Preliminary Investigations on Diagnosis of Strain-Relationship in Corn Plant by Precipitine Test

(3) Relation between fractionated protein and precipitin reactions

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Summary

The present investigation was carried out to ascertain the effect of protein constituents extracted from corn pollen on precipitin reaction. The results obtained are as follows:

(1) Fraction analysis of protein contained in the extracts of pollen of the corn plant, var. "Reid's Early Yellow" was carried out. The filtrates were separated into four portions, A, B, C and D; and A contained all fractions of protein and the others contained albumin+globulin-α+globulin-β, albumin+Globulin-α, and albumin, respectively.

(2) Rabbits were treated with the filtrates and the antiserum thereby produced were tested by the "Ring" Precipitation with each antigen.

(3) The fractions albumin, globulin-β and globulin-γ reacted strongly, while globulin-α reacted weakly.

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(4) On the relation between the quantity of protein immunizing and precipitin reaction

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Summary

(1) The relation between quantities of antigen made from corn pollen and its precipitin reaction was examined. Four levels of antigen quantity, 32.44mg, 48.66mg, 52.94mg, and 81.10mg as protein, were tested.

(2) From the results, it was elucidated that the larger the quantity of antigen used, the clearer becomes the precipitin reaction.