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## *Some Facts on Supplemental Irrigation*

An "irrigation short course" was held in Tyler, Texas, last month under the sponsorship of the East Texas Farm and Ranch Club. Participants in the program and in the discussion were technicians with agricultural experiment stations, county agricultural agents, and farmers who have had experience with supplemental irrigation systems.

Many farmers in central and east Texas and in Louisiana are considering the installation of supplemental irrigation equipment to overcome the effects of inadequate or poorly distributed rainfall. During recent years, use of such systems has increased greatly yields of cotton, corn, vegetables, and pastures, even in the more humid areas of the Southwest.

In view of the timeliness of the information presented in the short course, some of the pertinent facts included in the summary of the meeting are quoted below. Additional details may be obtained by writing to Mr. C. R. Heaton, Director of the East Texas Agricultural Council, Tyler, Texas, or from the various agricultural experiment stations in the Southwest.

"PERMITS FOR WATER USE: It's best to get a permit for water used in irrigating. State Board of Water Engineers, 308 West 15th Street, Austin, Texas, will send necessary forms and instructions for making application...you'll need a map of the area. If you have a permit, you'll be safe, if and when the Water Code is rewritten....If you use water and deprive a man downstream of essential water, he can get a Court Injunction to stop you from depriving him of necessary water. You can do the same, if you're being deprived.

"ENGINEERING ASSISTANCE: Soil Conservation Service can give you technical help in planning an irrigation project; your county agent may help, too. The State does not have technicians available for work on individual projects at present time.

"RESERVOIR REQUIREMENT: Size of reservoir will depend on several factors, but a good rule of thumb is: Provide at least 2 acre-feet of impounded water for each acre to be irrigated....

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"RESERVOIR COST: Depends on many factors....In east Texas, a cost of about $50 per acre-foot of water to be impounded is a reasonable guess.

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"ARE WELLS ECONOMICAL? In most cases, surface reservoirs and spring-fed branches will be more economical sources of water supply than water wells in east Texas. Cost of lifting water from source to delivery point must be considered when anticipating operating expenses. Greater the lift, greater the cost.

"EQUIPMENT INVESTMENT: Initial equipment investment will vary with systems, ranging from about $35 per acre to $125 per acre. Probably $90 would be average for east Texas.

"WATER REQUIREMENTS: Frequency of applying water will depend on several factors; some crops require more water than others, pastures more than truck crops. Other factors: water-holding capacity of soil, amount of natural rainfall, daily temperatures, etc.

"Generally speaking, however, sandy soils require about 1.2 inches of water every 6 to 8 days. Heavier soils, 2 inches every 10 days.

"PUMPING RATE: To apply 1 inch of water to an acre of ground, a pumping rate of at least 450 gallons per minute is required.

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"FERTILIZER REQUIREMENTS: Generally, heavier use of fertilizer is required and pays with irrigation. At Gilmer station, 1,200 pounds of 8-8-8 used in some cases on sweet potatoes, with good results. Soil analysis before project is begun is recommended to determine fertilizer needs.

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"NIGHT VS. DAYTIME: Eric Mallory, Smith County farm manager, says he finds more economical use of water at night, due to lack of rapid evaporation. J. F. Rosborough, horticultural marketing specialist, says that, on certain truck crops, daytime sprinkling may promote some cracking.

"PASTURES: Irrigated pastures at Lewisburg, Tennessee, produced a net increase of 49 percent of TDN (Total Digestible Nutrients) above nonirrigated pastures....

"P. R. Johnson of Texas A. & M. College says irrigation system would allow area farmers to begin seeding winter pastures in late August or early September — about 45 to 90 days earlier than normal rainfall usually allows.

"TRUCK CROPS: J. F. Rosborough said irrigation holds great promise for east Texas truck crops; it could raise the quality and extend the growing season to take advantage of better prices in the fall. He advised against sprinkling tomatoes after gathering begins, to avoid increased cracking."

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## *Increasing East Texas Corn Yields*

Hybrid seed, fertilizer, and winter legumes are three important ingredients in a successful corn production program, according to results at the Texas Agricultural Experiment Substation in southeast Texas.

Several important facts are revealed by these tests:

* Hybrid corns outyielded all of the open-pollinated varieties. Texas hybrid Nos. 20, 24, 26, and 28 were among the best producers in these tests.

* Highest yields were obtained when 600 pounds per acre of 5-10-5 fertilizer were applied prior to planting, with 270 pounds per acre of ammonium nitrate applied as a side-dressing during the growing season.

* When corn followed a fertilized crop of hairy vetch, the addition of a complete fertilizer at planting time did not give any significant increase in yield.

* The application of either nitrogen or phosphoric acid gave only small increases in yields, but a combination of the two plant foods increased yields as much as six times. Potash was of value only when used in combination with nitrogen and phosphoric acid.

* Spacing the corn plants 24 inches apart in the row gave higher yields than either 18- or 12-inch spacing.

## *Fertilize Pastures Now*

Small-grain and legume pastures should be topdressed now with from 30 to 40 pounds of nitrogen per acre, says E. M. Trew, associate agronomist for the Texas Agricultural Extension Service.

Mr. Trew adds that if a dry fertilizer is used, topdressing of these pastures should be done when the plants are dry. This will avoid burning the plants. Sufficient moisture to stimulate growth, of course, is necessary to gain the benefits of this fertilization.

Future fertilizer requirements should be anticipated and orders placed now with dealers to insure an ample supply when needed.

This is a good time to take soil samples and send them to Texas A. & M. College for testing to determine the fertilizer needs of a field. These soil tests cost only $1 per sample and are one of the best investments that can be made in the fertilizer program.

## *Louisiana Landowners Urged to Plant Pine*

About 75,000,000 pine seedlings are available this season from Louisiana tree nurseries, according to the Louisiana Forestry Commission.

This large supply appears to be more than ample to meet the demand, and A. S. McKean, forester of the Louisiana State University Agricultural Extension Service, urges all landowners in the State to plant as many as can be used profitably on their land.

Cost of the seedlings is very low, and directions for ordering can be obtained from any parish agricultural agent or from the Louisiana Forestry Commission, Baton Rouge. Failure to utilize the supply this year may force curtailment of production another year.

## *Cordova—New Barley Variety*

High yields, excellent test weight, smooth awn, and resistance to mildew are some of the characteristics of the new Cordova variety of barley released by the United States Department of Agriculture and the Texas Agricultural Experiment Station.

Cordova is especially well adapted to the central and Rolling Plains areas of Texas. It will head from either fall or spring seedings, and in tests at Denton, Greenville, Temple, Stephenville, Iowa Park, and Amarillo, it has outyielded other varieties by from 5 to 7 bushels per acre over a period of years. In 1948 at the Chillicothe station in northwest Texas, Cordova produced 72.3 bushels per acre, compared with 41.1 for Wintex and 52.8 for Texan.

The new variety appears to be as winterhardy as either Wintex or Texan. It probably would winterkill in the Texas Panhandle and for that reason is not recommended for fall seedings in that area.

The variety is not well adapted to the more humid areas of the State, being highly susceptible to rusts, barley stripe, and other leaf diseases.

## *Turn Under Legumes Early*

Winter legumes should be turned under about 3 weeks before the seeding of spring-planted crops, says I. W. Carson, associate agronomist of the Louisiana State University Extension Service.

Turning under the green material early gives the bacteria of the soil time to break down the organic matter well ahead of the growing season. These bacteria feed upon nitrogen, and for a short period after turning under the green manure crop, most of the available nitrogen in the soil is tied up in the process of decay, leaving little for plant growth.

## *Control of Spider Mites on Wheat*

Spider mites cause considerable damage to winter wheat in some seasons, and the results of several control methods tested by the Conservation Experiment Station at Amarillo, Texas, in the spring of 1952 are of interest.

Several sprays were used in these tests on wheat 6 to 8 inches high. The five compounds used in the tests were systox, parathion, metacide, sulphenone, and aramite.

Of the compounds tested, systox and parathion proved the most effective, reducing the infestation of mites from 80 to 100 percent in most cases. When applied at a high dosage, systox gave better control over a longer period than parathion.

All of these compounds are toxic to humans, and the manufacturer's precautions printed on the container should be observed strictly.

Additional details on this test are given in the Texas Agricultural Experiment Station's Progress Report 1476. Copies may be obtained from county agricultural agents or by writing the Experiment Station, College Station, Texas.

## *Fertilize Pecan Trees Now*

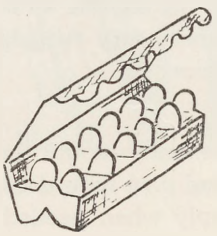
Pecan trees will produce higher yields and better nuts if they are fertilized properly, say specialists at Louisiana State University.

The amount and kind of fertilizer needed vary with the locality, but generally an 8-8-8, 6-8-8, or 5-10-5 analysis is recommended. Fertilizer should be applied at the rate of 25 to 30 pounds for each square foot in the cross-sectional area of the tree trunk. Another rule of thumb is 2 pounds for each year of age of the tree.

The fertilizer should be applied well away from the trunk and extend beyond a point directly below the tips of the branches. It should be worked into the soil, or several holes can be punched in the ground with a pipe and fertilizer placed in the holes.

## *Outlook for Eggs in 1953*

Egg prices may average slightly higher than a year ago, at least for the next several months, according to E. D. Parnell, professor of poultry at Texas A. & M. College.



Fewer laying hens on farms, increasing population, a shortage of frozen eggs, and recent heavy demand for stored shelled eggs are factors listed by Mr. Parnell to back up his prediction.

Farmers may respond to the higher egg prices by ordering more pullets to be placed in the laying house next fall. Hence, Mr. Parnell suggests that producers make every effort to gain top production from their laying flocks during the spring and early summer. Producers who are buying pullets should buy early, in order to capitalize on the higher egg prices anticipated during late summer and early fall.

## *Publications*

Texas Agricultural Experiment Station, College Station:

*Yield and Resistance to Fruit Cracking of Tomato Varieties in East Texas,* Progress Report 1515, by P. A. Young.

*Post-Emergence Effects of N-1-Naphthyl Phthalamic Acid and Its Derivatives on Cotton and Certain Weeds,* Progress Report 1517, by H. E. Rea.

*Summary of the 1952 Texas Corn Performance Tests,* Progress Report 1518.

The *Agricultural News Letter* is prepared in the Research Department under the direction of CARL H. MOORE, Agricultural Economist.