

## Methods for the Control of Interacta

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Interacta is a serious pest of Potato, Gram, Tobacco, Bathua evidently harming the plant in different area of bihar. The life cycle and biology of Interacta infecting the potato, gram, tobacco and bathua has been studies in order to understand the nature of its biological manifestation covering its life cycle.

There are two main methods for the control of Interacta:

- A. By pesticides of plant origin
- B. By insecticides

A. By pesticides of plant origin: Table 8 indicated that all tested treatments were found effective against cutworm as compared to untreated plants. However, the treatment of different cakes were found less effective as compared to chemical and bio-products. Among the treatments, Chloropyrifos-20EC was found to be most effective and checked 100% both foliage and tuber damage when applied twice @2.50 Uha on ridges. The foliar damage was recorded ranging between 0.85 to 1.95% in different treatments of cakes as compared to 5.80% in untreated plots. Among these treatments, the Neem cake was found much superior and mustard cake was found less effective for checking and reducing the foliage and tuber damage. Among the different formulations of Neem products, Nimbicide and Limonor oil were found most effective and Neem green was found less effective to check the foliage damage. Among the insecticidal treatments, the granular insecticides, Thimet and Carbofuranwerer found less effective and at par with cakes treatments to check and reduce the foliage damage in the crop. The Endosulfan and Ouinalphos were also found less effective to control the foliage damage.

Regarding the tuber infestations, the Nimbicide was found very effective as compared to other treatments of Neem products. The tuber damage was recorded ranging between 2.45 to 3.45% and 2.65 to 3.55 by number and weight, respectively. In different treatments of cakes, 0.25 to 0.95% and 0.35 and 1.05% by number and weight in different treatments of Neem products and 0.00 to 2.50% and 0.00 to 2.85% by number and weight, respectively in different treatments of Chemical insecticides as compared to tuber damage 10.50% by number and 11.25% by weight in untreated check.

It is indicated that the treatments of Neem products were found more effective as compared to chemical pesticides and oil cakes in order of merits. Among, Chlorpyrifos-20EC was found most effective to check the cutworm damage in Potato.

B. By insecticides: Further it is very clear as per table 9 that treatments, Chlorpyrifos-20EC @2.5Liha as foliar application was found very effective against cutworm when applied twice of plant foliage as well as on ridges first at earthing and second after 21 days of 1<sup>st</sup> spray and 100% checked to plant foliage and tuber damage. Other foliar insecticides were found less effective to check the cutworm damage. Quinalphos-25EC @0.50 LIha was found much effective than Endosulfan-35EC @0.5 LIha. Foliage damage was recorded 1.50 and 2.75% in Quinalphos treatments and 2.50 and 3.25% foliage damage in Endosulfan treatment. Tuber damage was recorded 0.25 and 0.50%, 0.00 and 0.25% and 0.25 and 0.25% by number in large, medium and small size of tubers and tuber damage was recorded 0.15 and 0.35%, 0.00 and 0.35% and 0.15 to 0.15% by weight in large, medium and small sizes of tubers in the treatment of Quinalphos-

25EC, respectively in two different doses of insecticides. The tuber damage 0.50 and 1.25%, 0.50 and 2.25% & 0.75 and 1.25% by number and 0.35 and 1.20%, 0.40 and 1.80% and 0.60 and 1.20% by weight in different sizes of tubers in different doses of insecticides, respectively in the treatment of Endosulfan-35EC. The total tuber damage was recorded both Quinalphos and Endosulfan treatments in two different doses i.e. 0.50 and 1.00% and 1.75 and 4.75% by number and 0.30 and 0.85% and 1.35 and 4.20% by weight, respectively as compared to tuber damage in Chlorpyrifos-20EC treatments i.e. 0.00 and 0.25% by number and 0.00 and 0.20% by weight. The tuber damage was recorded in soil treatments i.e. 6.50 and 5.25% by number and 4.83 and 4.75% by weight in the treatments of Carbofuran @1.5 kgs.lha and Thimet @1.5 kgs.lha at planting time, respectively. These insecticides were found less effective as compared to other insecticides. In untreated plots, the foliage damage, 8.50% and tuber damage 17.75 by number and 16.25% by weight were recorded in different sizes of tubers i.e. 5.25, 4.25 and 8.25% by number 4.75, 3.75 and 7.75% by weight in large, medium and small size of tubers, respectively. In this experiment, the medium size of tubers were found with less damage as compared to large and small sizes of tubers. Small size of tubers were found with damage as compared to large and medium size of tubers.

Finally, it was observed that the foliar insecticides were found much effective as compared to granular insecticides, Chlorpyrifos - 20EC @ 0.5 Lha sprayed twice was recorded to check 100% foliage and tuber damage Quinalphos-25EC was better than Endosulfan in foliar spray. The soil application of insecticides, Thimet and Carbofuran was not found much effective to control the cutworm damage while minimize the cutworm incidence. In comparison of different size of tubers, the medium size of tubers were found much affected as compared to large and small size of tubers.

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