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#### ABSTRACT

Pythium seed rot and damping off is a common seedling disease in eastern Montana. Metalaxyl, available as a planting time treatment of Ridomil 5G or 2E and as Apron seed treatment, is very effective against Pythium. The objective of these trials was to compare the effectiveness of these treatments.

Ridomil applied at planting in a modified T-band or in-furrow was tested in 1989-1992 in a field cropped to continuous sugarbeets since 1986 and infested with *Pythium* sp. These treatments were compared with Apron treated seed to determine if Ridomil produced better stand establishment than Apron seed treatment and if Ridomil would suppress later Pythium infections.

In all four years seed treated with Apron 25W at 2 oz/cwt produced stand establishment that was significantly greater than the untreated check and had the highest or nearly the highest rank in Duncan multiple range comparisons. In 1989 and 1992 Ridomil 5G applied at 1.5 oz/1000 ft of row in a 3-in. modified T-band produced stand establishment that was significantly greater than the untreated check but was not significantly different from seed treated with Apron. Emergence of the 1.5 oz Ridomil 5G treatment was a little slower than the Apron treatment in 1990, but there were no differences in final stand establishment. In 1991 excess rainfall early in the season resulted in poorer than normal stands; a 1.8 oz Ridomil 5G treatment provided significantly greater stand establishment than that of the untreated check, but significantly lower than that of the Apron seed treatment. The data suggest that Pythium caused damage before the Ridomil granules were fully activated. A 3.0 oz Ridomil 5G treatment in a 3-in. modified T-band in 1989, 1990 and 1992 produced similar results to those with the 1.5 oz rate. In 1992 an if-furrow treatment of Ridomil 5G at 3.0 oz/1000 ft of row produced significantly greater stand establishment than the untreated check, but the stand was significantly lower than that from Apron treated seed or the 1.5 oz modified T-band treatment. In 1991 there were no significant differences in stand establishment between a 1.8 oz 3-in. modified T-band and a 4.3 oz 7-in. modified T-band.

Stand establishment in 1990 with Ridomil 2E applied in a modified T-band at 0.37 and 0.74 fl oz/1000 ft of row was similar to that for 1.5 and 3.0 oz of Ridomil 5G. In 1992 initial stand counts with Ridomil 2E at rates of 0.37 fl oz in a 3-in. and 0.74 fl oz in a 7-in. modified T-band were significantly higher than Ridomil 5G at rates of 1.8 oz in a 3-in. and 4.3 oz in a 7-in. modified T-band, but final stand counts were similar.

No significant differences were detected in feeder root rot in 1990 or 1991 and no significant differences in yield were noted in any of the four years, but Rhizoctonia root rot reduced yields and increased variability in 1991 and 1992.

In all four years Apron produced the best stand establishment. Most Ridomil treatments were not significantly different from the Apron seed treatment. Apron + Ridomil was not significantly better than Apron or Ridomil alone.