

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

¹**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.

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

³Estimated 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.

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

⁵In 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.