

The WHAT And WHY Of CERTIFIED SEED

By JOE L. ROBINSON and H. D. HUGHES

"IT PAYS to plant good seed and Iowa Certified means good seed."

That is the slogan with which some 600 Iowa producers of certified seed, cooperating with each other and with the Iowa State College Extension Service through membership in the Iowa Agricultural Experiment Association, are carrying the meaning of "IOWA CERTIFIED" to the farmers of Iowa and the Corn Belt.

Most Iowa farmers are somewhat familiar with the term "certified seed," but relatively few have a clear idea of all that certification means when applied to seed.

Who Does the Certifying?

Seed is certified in Iowa by the Iowa Agricultural Experiment Association. Membership in this organization is open to any Iowa farmer interested in the improvement of Iowa field crops, especially those interested in producing field crop seed of superior quality. This group establishes rigid standards of perfection which any seed grower must meet if his seed is to bear the blue tag, "Iowa Certified." The College cooperates with this association of Iowa farmer seed growers, giving every assistance

certified seed must be free from primary noxious weed seed and other seed of good quality. Seed of corn and beans are tested in soil and only those are counted as germinated which produce vigorous, healthy plants.



Inspecting a soybean field shortly before harvest. Soybeans, oats and other small grain and forage crop fields on which certification has been requested are inspected to make sure that there is no mixture with other varieties or with other crops. Only seed that is pure can be certified.

possible in advancing efforts to make available to Iowa farmers generally high quality seed of proven worth.

What Seed Are Eligible?

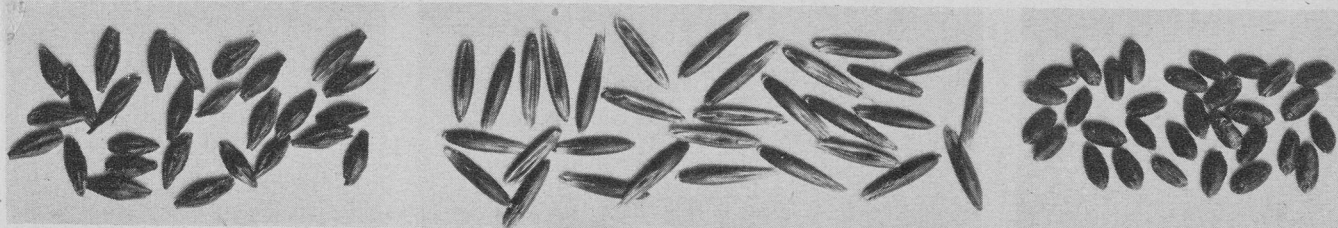
Certification is limited to varieties and strains of field crops which have been rigidly tested and proved to be among the most productive kinds and to be adapted to Iowa growing conditions.

Soybeans and small grain varieties to be eligible for certifica-

tion must have been shown to be superior in yield and in other characters in comparative plantings at the Iowa Station. Corn hybrids to be considered for certification must have been included in the Iowa Corn Yield Test plantings and must have stood among the very best in yield of grain and strength of stalk in one or more sections of the state.

The crops and varieties for which application for certification was permissible in 1944 (indicative for 1945) are as follows:

Corn Hybrids:—Iowa Hybrids 13, 303, 306, 931, 939, 942, 3088, 3110, 3553, 4020, 4059, 4060, 4316; Illinois Hybrids 201, 247, 374, 751,



960, 972; Indiana Hybrids 416B, 432, 608B, 608C, 610; Ohio Hybrids K35, C92; U. S. Hybrids 5, 13, 35, 44, 63, 65. (Provisional: Iowa Hybrids 4049, 4249, 4295, 4297, 4298; Indiana 210B; Ohio A24.)

Oats:—Boone, Marion, Tama, Vicland.

Winter Wheat:—Iowin, Iobred, Iobred—73.

Flax:—Redwing, Bison, Biwing.

Soybeans: — Mukden, Richland, Chief, Dunfield, Lincoln, Earlyana.

Red Clover:—Midland, Emerson.

Sweetclover:—Iowa Late White.

Bromegrass: — Fischer, Lincoln, Achenbach, Iowa.

Lespedeza:—19604.

Iowa Certified Requirements

True to Variety Name. To be eligible for inspection looking to certification a field must have been planted with either foundation or certified seed, tracing back to the originator of the strain or variety. This, together with rigid inspection of the crop in the field as well as the seed in the bin after harvest, gives real assurance to the buyer that he is getting seed of the variety that he wants.

Free From Mixture. All small grain, soybeans, grass and other crops grown for seed on which certification has been requested are inspected in the field when in full head stage of growth for evidences of mixture with other varieties or with other kinds of grain, beans, or grass, as the case may be. Oats, to be eligible to bear the blue tag "Iowa Certified" must

have a varietal purity of at least 99.5 percent. Soybeans can show not to exceed .2 of 1 percent of varietal mixtures in the field. And so it is with other seed.

Corn hybrid seed producing fields must be so isolated as to keep the possibility of pollination by stray pollen to the minimum. Distances to other plantings of corn are carefully inspected and measured. During the detasseling and pollinating period these fields are visited at irregular and unannounced times by inspectors employed by the Association, to make certain that a thorough job of detasseling is done. If, at the time of any inspection, as many as one tassel out of 100 in the ear producing rows is found to be shedding any pollen the field is not eligible for certification. In the 1944 season each hybrid corn seed producing field listed was inspected from 3 to 11 times.

Freedom From Weed Seed. One of the prime purposes of field inspection of the growing seed crop is to guard against noxious weeds. Seed crops must be entirely free of all primary noxious weeds to be eligible for certification. After the crop is harvested and threshed the bin is thoroughly sampled and the seed further examined for the presence of weed seed. To pass for certification the seed must be entirely free of all primary noxious weed seed and must not have more than a minimum number of secondary noxious, or of other weed seed.

Only those crops and varieties are eligible for certification which have proved productive and otherwise superior through a period of years in comparative plantings. Many such tests are made at the Iowa Station.

Adapted to Iowa Conditions. All varieties, strains and hybrids eligible for inspection looking to certification must have been shown to be well adapted to Iowa growing conditions. Hybrid corn must have been entered in the Iowa Corn Yield Test and have matured satisfactorily, producing a good quality of grain. Soybean and small grain varieties must have been included in comparative variety plantings through a period of years and have been shown to be well adapted.

Proved Productivity. Only those varieties which have proved to be superior in production can bear the blue "Iowa Certified" tag. Varieties of soybeans, small grains, clovers and grasses are tested and compared year after year in breeding and variety plantings at the State Experiment Station. Only those which stand at the very top in production are placed on the list of varieties eligible for certification. A corn hybrid to be eligible for certification must have been among the very top in yield in the Iowa Corn Yield Test and also must have shown superior resistance to stalk breaking and to lodging. The planting of certified seed helps to assure the very best yields that the soil and season make possible.

Strong Germination. With genuineness, adaptation, productivity, freedom from mixture and from weed seed established, there is still the matter of strong germination. For all lots of seed which have



passed these mentioned hurdles, a representative of the association takes samples from the stocks of seed in the hands of the growers and tests these for germination in the College Seed Laboratory. Here seed is tested in soil, and only those counted as germinated which are capable of growing into healthy plants. To carry the blue certification tag a high percentage of the seed must have been shown capable of producing healthy plants.

Certified Seed Available

Over 29,000 acres of hybrid corn seed fields were inspected for certification in 1944, over 9,000 acres of oats, 3,000 of soybeans, and smaller acreages of lespedeza, bromegrass and flax. The percent of the acreage of these different crops which passed the field, bin and laboratory inspection tests for certification in 1943 (1944 probably will show similar results) was 91 percent for corn, 46 for oats, 47 for soybeans, and 68 for bromegrass.

The fact that over half of the acreage of soybeans and oats and nearly a third of the acreage of bromegrass failed to meet the requirements for certification indicates the care exercised by the inspectors of the certifying agency and the high standards of seed certification in Iowa. When half these fields on which certification had been asked by the owners fail to meet the certification requirements—freedom from mixture with other varieties and other grains—and from noxious weeds—high germination—true to name—adapted and productive—we can be pretty sure that much of our uninspected small grain and bean seed is far from good quality.

A booklet issued by the seed certifying agency entitled "Know the Seed You Plant" lists the growers from whom certified seed of the different crops can be obtained. This can be had by addressing the Iowa Agricultural Experiment Association, Ames, Iowa.

Certified Seed Top Yields

It should not be inferred that all uncertified seed of these im-



Hybrid corn seed fields for which certification has been asked are repeatedly inspected at unannounced times during the period of detasseling to insure seed of the highest possible value. Such fields must be well isolated from all others which might be able to contaminate them.

proved varieties and hybrids is unsatisfactory in quality. Much, if not most, of the hybrid corn seed sold in Iowa is believed to be of good quality. Probably somewhere near half this seed is not certified. We believe that most of those who produce hybrid corn seed are making an earnest effort to provide their customers with high quality seed, though the relative productivity of many of these hybrids has not been established by entry in the Iowa Corn Yield Test. Probably a much smaller proportion of the uncertified small grain, beans and grass seed is of satisfactory quality than is true for seed corn.

Maximum acre yield is the aim of all of us who grow crops. Almost any seed will produce some sort of a crop. But questionable seed—seed of unknown origin or adaptation; perhaps diseased and of poor germination; perhaps poorly adapted and of unknown productivity, that is mixed or contains weed seed—cannot be depended upon to give a full return on the investment in the land, and in time, labor and actual cost of plowing, fitting, planting, harvesting and marketing.

The planting of certified seed insures: trueness to variety name—freedom from mixture—freedom from weed seed—adaptation to Iowa conditions—proved productivity—strong germination.

Yes—"It pays to plant good seed and Iowa Certified means good seed."

TROUBLE WITH PIGS REARED ON CONCRETE

Some Iowa farmers have found that raising their pigs on concrete—keeping them always off the ground—is not the entire solution to producing good healthy pigs.

These pigs in many instances have had scours and scurvy-rough skins. At older ages they frequently show lameness and just "don't do well."

The trouble is believed to be a vitamin B-complex deficiency. Usually the feeding of fish meal (when it can be obtained) will bring the pigs out of it, according to C. C. Culbertson of the Iowa Station.

Iowa farmers have shown a growing interest in rearing their pigs on concrete because of the trouble with worms and diseases which they pick up from contaminated soil.

One Iowa farmer has had very good success over a period of years rearing pigs on concrete. He has fed skim milk in rather large quantities and plenty of good green alfalfa meal, in addition to fish meal. These additions to the rations have probably supplied the elements of nutrition which have caused trouble in many other herds.