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Save Those Cotton Stalks

Save those cotton stalks! Cut or shred them immediately after harvest and plow them under as deep as possible.

The stalks, leaves, and other residue will add humus to the soil, improving its moisture-holding capacity. A thorough job of plowing under the stalks deprives cotton insects of food during the rest of the season and eliminates many of their winter hibernation quarters, both of which reduce the number of cotton insects which survive the winter.

Entomologists agree that a cotton stalk destruction program is an essential step in an effective cotton insect control program. The value of such a program has been illustrated in the Cotton Belt many times during the past several years. In southern counties of Texas, where the cotton crop is harvested early in the fall, experience has shown that a thorough stalk destruction program, carried out on an area basis, is a vital part of the pink bollworm control program. Under this program, the State Department of Agriculture has set deadlines for shredding and plowing under cotton stalks in various areas of south and southeastern Texas.

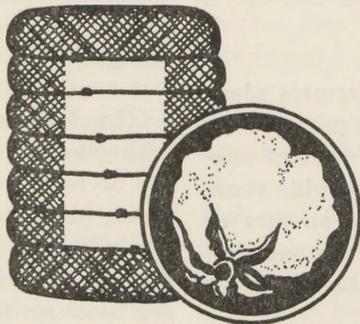
A stalk destruction program is valuable in controlling many other cotton insects which hibernate during the winter. The boll weevil is perhaps one of the most common and most destructive of these. Tests in the Lower Rio

Grande Valley of Texas have shown that boll weevil infestation in years following an effective early cleanup campaign has been as low as 3 percent, while in years when cleanup has been delayed or incomplete, infestation has amounted to as much as 50 percent the following June.

In central Texas, county-wide stalk destruction programs in past years resulted in boll weevil infestation of only 9 percent of the cotton bolls the following July, while in neighboring counties, where no county-wide effort had been made to cut and plow under stalks, infestation amounted to as much as 63 percent.

In northwest counties of Texas, where the harvest of the cotton crop cannot be completed before frost, it is recommended that stalks be left standing until after a hard freeze. Then, they should be plowed under as deep as possible. Even in these areas, a thorough plow-up and clean-up program following harvest can be effective in reducing the number of cotton insects the next year.

In addition to plowing under cotton stalks, farmers should keep pasture fields free of weeds, especially goatweed and horsemint—both of which harbor many cotton insects. Roadsides, ditch banks, fence rows, and other harboring places should be disked or mowed in order to destroy the winter quarters of insects. In cleaning up these areas, a cover, or



mulch, should be left on the soil to prevent erosion.

A cleanup program should be carried out wherever cotton is grown. It is good business, and it will pay off in increased cotton yields the following year. The program is most effective when promoted on a community-wide basis, with every landowner participating.

Winter Pastures Worth a Gamble

Many southwestern farmers are reluctant to plant fall and winter pastures this year, in view of the lack of moisture. However, E. M. Trew, Extension pasture specialist of Texas A. & M. College, recommends that seed be planted, even if it must be "dusted in." When rain does come, the crop will germinate quicker and provide grazing earlier than if planting is delayed until after moisture is received.

The value of fall and winter pastures is illustrated by results of tests in central Texas. Through the use of supplemental pastures during the fall and winter, the cost of wintering a ewe was reduced \$10 and that for a cow, \$24.

Mr. Trew recommends that farmers plant at least 1 acre of fall and winter pastures for each animal unit on the farm. If weather conditions are favorable, this will provide some surplus feed; if only a moderate amount of moisture is received, there will be some supplemental grazing to carry the livestock through the winter.

Planting legumes, grasses, or small grains and legumes in combination also provides a protective cover for the soil during the fall and winter months, which tends to prevent washing and blowing. The roots and residue of the plants add organic matter to the soil, improving its tilth and increasing yields of subsequent crops.

Regardless of moisture conditions at planting time, Mr. Trew recommends that the crop be fertilized. If it does not rain, the fertilizer

will not be lost but can be used by successive crops. If moisture does come, the fertilizer will increase yields as much as 100 percent.

The wide variation of climatic conditions in the Southwest makes it difficult to generalize recommendations as to varieties and types of winter pastures to sow. Small grains—such as oats, rye, barley, and wheat—are the most popular for fall and winter grazing. Italian rye grass does well in east Texas, the Gulf Coast region, the Blacklands and Grand Prairie areas of Texas, and northern Louisiana. Among the legumes recommended are vetch, crimson clover, hubam, and Madrid sweet clover. All of these can be grown successfully in combination with grasses or small grains. Crimson clover is best adapted to eastern areas of the Southwest.

Mr. Trew suggests that local county agricultural agents be contacted for information as to the best combinations of fall and winter pastures in a particular area.

All legume seed should be inoculated before planting. The cost is only a few cents, and inoculation insures that the necessary bacteria will be present to enable the legumes to take nitrogen from the air and store it in the soil.

The fertilizer program will vary widely with climatic and soil conditions. Improper use of fertilizer can be expensive, while applying the proper amounts and qualities can easily double yields. Mr. Trew suggests that farmers take soil samples from fields which are to be sown as pastures and send them to soil-testing laboratories. There are several laboratories available to farmers in the Southwest, and local agricultural agents can supply the address of the nearest one. In most cases, a small charge of about \$1 per sample is made to cover the cost of handling the analyses.

Don't Forget the Cows' Vitamins

Animals require vitamins for satisfactory growth and development, and the wise stockman makes provision for adequate vitamins and minerals throughout the year.

Ranges and pastures during the past 2 months generally have been dry and lacking any green feed. During the winter months, green feed frequently is not available on ranges, and Mr. U. D. Thompson, Extension animal husbandman of Texas A. & M. College, points out that when green feed goes, so does Vitamin A. In other words, the rations of animals that do not have access to green feed will be deficient in Vitamin A unless it is provided in supplemental feeding.

Lack of Vitamin A in breeding stock results in smaller calf crops, weak and stunted calves, loss of appetite and energy, and, in the end, lower profits for stockmen.

The quantities of Vitamin A required in the daily rations of livestock are not large. Only a small expenditure of money and time is needed to supplement rations and provide adequate vitamins. Mr. Thompson recommends that cattle be fed green leafy alfalfa hay each day when green grazing is not available.

Several commercial feeds available to stockmen also are well fortified with Vitamin A. Mr. Thompson points out that livestock should go through the winter in a healthy, vigorous condition if their rations include 2 to 5 pounds of green leafy legume hay and 1½ to 2 pounds of 41-percent protein cottonseed cake or pellets, with steam bonemeal and salt provided in a self-feeder.

Such a feeding program will pay off with more calves that are stronger and heavier and gain faster, giving more pounds of beef per cow than would be possible if the breeding herd were forced to subsist on dry, cured feed lacking in essential vitamins and minerals.

Vaccine for Bluetongue

A vaccine has been developed, and is now available in commercial quantities, which is effective in the control of bluetongue, a disease of sheep. Symptoms of the disease include severe loss of weight, impairment of fleece quality, and stiffness or lameness. In extreme cases, death may result.

The disease is relatively new to this country, having been diagnosed in California and Texas only about 2 years ago. In Texas, it was first called sore muzzle, but later tests confirmed that it was the same disease as that known as bluetongue in South Africa.



According to the specialists who developed the vaccine at the California Veterinary School at Davis, California, 90-percent protection can be obtained by the use of the vaccine. Field trials were conducted in northern California during the past winter on some 10,000 sheep.

Cattle Grubs Reduce Profits

It's an old story, but one that is ever present in the cattle business. Cattle grubs reduce the value of slaughter animals by puncturing their hides and lower the rate of gain of the animals by sapping their strength.

Cattle grubs are killed most readily in the fall, when they appear as lumps on the backs of the animals. However, proper spraying to control flies in the spring will help reduce infestation.

A rotenone spray, dust, or dip properly applied to the backs of the animals when the grubs appear gives effective, economical control, according to Neal M. Randolph, Extension entomologist of Texas A. & M. College. Seven and one-half pounds of derris or cube powder of 5-percent rotenone in 100 gallons of water makes a good spray. Spray machines should provide 200 pounds of pressure at the nozzle.

Ten pounds of wettable sulphur can be added to this mixture if a dip is desired instead of a spray. As the animals are run through the dipping vat, their backs should be scrubbed with a long-handled brush. If a dust is preferred, use 1 pound of 5-percent rotenone mixed with 2 pounds of heavy non-alkaline dust, such as talc, tripolic earth, or pyrophyllite. Prepared dusts can be pur-

chased, but cattlemen should make certain that they contain at least 1.67 percent of rotenone. If a dust is used, rub about 3 ounces into the back of each animal.

Grub treatment—whether with a dust, spray, or dip—should be repeated at 30-day intervals until no new bumps appear on the backs of the animals.

Ground Mesquite As Cattle Feed

A new use for mesquite has been found by a Dimmit County, Texas, rancher. A chipping machine sent to his ranch to grind mesquite for an experiment to test the value of the plant as fertilizer gave the rancher the idea that the material might be suitable for cattle feed. During the past winter, he fed about 300 calves on a ration consisting of ground mesquite plus 10 percent cottonseed meal and 25 percent molasses.

The mesquite is prepared for feeding by being run through a chipping machine to cut it into chips about 1 to 2 inches long. After this, the chips are blown into a feed grinder equipped with a $\frac{3}{4}$ -inch screen and then are rerun through the grinder, using a $\frac{3}{8}$ -inch screen. The branches, leaves, and beans of the plant are all ground up together. The resulting meal is mixed with cottonseed meal, molasses, and some grain.

Cost of the ground mesquite is estimated at about \$3 per ton, which is largely for labor. Preliminary analysis indicates that the meal contains about 9.25 percent protein, some of which, however, may not be digestible.

Results of using the ground mesquite meal last winter compare favorably with other methods of feeding calves and wintering cows. The calves gained satisfactorily and sold at prices and grades comparable with other lots of similar quality.

Feeding specialists are not ready to comment on the use of this material as cattle feed until further tests are conducted. There is no established analysis indicating how much

protein, carbohydrates, and fat are available to the animals from such a mixture. Tests will be continued, and several feeding specialists are making analyses to determine if ground mesquite is a possible feed for cattle in the range country.

Publications

Louisiana Agricultural Experiment Station,
Baton Rouge:

Louisiana Crop and Livestock Share Lease,
Agricultural Extension Publication No.
1140.

Renting Louisiana Farms, Extension Publi-
cation 1155, by J. A. McDaniel.

Making Silage and Its Use, Agricultural Ex-
tension Publication 1113, by R. C. Callo-
way and E. W. Neasham.

Texas Agricultural Experiment Station, Col-
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The Use of Animal Fats in Lamb Feeding,
Progress Report 1644, by W. G. Kamm-
lade, Jr., and O. D. Butler.

Fertilizer Consumption in Texas, 1947-53,
Bulletin 779, by J. F. Fudge.

*Farmer Cooperatives in Texas—Some Or-
ganizational Aspects*, Bulletin 780, by
Warren LeBourveau and others.

*Business and Financial Analysis of Local
Cooperative Associations of Texas, Sea-
son 1949-50*, Bulletin 782, by W. E.
Paulson.

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

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