EFFECT OF REFLECTIVE MULCHES AND PLANT COVERS IN CONTROLLING INSECT PESTS AND WEEDS IN GOLDENROD

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We evaluated the use of plastic mulches and plant covers with reflective surfaces for reducing insect pests and weeds on goldenrod, *Solidago* hybrid, in a commercial cut flower field in Oxnard, California over two crop cycles. Three adjacent rows of reflective cover were used in each plot, and data were collected only from the middle rows. Weekly counts of all pests were made from sticky traps and plant samples collected from each plot. Treatments were reflective ground mulch, reflective plant cover, a combination of ground mulch with plant cover, and uncovered rows (control); there were three replications per treatment. Weeds in center plot grids were counted; additional quantitative measurements were light levels, soil temperature, dry plant stem weights, and stem length. A rating scale of 1-5 was used to evaluate crop quality. In general, the mulch treatments had fewer pests than the control, with differences for aphids, thrips and leafminers on sticky cards and for aphids and whiteflies on plant samples. Reflective ground mulches protected the crop initially, but effectiveness was reduced when the plant canopy covered the mulch. Pest control results in the cover treatment were similar to the combination treatment, but the combination treatments also reduced weeds. On cloudy days the reflective plant cover reduced overall light levels >20%, resulting in plant stems that were heavier and up to 15 cm longer. There were no quality differences, and florists prefer longer stems.