

# **Effectiveness of Different Types of Synthetic Mulches in the Control of Aphids on Capsicum (*Capsicum annuum*)**

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**A103/11680/2015**

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## **Abstract**

*Capsicum*, *Capsicum annuum*, is a tender annual warm season vegetable crop grown in Kenya as a major commercial crop. It can be grown both in the greenhouses or in the open field and under rain or irrigation. Aphids are a major crop affecting capsicum growth both in the greenhouse and open field. Since the aphids feed on the lower parts of tender leaves and they occur in high populations in plants they greatly cause damage to capsicum plants which in turn reduces yields and quality of the fruits. The use of insecticides in control is ineffective and expensive because they hide on the undersides of leaves and they reproduce very fast. The use aluminum reflective and clear plastic mulches is a very effective method of controlling aphids because the mulches reflect UV light on to the undersides of leaves thus confusing the aphids and are repelled from the leaves. Mulches also help in moisture retention, increases soil temperature which fastens the growth and reduces leaching of fertilizers. The research was carried out in the University of Embu farm. The experiment was laid out in a randomized complete block design (RCDB) in the greenhouse. Treatment 1 had aluminum reflective mulches, treatment 2 had clear polyethylene paper. The treatments were applied randomly in each block and replicated four (4) times making a total of 12 experimental units. Data collection started after two weeks of planting and taken weekly for 8 weeks. Five plants were randomly selected per plot and three leaves from the selected plants used to determine the populations of aphids on both leaf surfaces: top and under surfaces. Plant data namely plant height and number of fruits were recorded. Data was subjected to Analysis of Variance (ANOVA) at 5% level of significance to test for the significant difference between treatments. This study found out that T1- aluminum reflective mulches resulted to increased number of fruits, taller plants and reduced aphid numbers. It is recommended that the study be repeated for another season to confirm the results of this study.