EFFECTS OF MCPB ON ALBINISM IN PEAS

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Summary

Two successive generations of William Massey and Victory Freezer peas were sprayed with 1½ lb acid equivalent per acre of MCPB. There was no evidence that the MCPB had any effect on albinism in the following generations of peas. There was some albinism in the first generation, before spraying, although, as far as could be ascertained, the seed was from a source free of any record of MCPB spraying.

INTRODUCTION

IT HAS BEEN CLAIMED that the spraying of peas with MCPB increases the incidence of albinism. The claim is that the effects are not seen in the sprayed peas but in the crop grown from the seed of the treated peas. The effects are said to be commonly noticed in the William Massey variety.

This paper gives the results of field trials with three generations of peas to study the effects of spraying with MCPB on albinism.

EXPERIMENTAL

Seed of each of two varieties of peas, namely, William Massey and Victory Freezer, was obtained from two sources. As far as could be ascertained, there was no history of spraying with MCPB in the history of any of the four lines of seed.

Four replications of 3 plots of each of the 4 lines of seed were sown in November, 1959, and treated as follows: unsprayed, sprayed early, and sprayed late. The spray treatment was 1½ lb acid equivalent of the sodium salt of MCPB. The early treatment was applied when both varieties were at the 5-true-node stage and the late treatment when the William Massey and Victory Freezer varieties were at the 9- and 11-node stages, respectively. Each plot was 18 ft long and consisted of 5 rows 14 in. apart.

Seed harvested from each of the 12 treatments in the 1959-60 crop was sown in December, 1960. There were 4 replications of the 12 treatments. Three strips crossing each replicate were treated as in the previous year — *i.e.*, unsprayed, sprayed early, and sprayed late. The early spraying was again at the 5-node stage and the late spraying at the 8- and 11-node stages for the William Massey and the Victory Freezer varieties, respectively. There was a heavy shower of rain ¾ hour after the late spraying.

Of the 36 treatments separately harvested from the 1960-61 crop, the following 3 combinations for each of the 2 varieties from each of the 2 sources were sown the next season:

Unsprayed for 2 successive generations

Sprayed early for 2 successive generations

Sprayed late for 2 successive generations

Three replications of these 12 treatments were sown in January, 1962.

RESULTS

In the first generation — *i.e.*, the 1959–60 crop, there were a total of 12 albino plants. Of these, 10 were William Massey and 2 were Victory Freezer. All the albino plants were in seed from the one source. The albino plants were removed before the first spraying.

There were only 2 albino plants in the whole of the second generation crop and none in the third generation.

CONCLUSION

There was no evidence from these trials that spraying two successive generations of peas with MCPB increased the albinism in the progeny.

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