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Cultural practices for management of agricultural insect pests

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Cultural practices include all the crop production and management techniques which are utilized by the farmers to maximize their crop productivity and farm income. It includes decisions on crops to be grown, time and manner of planting, tillage, field and crop sanitation, application of fertilizers and irrigation, harvesting times and procedures and even off-season operations in fallow/cropped fields. The manipulation of these practices for reducing or avoiding pest damage to crops is known as cultural control. Management of insect pests by cultural practices include deep ploughing during summer expose the pupa in the fields, pruning of twigs or branches to eliminate borers in mango and citrus, use of resistant varieties, manipulation of planting time helps to minimize pest damage by producing asynchrony between host plant and the pest or synchronizing insect pests with their natural enemies or crop production with available alternate host plants of the pest (early sowing of sorghum crop helps to escape the attack of sorghum shoot fly), closer spacing resulted in lower incidence of green leafhopper, rice hispa and whorl maggot, tillage (fall ploughing is often helpful in reducing the overwintering population of *Helicoverpa* spp. and several species of cutworms that undergo diapauses in the soil during winter), crop Rotation (cereals followed by pulses), intercropping (intercropping of cotton with black gram, green gram, cowpeas etc. is reported to divert the population of sucking pests and American bollworm from cotton), trap crop (marigold as trap crop for *Helicoverpa*), clipping of tips of rice seedlings before transplanting avoids chance of stem borer to lay eggs, nutrient management (high levels of nitrogen fertilizers significantly increase the incidence of most of the insect pests including yellow stem borer, leaf folder, gall midge, green leafhopper, BPH, WBPH, earhead bug, rice hispa, whorl maggot etc.), water management (flooding of fields has been recommended for reducing the attack of cutworms, armyworms, termites, white grubs etc.), sanitation (de-trashing of dry leaves from august onwards reduces the attack of leafhopper and scale insect on sugarcane crop), harvesting practices (deep harvesting of cane fields which are to be ratooned provides protection to the crop from root borer and scale insect damage) etc. These practices are well suited for use with other approaches of an IPM.

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Evaluation of three different varieties of onion and their transplanting times for flowering and seed production

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A field experiment was conducted at Horticultural College and Research Institute, Coimbatore during 2010-2011. The main objective of the experiment was to evaluate the different varieties of onion and their transplanting time for flowering and seed production in Tamil Nadu conditions. The experiment was laid out in a FRBD and replicated thrice. Totally 12 treatments including three onion varieties, namely Co (on5), Puttarasal type and Santhaipadugai local as factor I and four transplanting times viz., September, October, November and December as factor II. Biometrical observation were recorded on flowering and yield characters viz., days to first flowering, days to 50% flowering, length of flower stalk (cm) and diameter of umbel (cm) at full flowering and at harvest stages, number of umbels per plant, number of flowers per umbel, number of seeds per umbel, seed weight per umbel (g), flowering percentage, seed set percentage, seed yield (ha^{-1}) and residual bulb yield (ha^{-1}) from randomly selected 20 plants and the data were subjected to statistical analysis. It was observed that the onion variety Santhaipadugai Local when transplanted on September month showed earliness by 31.20 days for days to first flowering and 43.33 days for days to 50% flowering. Among the four different seasons, September season recorded the highest seed yield in all three genotypes. Out of three genotypes studied Puttarasal type recorded significantly higher seed yield (807 kg ha^{-1}) in September season followed by Santhaipadugai Local (673 kg ha^{-1}) whereas the lowest seed yield of 603 kg ha^{-1} was recorded by CO (on5).

Biography

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