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## The Purpose and Benefits of Seed Certification

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## THE PURPOSE AND BENEFITS OF SEED CERTIFICATION<sup>1/</sup>

Dr. A. W. Young<sup>2/</sup>

The basic purpose of seed certification is to maintain and make available to the public sources of high quality seed and propagating materials of superior varieties so grown and distributed as to insure genetic identity.

Varietal purity is the first consideration in seed certification but other factors such as weeds, diseases, viability, mechanical purity and grading are important in providing a seed product which the grower can plant with reasonable assurance that he can and will obtain a good stand of healthy plants of the desired variety without introducing undesirable competitive plants or disease hazards.

Seed certification is designed to maintain not only genetic purity of superior crop varieties but also to maintain reasonable standards of seed condition and quality.

Who benefits by seed certification?

Agricultural industry as a whole should benefit from seed certification.

The producer should benefit in the satisfaction of a job well done in producing high quality seed and should receive remuneration in keeping with the quality of the product produced.

The seed merchandiser who handles certified seed should receive satisfaction in handling a high quality product which he can recommend to his

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<sup>2/</sup> Dr. A. W. Young, President, International Crop Improvement Association.

customers and from which he can expect continued business and a reasonable profit for the services performed.

The ultimate user of the certified seed should profit from buying and planting certified seed. He can expect the seed to include the characteristics represented by the variety selected, (such as resistance to lodging, shattering, insects, disease, etc., maturity, plant color, yield, etc.), genetic purity, viability and freedom from disease.

If an adapted crop variety of certified seed is chosen by the grower he can, under favorable growing conditions, expect to harvest a larger yield of higher quality crop than would be expected from planting inferior quality seed, and at the same time should avoid the introduction of weed pests or diseases on his crop land.

Will the shift to more basic research by public agencies decrease or increase the need and demand for seed certification?

During the past four or five decades a good reputation has been established by seed certification in the United States. Through education and continual improvement of the crop seed produced and marketed as certified seed, the seed consumer has learned that he can depend upon the quality and genetic character of certified seed. As a result the informed user of seed will select certified seed in preference to seed of unknown quality.

Likewise, during recent decades certain growers and seedsmen have, through education and continual improvement of the crop seed produced and marketed under their trade name, established a reputation for high quality seed. The informed user of these seeds will select the seed produced and marketed under the trade name of company of reputation in preference to seed of unknown quality.

It would seem logical that with the emphasis on more basic research

in plant breeding by public agencies and a greater amount of plant breeding by private industry that the need for reputable seed production would not change. Reputable seed production can be provided either by the continuation of seed certification or by the commercial concern which the consumer had faith as to the genetic purity and overall quality of the seed produced and marketed by that particular concern.

It is possible that a certified seed producer, who in the past has increased seed of the varieties and hybrids developed and tested by the experiment station, may not have the technical knowledge required to develop new varieties or hybrids and therefore will eventually find it necessary to drop out of certified seed production as the present varieties and hybrids become obsolete. Another alternative for such an individual will be to employ the technical knowledge needed to develop superior varieties and hybrids which can be adequately tested and placed under the certification program in his state. A third alternative might be to grow seed acreages under contract for a grower who has the technical knowledge to continue to produce superior varieties and hybrids which the public will purchase and use.

As the matter stands at present, economics will probably determine which of the three alternatives a particular present-day certified seed producer may follow.

The larger producer of certified seed with adequate financing and facilities and the necessary technical knowledge required to develop new improved varieties and hybrids is apt to increase his acreage as the smaller producer ceases to function as a certified seed grower. This larger producer, as he grows larger may desire to continue to produce seed under the certification program or he may desire to establish a private brand name and build a high reputation for his seed so that he can sell on his own brand name

without having the seed under a certification program. He may desire to continue under a seed certification program and add to this his own brand name as many growers are doing today.

Certainly the shift in emphasis from plant breeding to more basic research by public agencies (with corresponding increase in private plant breeding) will not decrease the need for the production of high quality seed of acceptable genetic character.

The question which must be answered by the seed industry is whether this high quality seed of known genetic character can best be produced by many growers in each state operating under a good certification program or can better meet our agricultural seed needs if this seed is produced by a few large growers in each state who may also develop their own marketing and distribution systems.

Does or will certification have a role in the production and distribution of commercially and privately developed varieties (including closed pedigree hybrids)?

Certification has the same role in seed production regardless of whether the seed is commercially or privately developed. Dr. Marion W. Parker, Director, Crops Research Division, Agricultural Research Service, USDA, Washington, D. C., in a talk last October at the general Education Program of the International Crop Improvement Association in Oklahoma sums up this question in the following statement:

"Certification can well serve the private breeders just as effectively as it has the public breeders by providing confidence to the consumer as to the varietal identity and purity."

The major problem appears to be the inability of the seed industry (the producers, processors, distributors and merchandisers) to find a suitable

way wherein the purposes of seed certification can be achieved and at the same time permit this seed to move readily through the established distribution and merchandising channels.

The seed trade has raised a number of objections to certified seed which I believe the seed certification officials should earnestly and carefully consider to determine if these objections can be resolved and still make possible the fulfillment of the purposes of seed certification. Briefly stated, seed trade objections to certified seed include the following:

1. All certified seed are not of the same quality, particularly as regards appearance factors and germination.
2. The practice of certification for variety and quality factors, such as germination and mechanical purity on the same tag, prevents ready movement of the seed in trade, especially where germination may change during storage.
3. Certification of seed meeting the minimum germination standards may decrease in germination by as little as one percent and thereby force the dealer to remove the certification tag and sell the seed as non-certified seed.
4. Some certified seed is marketed in printed containers which prevents the dealer from marketing such seed under his trade name.
5. The grower's name and address is often found on the certification tag or printed on the bag which facilitates by-passing the seller on repeat orders.
6. Many certified seed lots are not blended sufficiently during processing to give a uniform seed quality in every container, which oftentimes may cause dissatisfaction by the consumer and loss to the dealer.

7. Crop improvement associations or certification agencies oftentimes mail names of all certified seed producers to county agents and other agencies giving number of acres and kind for each variety of seed produced by a grower.

Certified seed growers in many states have given attention to these objections and have taken steps to remove some of the objections. Forty-four states and Canada have established minimum standards so that all certified seed produced in these states and Canada must meet these minimum standards. Likewise most states have gone to the two tag system where the certification is carried on one tag and the quality factors on a second label. Many certification agencies now permit a certified seed grower to place his registered code number on the certification tag in lieu of his name and address. Most certification agencies now require only that the container for certified seed be a new evenweight, clean bag of suitable quality for packaging the seed.

Ways and means should and will be sought to eliminate other objections.

If the certification procedure can adequately protect the pedigree of privately developed varieties and hybrids, certification should provide the same service to these as to those varieties and hybrids produced by public agencies.

If the commercial or private seed producer is to establish his seed business outside of certification he must operate his production in such a way that the reputation he builds will not only assure the purchaser of his seed as to the genetic purity and quality but must also assure (a) that the seed is of the necessary limited generation where important, (b) that all claimed characteristics of standability, resistance to insects, diseases, etc.,

maturity, use qualities, yield, plant color etc. are present, (c) freedom from seed borne disease, (d) that the seed meets high standards of seed quality including germination, purity, freedom from weed seed, etc., (e) that the origin is such as to establish adaptation to latitude and climate.

These characteristics are assured to the purchaser in certified seed in addition to the genetic purity and quality. It can require years for an individual to establish such a reputation.

It would appear that certification can and will continue to provide a valuable service to seed producers who can qualify as certified seed producers.

Certainly certified seed production procedures must be studied and modified to meet the changing agriculture. Such modifications and changes should not be made at a sacrifice in the quality of the seed produced.