

EFFECT OF REPEATED USE OF PESTICIDES ON SOIL DEHYDROGENASE ACTIVITY IN COTTON FIELDS

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ABSTRACT

Field study was conducted to see the effect of long terms repeated use of pesticides on dehydrogenase activity in cotton fields. Samples were collected from sowing time, before and 2 days after each pesticides application, at harvest and post harvest time during the crop seasons 1997-1999. Dehydrogenase activity was determined from these soil samples. Endosulfan alone or with bifenthrin, fenpropathrin, methamidophos alone or with endosulfan and a mixture of bifenthrin and ethion, carbosulfan and a mixture of chlorpyrifos + trolomethrin + acetamiprid inhibited the dehydrogenase activity. Profenophos alone or with cypermethrin or alphasmethrin or cyhalothrin or trolomethrin, imidachloprid and diafenthiuran stimulated it. All the other applied pesticides did not cause any appreciable change in dehydrogenase activity throughout the study period. Samples collected after pesticide application, at harvest and post harvest time showed that the dehydrogenase activity was same as that at sowing time.