# MANAGEMENT OF WHITE GRUB AND CUTWORM IN STRAWBERRY

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**Introduction**: Cultivation of strawberry was introduced in Siaha District in the year 2010 by supplying tissue cultured plantlets of strawberry which was obtained from the Department of Biotechnology, Mizoram University. At first, location trial was conducted at three locations namely Noaotla III, Noaotla I and Kaochao villages. However, successful implementation of the trial in strawberry cultivation could be achieved only at Noaotla III village at the time. The first farmer who achieved success in strawberry cultivation in Siaha district is Mr. N. Lalsiama of Noaotla III village. He then multiplies the strawberry runners and started to supply them to other farmers of his village. Many farmers Noaotla III have now cultivated strawberry under large scale and the strawberry fruits are being distributed from this village to various parts of Mizoram.

**KVK & NCIPM intervention**: KVK has participated in cultivation of strawberry at Siaha district right from supply of strawberry plantlets to packaging and distribution of the end products as well as its value addition. Farmers training and method demonstration on package of practices, kissan gosthis and farm school in IPM measures were also carried out. Cultivation was carried out in open field condition in terraces under poly-mulched condition and sprinkler irrigation system.

Due to continuous monocropping of strawberry in the same field for several years in Noaotla III village, severe pest and disease incidence was diagnosed, white grubs being the major pest found leading to low production and inferior fruit quality. Thus, KVK conducted an on-farm trial on management of white grubs in strawberry from 2015 onwards. The details of the on-farm trial were as follows:

1) Name of On-farm Trial : Management of white grubs in strawberry.
2) Problem Diagnosed : Low yield and inferior fruit production due to high infestation by white grubs.
3) Source of Technology : ICAR, 2010
4) Technology Used : Soil treatment using Chlorpyriphos dust 0.1% @ 2g/kg of soil.
5) Parameters on Assessment: a) Pest incidence.
   b) Extent of damage caused.
   c) Yield.
   d) BC ratio.

**Results:**

| I. Result of Assessment under On-farm Trial : | | | | |
|---|---|---|---|---|
| Sl. No. | Parameters on Assessment | Gross Return per Ha. (Rs.) | Net Return per Ha. (Rs.) | B:C Ratio (GR/GC) |
| 1 | Pest incidence : 1grub/10 plants<br>Extent of damage : Negligible<br>Yield : 55 q/ha. | 8,25,000 | 5,25,000 | 2.75 |
| **II. Result of Assessment under Farmer's Practice :** | | | | |
| 2 | Pest incidence : 7 grubs/plant<br>Extent of damage : 26.2%<br>Yield : 44 q/ha. | 6,60,000 | 3,80,000 | 1.73 |

**Impact:** By adopting the technology of soil treatment with Chlorpyriphos dust 0.1% @ 2g/kg of soil, we can see that the yield of strawberry was 55 q/ha as against 44 q/ha in the farmer's practice. The increase in yield percentage was by 25% and the increase in gross income was by 20%. The B:C ratio in the technology adopted plot was 2.75 as against 1.73 in farmer's field. The percentage increase in net return was 38.15%.

**Conclusion:** The farmers were really impressed by the increase in yield being achieved through adoption of this technology. The income of the farmers has also increased immensely due to increase in yield as well as through production of better and superior quality fruits. KVK has also conducted several trainings and method demonstrations on various IPM measures and improved package of practices during the trial period which greatly benefitted the farmers in various ways. Since sprinkler irrigation system was utilized by the farmers, intercropping of strawberry with mustards and cabbages on the edges of the terraces were also introduced to the farmers by Subject Matter Specialist (Horticulture) in the consequent years which also helps in increasing the overall income of the farmers. Training on value addition of the end product was also conducted by Subject Matter Specialist (Home Science) which is really helpful to reduce storage loss as strawberry is a highly perishable fruit and this also contributes to increase in income of the farmers.

(Diagnostic visit, Training and Method Demonstration)