Allyl Isothiocyanate and Dimethyl Disulfide for Strawberry Production

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The purpose of this study was to determine the minimum application rates of allyl isothiocyanate (IRF-135) and dimethyl disulfide (Paladin) applied under totally impermeable film (TIF) for strawberry production. Allyl isothiocyanate was bed shank applied at 170, 255, and 340 lbs/acre. Two mixtures of dimethyl disulfide with chloropicrin were applied at 500 lbs/acre (79% dimethyl disulfide + 21% chloropicrin) and 400 lbs/acre (50% dimethyl disulfide + 50% chloropicrin). Fumigants were applied in October, 2012. Strawberry (Albion variety) was transplanted in November, 2012. Each treatment was 100 feet long. Each treatment was replicated 4 times. Yield data were taken weekly throughout the production season and were graded into marketable and nonmarketable yields. Weed data were collected three times and combined.

Results suggest that 340 lbs/ac of allyl isothiocyanate applied under TIF can produce fruit yields equivalent to PicClor-60. Also, 400 to 500 lbs/ac of DMDS mixtures with chloropicrin can be effective soil treatments for strawberry production. These results, however, represent 70% of the fruit production and harvest data will be collected through September.