

Soil Technologies Corp.
Research and Development Department



Research Report

Title: Intercept on Ginseng Yields

Location: Wisconsin, USA

Principal Investigator: University of Wisconsin
Department of Plant Pathology

Crop: Ginseng (three years old)

Date: 1997

Abstract:

This trial was designed to evaluate the effectiveness of Intercept¹ for control of Alternaria leaf and stem blight over a three-year period, and to compare root yields from treated and non-treated plots of ginseng plants. In 1997, Alternaria leaf and stem blight was first observed when plants were evaluated for the disease in June. Total defoliation of both non-treated and treated plants occurred prior to our third evaluation in August (Table 2). In Intercept-treated plots development of the disease was slowed and the epidemic in these plots appeared to lag approximately 10-14 days behind that in untreated plots. Root yield from both treated and non-treated plots were very low, substantially less than yields (>2000 lbs/acre) expected from commercial ginseng gardens. However, treated plots were significantly greater than those from non-treated plots. On average, the yield from Intercept-treated plots was 80% higher than non-treated plots.

Methods:

Table 1: Treatment Details

Treatment	Treatment Rate Per Acre of Application	Frequency of Treatment
Control	No Treatment	N/A
Intercept	850 Billion - 250 Trillion cells per Acre	7 days (evenings)

¹Intercept is an OMRI listed soil microbial inoculant, manufactured by Soil Technologies Corporation in Fairfield, IA USA

²Ridomil 5G is a chemical fungicide registration # 100- 628-AA

³Basamid is a soil fumigant CAS # 533-74-4

*NOTE: Plots were treated with Ridomil 5G² (15-10-10-10-10-15 lbs/ acre) at monthly intervals during the growing season to control Phytophthora root rot. It was treated prior to planting with Basamid^{®3} at the rate of 301 lbs./ acre.

Results:

Root yield from both treated and non-treated plots were very low (Table 3), substantially less than yields (>2000 lbs/acre) expected from commercial ginseng gardens. However, treated plots were greater than those from non-treated plots. On average, the yield from Intercept-treated plots was 80% higher than non-treated plots. Results from this experiment indicate that Intercept will not totally control Alternaria leaf and stem blight when used alone. However, we did observe significant disease control (Table 2) and substantial yield increase using this product.

Table 2: Average Disease Severity Rating

Treatment	Average Disease Severity Rating				
	Day 0	Day 20	Day 40	Day 60	Day 80
No Treatment	0.00	0.45	0.82	0.88	1.0
Treated	0.00	0.40	0.71	0.82	1.0

Table 3: Average Dry Root Yield

Average Dry Root Yield (lbs/acre)	
No Treatment	Treated
205	400

Conclusions:

Results from this trial suggest that Intercept contributed to significantly higher yields compared to the control as Intercept treated plots had 80% higher yields than non-treated plots. Although results demonstrated that Intercept did not control the disease severity entirely, it slowed down the spread of Alternaria leaf and stem blight by 10 - 14 days while increasing yields.