

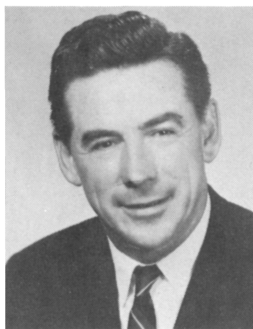
INTRODUCTION TO THE SYMPOSIUM, by William L. Hollis, Associate Director, Agriculture Division, National Canners Association, Washington, D. C.

THE NECESSITY FOR HIGH-QUALITY VEGETABLE SEED, by J. F. Harrington, Department of Vegetable Crops, University of California, Davis.

THE EFFECT OF PHYSIOLOGICAL SEED QUALITY ON PLANT ESTABLISHMENT, by Bruce M. Pollock, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture, Fort Collins, Colorado.

THE BREEDING ASPECTS OF VEGETABLE SEED QUALITY, by John L. Morris, Rogers Brothers Company, Twin Falls, Idaho.

HANDLING SEED TO INSURE HIGH SEED QUALITY, by David J. Thompson, Ferry-Morse Seed Company, San Juan Bautista, California.



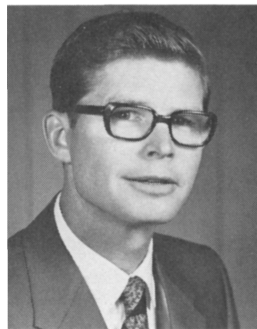
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INTRODUCTION TO THE SYMPOSIUM

W. L. Hollis

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"Seed, the germ of life – handle and use with care." Perhaps such a statement should appear boldly on all packets, cartons, and bags of seed to emphasize how precious the commodity really is. Agriculture and man's survival depends above all else on seed. As agricultural technology has progressed, greater and greater demands have been placed on seed, specifically with respect to performance. To inaugurate seed quality is not enough, we must also maintain it through to the successful establishment of a successive generation. Performance in the farmer's field is the ultimate test of seed quality.

Performance is the composite attribute of seed quality that arises out of the natural and/or controlled interactive functions of genetics,

environment, production, handling, and utilization. Knowledge on how these functions may be manipulated and managed in attaining, preserving, and assuring satisfactory performance of seed will be brought out by our distinguished speakers. There is one final point I would like to make that is salient to the topic at hand. I believe that it is essential that we recognize the need for and to develop, as soon as possible, the ability to dependably and accurately measure seed quality in terms of performance as related to conditions of use. Predictability of performance is essential to success in today's mechanized agriculture.

THE NECESSITY FOR HIGH-QUALITY VEGETABLE SEED

J. F. Harrington

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In former days a vegetable grower would plant many times more seed than the plants he needed, to ensure a stand even if the seed quality were poorer than expected. Any excess seedlings were thinned out by hand, and the crop was harvested by hand, involving several harvests, with no concern for uniform maturity. Today the situation is different. Labor is expensive and becoming more so. The trend is toward mechanization, which requires precision planting or planting to a stand, with a once-over harvest. Only high-quality seed will do the job.

This necessity for high-quality seed has arisen from at least 3 sources. First, the change from hand production to mechanical production has come about only by the development of specialized machines, such as precision planters, electronic thinners, and mechanical harvesters. These machines are successful only if high-quality seed is used. Second, the type of vegetable farm is changing from small family operations, where bookkeeping is

minimal, toward corporate farming, where profit is essential and the cost of every operation is carefully scrutinized. College-trained growers and staff are aware of the need for high-quality seed and know what factors are involved in quality. Third, the seed business is one of the most competitive in our society, with the competition based on high quality rather than low price. Since seed costs for most vegetable crops are as low as 1% of the grower's production costs, it is ridiculous to buy cheaper seed if even a small part of the high quality is sacrificed. Even a 1% gain in yield will pay for *all* the seed cost. Hence, seedsmen are finding ways of producing seed of the high quality that growers want.

For years, high-quality vegetable seed has meant sound, clean seed of high germination, free of seed-borne disease, free of weed seed, reasonably pure genetically, and possibly treated against soil-borne organisms (1). Today there are additional important quality factors: