XVIII. THE ROLE OF THE SEED TESTING LABORATORIES UNDER THE SEED LAW

The primary objective of the seed law and the seed testing laboratories is to help assure the cultivator of a continuous supply of good quality planting seed. The law becomes the legal base upon which to build a comprehensive and well integrated seed improvement program. The seed testing laboratories are one arm of this law which can provide the means for evaluating the quality of the planting seeds under unbiased and controlled conditions.

The seed law should provide a new dimension of authenticity and reliability to the seed which is sold. It should also provide the cultivators and seed buyers with a means of identifying seeds with higher quality. The objectives can be accomplished through two approaches :

1. Provide a mechanism to establish system of seed certification of notified varieties and hybrids under which the genetic purity is assured. Adequate inspections will be made of each field and seed lot entering the program to assure high predetermined standards are met with respect to genetic and physical purity, germination and other quality factors. Seed under such a seed certification program will be identified with a tag or label in such a way that buyers can know that such seed has met high standards.
2. By requiring all notified seed sold through commercial channels or advertised for sale to be correctly labelled, a means will be provided to the buyer to evaluate the physical aspects of the planting seed he purchases. This provision would apply to all seed but would not include the field inspection and genetic purity requirements that are specified under the higher seed certification standards. Minimum germination and physical purity limits would be provided so that seed falling below these levels could not be sold legally in channels of trade.

Seed testing and seed certification

Obviously the seed testing laboratories play a vital role in both of these aspects. In the case of the seed certification programme, seed samples from fields that have been properly inspected and entered in the program must be tested before the proper certificate can be issued to indicate that this seed has met all of the field and laboratory seed certification requirements. (Figure 113). The laboratory or the seed certification officer working in collaboration with the laboratory staff will maintain records of certified seed lots so that a complete history of each seed lot will be maintained from the time it leaves the plant breeder.

FIG. 113—*Field inspections must be linked with laboratory tests in a comprehensive seed certification program.*

Seed control needs unbiased testing

Under the Seed Act all samples of notified seeds being sold will be required to be correctly labelled. The seed testing officer and his staff have a statutory role to play. Seed which is ready for sale will be systematically sampled at random by seed inspectors, thus assuring that all provisions of the Seed Act are being followed. The inspectors will submit their samples for testing to the seed testing laboratory. The laboratory's results become the basis upon which to determine whether or not seed has been properly labelled and is being sold in accordance with the Seed Act requirements. The seed testing laboratory's results have a legal validity and form the basis on which the Seed Act to implement.

In addition to the testing required under the Seed Act the laboratory may also do service seed testing for seed dealers, seed producers and cultivators who want the information before they plant, label or sell seeds. The service testing will also be an important part of the program in that it helps seed producers and dealers to assure that their seed lots are in accordance with the seed law before they offer such seed for sale.

An integrated program

A seed law without some provisions for unbaised seed testing basis is meaningless. On the other hand seed testing laboratories which are not properly integrated into a seed certification and seed control program have questionable value also. Both aspects are needed and must be linked together to achieve a properly integrated effective quality orientated seed program.

Figure 114 diagrams the relationship of all of these programs to one another.

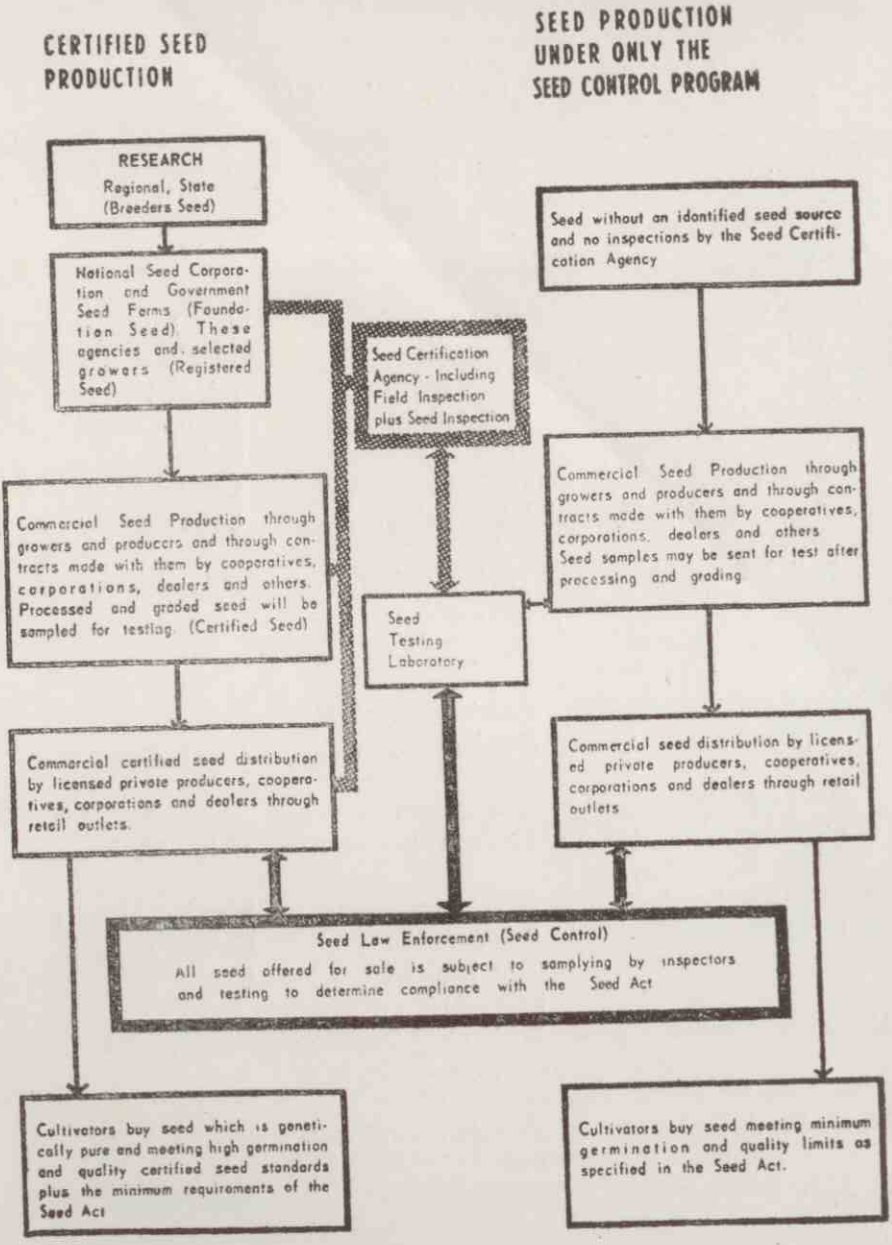
CERTIFIED SEED PRODUCTION
SEED PRODUCTION UNDER ONLY THE SEED CONTROL PROGRAM
RESEARCH
Regional, State (Breeders Seed)
National Seed Corporation and Government Seed Farms (Foundation Seed). These agencies and selected growers (Registered Seed)
Seed Certification Agency - Including Field Inspection plus Seed Inspection
Seed without an identified seed source and no inspections by the Seed Certification Agency
Commercial Seed Production through growers and producers and through contracts made with them by cooperatives, corporations, dealers and others. Processed and graded seed will be sampled for testing. (Certified Seed)
Commercial Seed Production through growers and producers and through contracts made with them by cooperatives, corporations, dealers and others Seed samples may be sent for test after processing and grading
Seed Testing Laboratory
Commercial certified seed distribution by licensed private producers, cooperatives, corporations and dealers through retail outlets.
Commercial seed distribution by licensed private producers, cooperatives, corporations and dealers through retail outlets
Seed Law Enforcement (Seed Control)
All seed offered for sale is subject to samplying by inspectors and testing to determine compliance with the Seed Act
Cultivators buy seed which is genetically pure and meeting high germination and quality certified seed standards plus the minimum requirements of the Seed Act
Cultivators buy seed meeting minimum germination and quality limits as specified in the Seed Act.

FIG. 114