

Table 9. Effect of Insect Exclusion Netting (IEN) and black plastic mulch on Swede Midge (SM) and flea beetle damage, and on marketable yield on Sep 2 in Summer broccoli; Canticle Farm, Alleghany, NY, 2016.

Treatment		Swede Midge Damage			Flea Beetle Damage (Scale 0-5 <sup>2</sup> )	Estimated (per 100-ft bed)		
Mulch	Insect Exclusion Netting	SM Infestation (%)	SM Unmarketable (%)	Avg SM Damage Scale (0-4 <sup>1</sup> )		Yield (lb) <sup>3</sup>	Value (\$) <sup>4</sup>	Net Profit (Value minus cost) <sup>5</sup>
None <b>Bare ground</b>	None <b>Open Air</b>	100.0 a <sup>5</sup>	70.0 a	2.6 a	5.0 a	28.0 b	\$84 b	\$84
None <b>Bare ground</b>	<b>IEN</b>	0.0 b	0.0 b	0.0 b	0.0 b	120.0 a	\$360 a	\$124
<b>Black Plastic</b>	None <b>Open Air</b>	96.7 a	50.0 a	2.2 a	5.0 a	52.0 b	\$156 b	\$156
<b>Black Plastic</b>	<b>IEN</b>	0.0 b	0.0 b	0.0 b	0.0 b	120.0 a	\$360 a	\$155
<b>P-value (<math>\alpha=0.05</math>)</b>		<b>0.0000</b>	<b>0.0003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0002</b>	<b>0.0002</b>	--
Samples, reps		3 sub-samples of 10 plants in a row per rep. Only 10 plants in Bare ground Open Air.						

<sup>1</sup>**Swede midge damage rating (scale 0-4):** 0 = no damage; 1 = minor damage; 2 = moderate damage, reduces yield/quality but still marketable; 3 = major damage, head formation but unmarketable; 4 = severe damage, blind head.

<sup>2</sup>**Flea beetle damage (scale 0-5):** 0—none; 1—minor; 2—minor to moderate; 3—moderate; 4—moderate to severe; 5—severe .

<sup>3</sup>Estimated yield non-SM infested broccoli heads: 0.6 lb. per head for SM damage ratings 0-1, 0.4 lb per head for SM damage rating 2, 0.0 lb. per head for SM damage ratings 3-4. Based on two rows of broccoli spaced 1 ft apart—200 plants per 100 ft. bed.

<sup>4</sup>Estimated value: yield multiplied by \$3/lb (grower quote).

<sup>5</sup>In our 2015 study (NESARE Partnership ONE15-237), we estimated that IEN cost \$236 per 100-ft bed on bare ground (\$175.61 for IEN + \$60 for setting up netting and hand weeding), and \$205 per 100-ft bed with mulch (no hand weeding). These costs do not include initial investment in hoops, stakes and clamps, which can be re-used.