

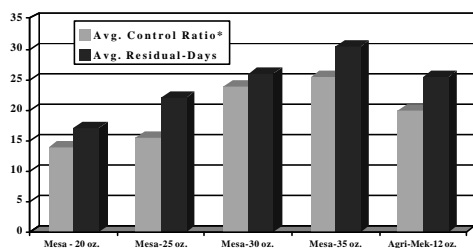


and rapid absorption by plant tissue a low toxicity condition should exist shortly after application.

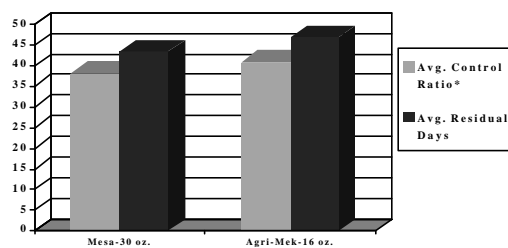
Mesa is active against all stages of susceptible mites, with highest activity to immature motile stages, and slightly lower activity to eggs and adults. The mode of action is believed to be the same as avermectins, i.e., as a neurotoxin by affecting chloride channel agonist in GABA mediated neurotransmission. Affected mites undergo rapid paralysis, reduction in feeding, and eventual death. Additionally, Mesa causes longer-term effects on female mites by reducing reproduction of survivors. Once applied, Mesa is absorbed and demonstrates translaminar movement similar to avermectin. Bioassays indicate that milbemectin exhibits no cross-resistance to strains resistant to pyridaben, fenpyroximate, clofentazine, hexythiazox, fenpropathrin, dicofol, amitraz, and fenbutatin oxide. Cross-resistance to avermectin appears possible, but bioassays conducted by Gowan and Sankyo indicated no reduced susceptibility of avermectin-resistant mites to milbemectin.

In the Pacific Northwest, since 1993 there have been 8 trials with Mesa in apple, and 26 trials in pear. Of these, 6 apple tests and 17 pear tests were on mites. Although Mesa is predominantly a miticide, a few studies were done on tentiform leafminer and pear Psylla. Mite trials were directed against twospotted mite in most cases, and applied according to economic threshold. Experimental rates of the product ranged from 20 – 80 fl. oz. per acre, with a more recent focus on a usage range of between 25 and 35 fl. oz. per acre. Spray volumes ranged from 100 – 400 gpa, either by hand gun or airblast. In all cases, direct comparisons were made to Agri-Mek 0.15 EC, the closest type product, at recommended or customary rates. Observations were made on overall mite control and residual activity. In summary, Mesa provided excellent mite control at rates between 25 and 35 fl. oz. per acre. This rate range was comparable to Agri-Mek at between 12 – 16 fl. oz. per acre. Residual control averaged 30 – 40 days, although in many cases applications were made late in the season and full residual could not be measured. Addition of oil generally improved efficacy.

Summary of Mite Tests in Apple (5 TSM Trials)



Pear Tests: 30 fl. oz. Milbemectin vs. 16 fl. oz. Agri-Mek in same trials



Against other arthropod pests, Mesa gave very good control of pear rust mite in two tests and was equivalent to Agri-Mek. Equivalent control of western tentiform leafminer in apple was also achieved in two trials, but at rates of 40 fl. oz. per acre or higher. Mesa will suppress pear psylla for 14 – 21 days at rates of 40 – 60 fl. oz per acre.