Coir geotextiles- an environmental friendly mulching material for vegetable cultivation

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Abstract

Among the diversified use of coir geotextiles, its use as mulch to improve crop productivity and to reduce weed problem assumes to be much significant. An experiment has been conducted at Konni, in Pathanamthitta district, Kerala, India to evaluate the different types of coir geotextiles and polythene as soil muleh. The treatments include different mulching materials like natural needled felt, black needled felt, rubberized coir, black polythene and transparent polythene along with a control plot (no mulch). The experiment was laid out in Completely Randomized Design with six replications. The test crops used were bhindi (var. Salkeerthi) and pineapple (var. Mauritius). The study reveals that with bhindi crop growth parameters like plant height, leaf number and lateral spread were increased by mulching with rubberized coir and transparent polythene. These two mulches caused early flowering and increased fruit yield. Coir materials as mulch recorded a yield increase ranging from 67 to 196%. Observations also revealed that weeds were not grown in plots mulched with black polythene, transparent polythene and rubberized coir. Rubberized coir as mulch enhanced the fruit yield in the case of pineapple, which is followed by natural needled felt and transparent polythene. Black polythene resisted weed growth up to 7MAP, whereas rubberized coir and transparent polythene suppressed weeds up to 8MAP. Though the weeds were grown in other treatments the weeds count was significantly lower than that of control plot. Mulching with transparent polythene enhanced the soil temperature whereas rubberized coir lowered soil temperature. More over all mulched treatments had a favourable influence in increasing soil moisture. Observing the biodegradability and eco-friendly nature of coir it could be inferred that rubberized coir can serve as good mulch for bhindi and pineapple with minimum weed problem.

Key Words: Mulching, Coir, growth, Kerala, India