

Effect of solar heat produced by polyethylene sheeting on the control of pea aphid (*Acyrtosiphon pisum*) (Harris) (Homoptera: Aphididae) on grass pea (*Lathyrus sativus*) in Ethiopia.

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In Ethiopia, the pea aphid, (*Acyrtosiphon pisum*) (Harris) (Homoptera: Aphididae), has become the major insect pest of food legumes such as lentil, peas and grass pea. Its attack is widespread, especially in the warmer areas of the country and entire crop loss is a common experience in such places. For the last 20 years lentils and peas have been seriously attacked. During the last 8 years or so grass pea is now also being extensively attacked and this may force farmers to abandon this crop also.

Some effort is being made at the Adet Research Center, Ethiopia, to help manage this pest on grass pea and peas. Insecticides are effective, but expensive, in controlling the aphids. Therefore, a study on the effect of solar heating using polyethylene sheets against the pea aphid was carried out on grass pea at Wondata, Ethiopia. It was arranged in a split-plot design with the number of hours per day of sheet covering (8, 6, 4 and 2 h) as main plots and the number of days of sheet covering (3, 2 and 1 d), untreated check and insecticide sprays as subplots.

Solar heating by polyethylene sheets reduced both pea aphids and predators. Their numbers were kept low for one week, after that time they re-infested the crop. Three days of sheet covering was better in reducing aphid numbers than 2 days, 1 day and the untreated check. Grain yield was highest in plots covered for 2 hours per day. However, grain yield was still significantly higher on sheet covered plots than on uncovered plots, suggesting the advantage of the sheets. The polyethylene sheets can be reused, a 20 m x 20 m sheet can be used to cover a 50 m x 50 m plot in turns, providing an affordable way for farmers to control the aphids.