasonably free of earworm damage. The plants are smaller and shorter than 15W and should be planted at a greater rate than other hybrids. Texas 17W is recommended for all corn-growing areas in Texas, especially those where moisture is a serious limiting factor. Because of its early maturity, 17W has outyielded 15W under drought conditions.

The new Texas 32 variety is similar in performance to present Texas yellow hybrids 26, 28, and 30. Texas 32 produces slightly longer ears and smaller grain and usually only one ear per stalk. Although it is recommended for most of the corn-growing regions of Texas, it is not preferred in the drier areas of the State nor in areas where insect and disease damage is great.

What Kind of Broilers?

One of the problems facing the broiler producer is the selection of the strain or variety to use for greatest efficiency and profitableness in his broiler operation. During 1953 the Texas Agricultural Experiment Station conducted tests of various strains and crosses of birds used in broiler production at the Nacogdoches Substation in east Texas.



The strains and crosses included White Rocks, Red Cornish cross, Wyandotte cross, New Hampshire, Indian River cross, and Dominant white cross. Groups of these birds were raised during

three different seasons, with birds being marketed in January, May, and September. Records were kept of mortality loss, average weight at 9 weeks, feed efficiency, and feather score—a measure of the market grade.

The Red Cornish cross was heaviest at marketing time and had the best feed efficiency but did not have as good a finish as some of the other groups. The Red Cornish birds averaged 3.04 pounds in weight at 9 weeks of age, with a feed efficiency of 2.82 pounds of feed per pound of bird produced. Mortality was relatively low at 3.2 percent but was not the lowest of the group.

The White Rock birds had the lowest mortality, averaging only 2.6 percent, and

the most uniform dressed market grades. However, these birds averaged only 2.52 pounds at 9 weeks and required 3.04 pounds of feed per pound of bird produced.

The accompanying table shows the percent mortality, average weight at 9 weeks, and feed efficiency for the six strains tested.

Strain or cross	Percent mortality	Average weight at 9 weeks	Feed efficiency ¹
White Rock	2.6	2.52	3.04
Red Cornish cross.....	3.2	3.04	2.82
Wyandotte cross	3.3	2.69	2.99
New Hampshire	8.1	2.76	3.03
Indian River cross	4.2	2.62	3.07
Dominant white cross.....	4.3	2.70	2.99

¹ Pounds of feed required to produce 1 pound of bird.

Growth and feed efficiency in all strains and crosses were best in the spring and poorest in the summer. However, the relative merits of each of the various strains and crosses remained the same throughout the different seasons. It is interesting to note that the variation in growth was greater among seasons than among the different strains and crosses, indicating the effect of hot weather on the ability of the birds to gain.

Publications

Oklahoma Agricultural Experiment Station, Stillwater:

The Value of 20-, 30-, and 40-Percent Protein Supplements for Wintering Heifer Calves, Bulletin No. B-437, by A. B. Nelson and others.

Response of Winter Oat Varieties from Winter and Early Spring Seeding, Bulletin No. B-435, by A. M. Schlehuber and Roy M. Oswalt.

Copies of the bulletins may be obtained by request to the publishers.

The *Agricultural News Letter* is prepared in the Research Department under the direction of J. Z. ROWE, Agricultural Economist.