

# Effect of bio-pesticides on potato quality and yield

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## Introduction

Chemical pesticide use in vegetable crops is high and potato is one of the key vegetable crops grown in Nepal. Providing alternatives to chemical pesticides for improving quality and quantity of potato tubers is a major concern.

## Research questions

- Are jholmol and botanicals equally efficient in managing damage by insects and pests?
- Which botanical is effective in managing damage and increasing both quality and yield of potato tubers?

## Methodology

Potato was grown in Dhulachaur, Himali Rural Municipality-6, Nepal to test the efficacy of asuro, titepati, ketuki, chiuri seedcake and jholmol in reducing damage by insect pests. The research was designed using RCBD with four replications. Data collected during the harvest were subjected to ANOVA and treatments were compared ( $p < 0.05$ ).

## Key findings

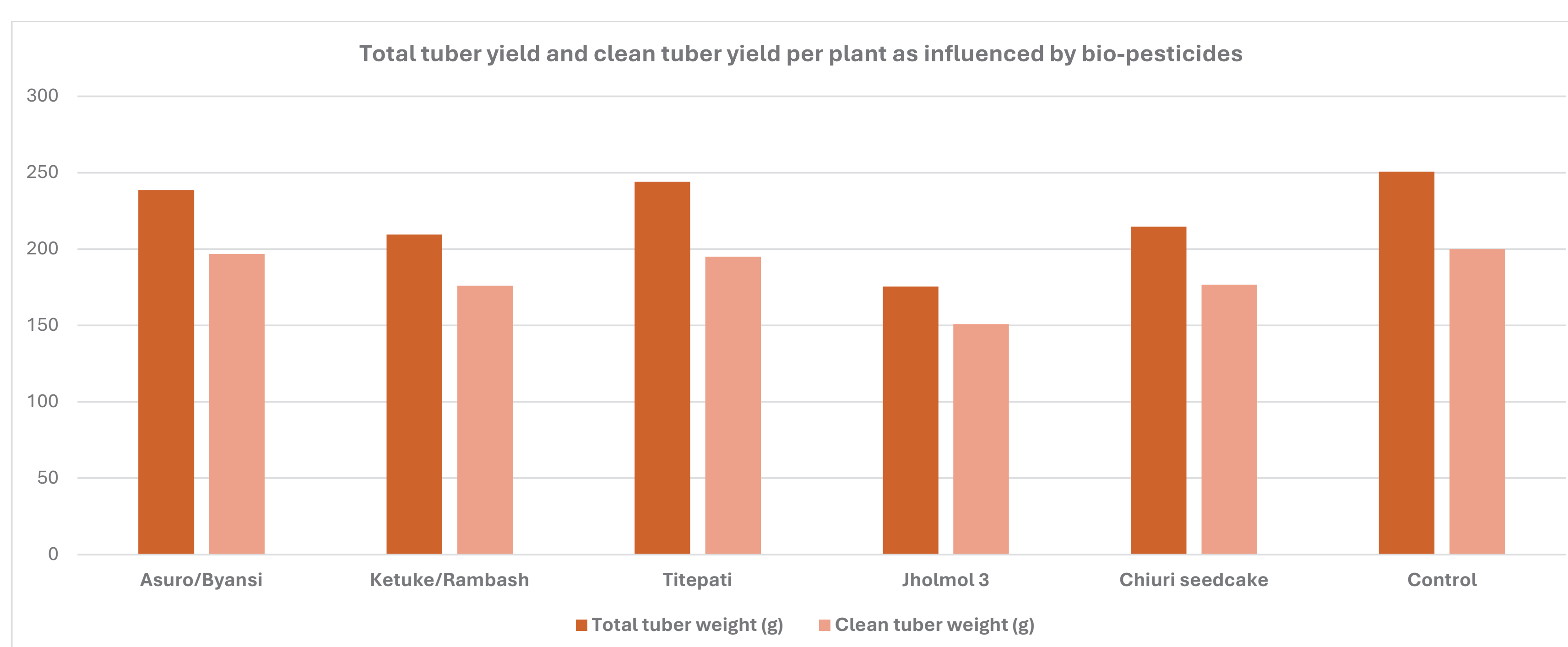
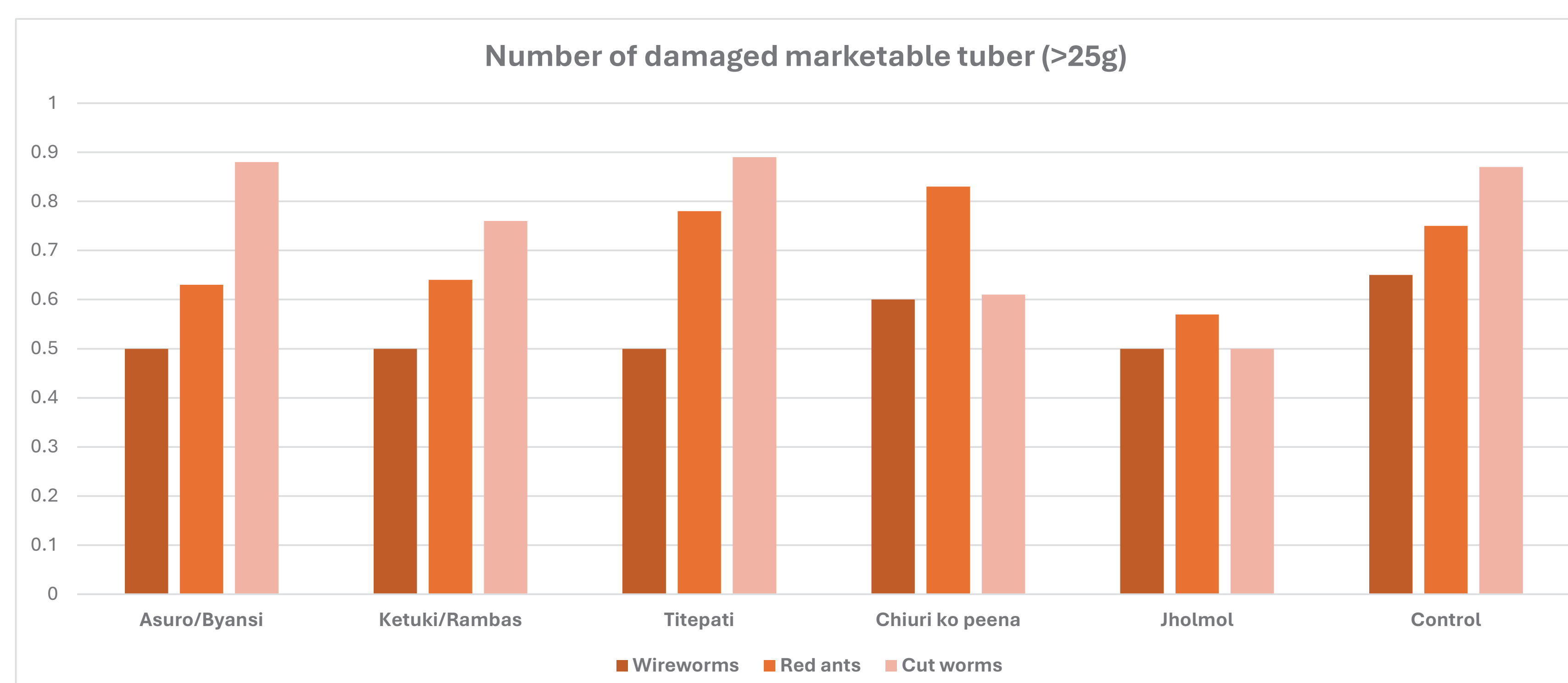
Jholmol and Ketuki were effective in minimizing insect pest damage but posed negative effects on total tuber yield. Chiuri seed cake significantly reduced the damage by cutworms, but no such effects were observed on red ants and wire worms. Total tuber and undamaged tuber yields were higher in asuro and titepati, despite significant infestation by cutworms.



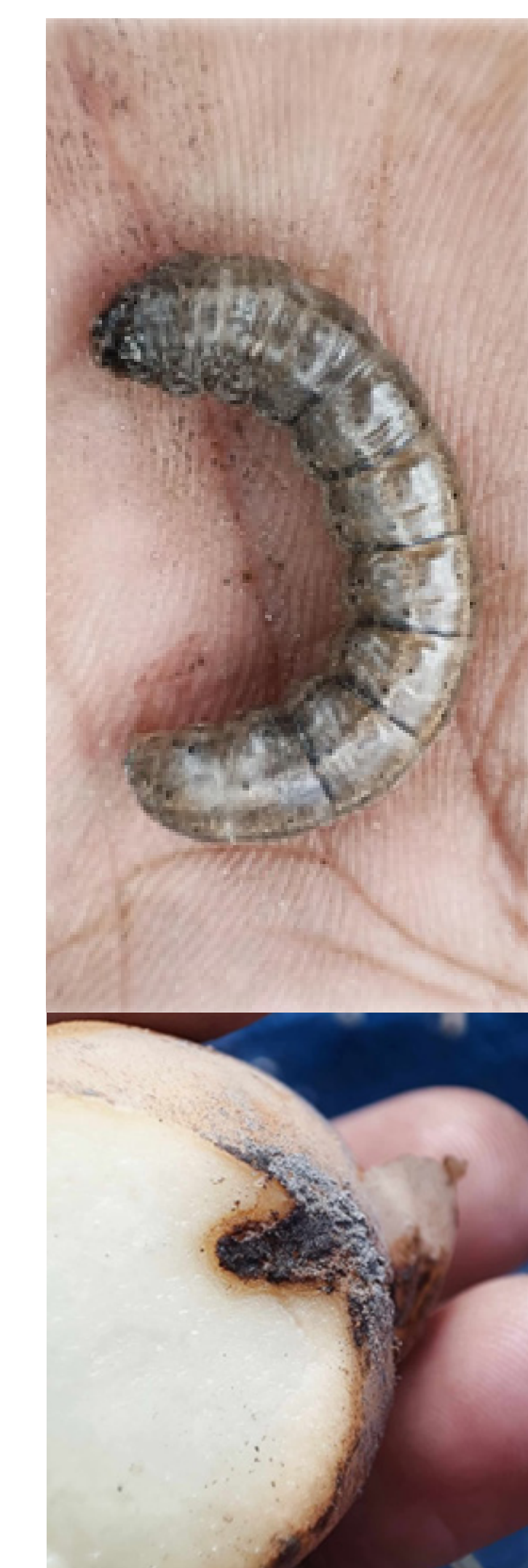
Red ant damage to tuber



Cut worm damage to tuber



Wire worm damage to tubers



## Conclusion



Jholmol was the most effective bio-pesticide among the treatments but suppressed the yield of potatoes. Chiuri seed cake may be suggested for reducing cutworm infestation, but not for wireworms. Asuro and titepati improved yield despite the damage. Further studies are suggested on their use as green manuring crops.

