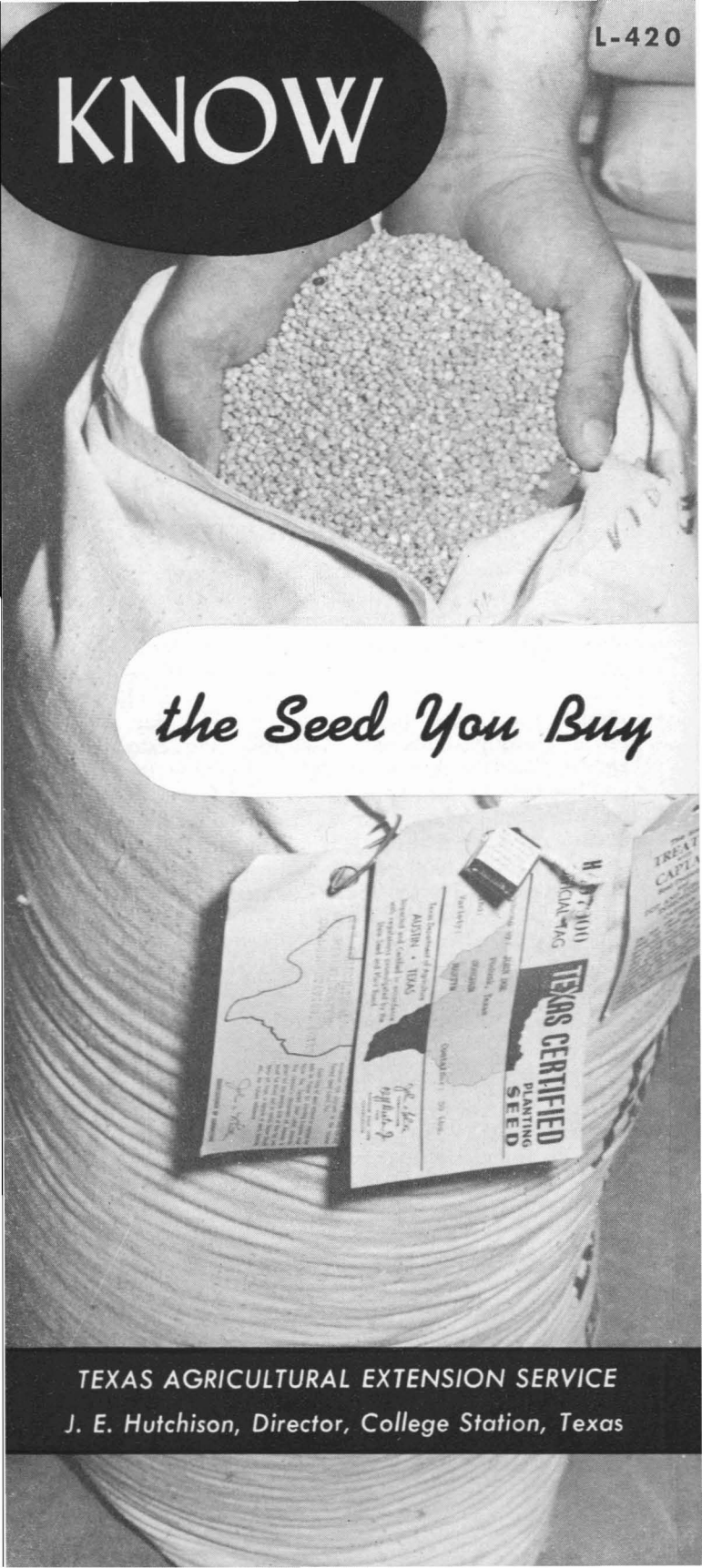
L-420

KNOW

the Seed You Buy



TEXAS AGRICULTURAL EXTENSION SERVICE

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Know the Seed You Buy

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THE USE OF HIGH-QUALITY SEED is basic to successful farming. Farmers may irrigate, use high rates of fertilizer, follow good insect control and other production practices, yet high yields will not result unless good seed of a well-adapted variety are planted. Money invested in quality seed is good insurance since no crop can be better than the seed to which it is planted. Low-priced seed often are of low quality.

KNOW YOUR VARIETIES

There are many varieties of each crop, and they differ greatly in their yielding ability, height, disease and insect resistance, date of maturity, color of seed and other characteristics. For any individual farm in any particular year there is a variety that will do better than other varieties. The following year, however, another variety may prove more successful due to different growing conditions. The following extreme examples illustrate the importance of knowing the variety which should be planted on a particular farm: (1) when the Israel and Hubam varieties of sweetclover are planted at the same time, Hubam will mature before Israel starts to bloom; (2) most wheat and barley varieties which are adapted to North Texas require a certain amount of cold before the plants will head, and these varieties will not set seed in South Texas.

SELECTING THE VARIETY

The Texas Agricultural Experiment Station annually tests varieties of all crops to determine their performance. The variety to plant in a particular county should be determined on the basis of results from 10 or more tests and not from one test alone. Information on recommended varieties can be obtained from your local county agricultural agent.

HOW TO BUY QUALITY SEED

It is a violation of the Texas Seed Act for seed to be in a seed store if the bag is not tagged properly. Seed should be purchased on the basis of these tags, on the appearance of the seed and the reputation of the producer or retailer of the seed.

Certified Seed

The purchase of certified seed is the best guarantee of varietal purity. Certified seed meet a certain standard of perfection, they trace back directly to the first seed released of a particular variety and should be the best seed of a particular variety available for planting by a farmer. Certain representatives of the Texas A. & M. College System, Texas Technological College and the Texas Department of Agriculture are charged by law with the responsibility of developing rules and regulations for the production of certified seed in Texas. The Texas Department of Agriculture has the responsibility of enforcing these rules and regulations. To be certified, each bag of Texas certified seed in the seed store must have the blue certification tag and the small tin seal of the State of Texas attached. If these are not attached, the seed are not certified.

The certified tag and seal should mean that:

(1) The seed were produced in fields properly isolated from other fields of the same crop.

(2) Essentially all rogues or off-type plants were removed from the field prior to blooming.

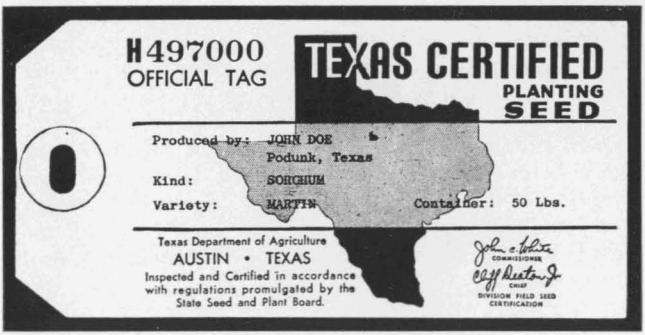
(3) The seed are free from noxious weeds and essentially free from seed-borne diseases.

(4) The seed will have a satisfactory germination.

(5) The seed trace back directly to the original seed of the variety.

Tag ↓

Seal→



This is the Texas certified seed tag and seal.

Texas Tested Seed Labels

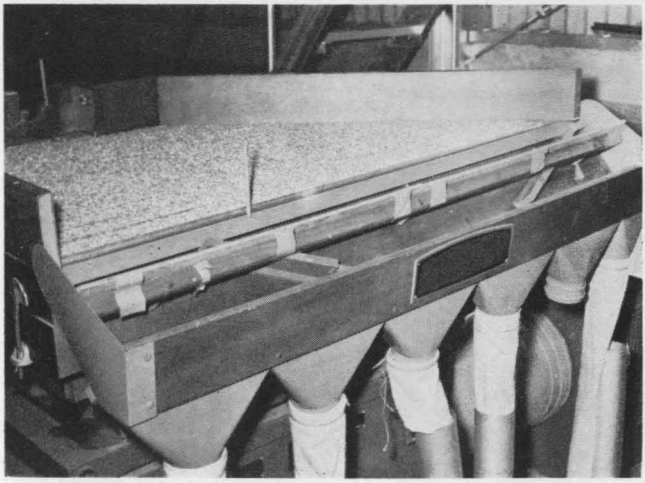
All seed which are offered for sale or exposed for sale in Texas must conform to the Texas Seed Act. It is a violation of this Act for anyone to sell a bag of seed which does not have a Texas Tested Seed Label attached, except for one farmer selling to another farmer when the selling farmer *does not* advertise outside his home county or ship by a common carrier. The purchaser of seed usually takes a chance if he buys seed without a Texas Tested Seed Label or if he does not read the analysis on the tag. A bag of certified seed must have attached to it the Texas Tested Seed Label in addition to the certification tag and seal. Copies of the Texas Seed Act may be obtained from the Texas Department of Agriculture, Austin, Texas. An example of a Texas Tested Seed Label is shown on page 6. The label shows the *vendor or producer* of the seed and where it was produced. The *germination of the seed* is given or, in the case of legumes, the *germination plus the percentage of hard seed.* Oats, wheat, barley, rice and corn usually have a germination of 90 percent or more. The *date of the germination test* also must be on the Texas Tested Seed Label. Seed that are moved in interstate commerce must have a germination test every 5 months exclusive of the month the test was completed. It is especially wise to check the date seed have been tested if they appear discolored.

The *precentage of pure seed, inert material, other crop seed* and *weed seed* must be on the Texas Tested Seed Label, and these percentages should add up to 100. Good seed of corn, oats, wheat, cotton, barley, rice and sorghum should contain at least 98.5 percent pure seed. Good seed seldom have more than 1.5 percent inert material. *Other crop seed* refers to seed other than the variety in the bag; for instance, in a bag of Martin grain sorghum, the tag (Texas Tested Seed Label) may show .5 percent other crop seed. This could be .5 percent Sudangrass, clover or some other crop, or it also could mean .5 percent of a variety of grain sorghum other than Martin. The term *percent weed seed* is frequently misleading to purchasers of seed. Many types of seed are quite small, and a small percentage of weed seed such as .04 percent may mean that a farmer is planting several hundred weed seed per acre. If weed seed are present, the contents of the bag should be examined closely and the weed seed identified. In addition to information on the percentage of weed seed, the *number of* noxious weed seed per pound will be given on the bag, if any are present. For instance, if the seed contain Johnsongrass, dodder or other noxious weeds of this nature, the name and number of noxious weed seed per pound will be listed on the tag. It is a violation of the Texas Seed Act to sell seed which contain field bindweed, hedge bind-

Purchasers of seed should note the percent germination listed on the Texas Tested Seed label. This laboratory technician is placing the viable kernels on her left and the nonviable ones on her right.

weed and nutgrass, but farmers are exempt if they sell seed locally without advertising.

Purchasers of seed always should save the tags and, if possible, a small sample of the seed. The Texas Department of Agriculture enforces the Texas Seed Act. Purchasers of seed which are not labeled properly should contact this department.



Good seed ordinarily are cleaned and graded prior to sale. This gravity table separates kernels by weight. It is especially useful in removing diseased kernels which are lighter than the viable kernels.

VENDOR'S STATEMENT OF ANALYSIS

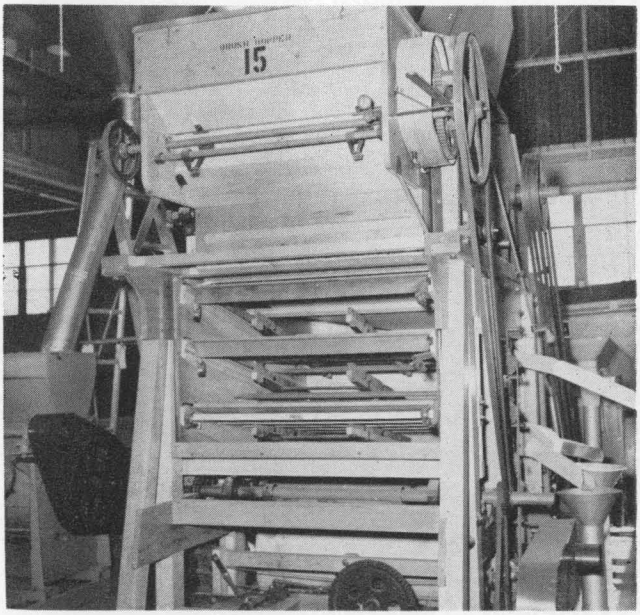
NAME John Doe
ADDRESS Big, Texas
KIND Wheat VARIETY Crockett
LOT NO. F12 WHERE GROWN Texas
PURITY 99.41 % INERT .54 %
OTHER CROP SEED .01 % WEED SEED .04 %
NOXIOUS WEED SEED 1 Johnsongrass seed per pound.

GERMINATION 90 % HARD SEED %
GERMINATION & HARD SEED 90 %
DATE TESTED 1/1/58 WEIGHT PER BAG 100 #

The back side of a Texas Tested Seed label.

Seed Treatment Tags

Seed usually should be treated prior to planting with a fungicide to control diseases, and with an insecticide to control insects. Seed treatments are difficult to apply but are highly desirable. It usually is easier and cheaper to buy treated seed rather than to purchase the chemicals and apply them. By law, all seed which have been treated with poisonous chemicals must be so labeled. The chemicals present on the seed must be listed, but not the amount of treatment applied. Treated seed are dangerous to livestock and human beings and should be stored in a safe place. When an individual's hands come in contact with seed treatment chemicals, they should be washed



The basic cleaning machine in any processing plant is a screen air type as shown here. All seed must go through this machine, and, if necessary, to other equipment for grading.

immediately since the treatment may be poisonous and burn the skin.

Buying Seed on Appearance

Seed should be examined prior to purchase. Good planting seed usually are plump, uniform in size, shape and color and relatively free from mixtures, other crop seed, weed seed, mechanical damage, diseases, insects and insect damage and inert material.

The average purchaser of seed probably attaches too much importance to attractiveness of appearance rather than to the tags on the bags. An especially attractive color is not necessarily indicative of seed quality. For example, sorghum seed produced in areas of low humidity frequently have a very bright color but often do not germinate above 85 percent. The germination percentage and date of germination should be checked closely on discolored seed and, in many instances, should be discussed with the retailer. Purchasers of seed should pay close attention to information on the tags instead of buying seed solely on the basis of appearance.

Reputation of Producer or Retailer

Seed should be purchased from a reliable retailer or seed producer who stands behind the product he has for sale. It is especially important to purchase hybrid sorghum seed which have been produced by a reliable producer. A hybrid sorghum seed producer may follow the best known production practices and still have seed which are badly contaminated from the fields around him. The only way these producers can determine if they have good seed is to winter-test them in Mexico or another southern location.

It is especially important to buy seed from a reliable producer and retailer if the crop is one in which the varieties cannot be distinguished readily. For instance, the seed and plants of Floranna and Hubam sweetclover are identical in appearance, but in many areas of Texas, Floranna blooms 2 to 3 weeks earlier than Hubam. It also is difficult to examine the seed or plants of hybrid corn or cotton and correctly identify the hybrid or varieties. In instances of this kind, when neither the seed nor the plants can be identified, it is especially important to buy seed from a reliable retailer who obtained them from a reliable seed producer.

MIRACLE VARIETIES

Many "miracle varieties" that are supposed to revolutionize agriculture appear frequently in Texas. Most of these wonder crops such as weeping lovegrass, sorghum almum or KR bluestem, become ordinary varieties once the demand for seed is satisfied. Contact your county agricultural agent regarding these "miracle" crops before seed are purchased.

Quality seed should be stored in water-tight structures, free of insects.

WHEN TO BUY NEW SEED

If hybrid seed are to be used, new seed must be planted each year. Seed of second generation hybrids result in drastically reduced yields. With varieties, seed become mixed because the plants producing the seed may cross with those from neighboring fields or the seed may become mixed mechanically. Crops such as oats, sesame, soybeans, rice, wheat, cotton and barley are largely self-pollinated and usually become mixed mechanically in combines, gins and planting and harvesting equipment. Hybrids and partially cross-pollinated crops such as clover, sorghum, Sudangrass, alfalfa, many grasses and rye usually become mixed because they are produced in fields not isolated properly. New seed of most self-pollinated crops should be purchased every 3 to 5 years, depending on how careful the farmer is to prevent mechanical mixing. Farmers should purchase new seed each year of most cross-pollinated crops, depending on the amount of isolation available.

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