

Biopesticides for Powdery Mildew of Pumpkin

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The study focused on six plant oil products because good control of powdery mildew was achieved with a mineral oil, JMS Stylet-oil, in previous experiments conducted at LIHREC. A hydrogen dioxide product, OxiDate, was also tested. These seven products fit the EPA biopesticide definition. Most are OMRI listed. Some are exempt from EPA registration. Sulfur (Microthiol Disperss) was included because it has performed well previously and is anticipated to be OMRI listed soon. All products tested provided some control of mildew on upper leaf surfaces when applied weekly with a tractor-sprayer after disease detection. GC-3 organic fungicide (30% cottonseed oil, 30% corn oil, 23% garlic extract), Organocide (5% sesame oil; 92% fish oil) and Eco E-Rase (97.5% jojoba oil) were as effective as Microthiol Disperss, JMS Stylet-oil, (organic formulation) and the conventional chemical fungicide Bravo Ultrex, providing 76-85% and 76-92% control on upper leaf surfaces, respectively, and 28-42% and 18-30% control on lower leaf surfaces. Other products tested were Bugitol (0.42% capsaicin and related Capsaicinoids), Sporan (17.6% rosemary oil; 82.4% wintergreen oil), and Trilogy (70% extract of neem oil).