

## 1998 ANNUAL REPORT

**Project Title:** Impact of Cover Crops, Composts, and Other Cultural Practices on Snap Bean Root Rots and Their Damage.

**Investigators:** G. Abawi, J. Ludwig, and J. Bossard, Dept. of Plant Pathology, NYSAES, Cornell University, Geneva, NY 14456.

**Objective 1:** Assessment of the Impact of a cover Crop of Rye/Vetch with and without an Amendment of Corn Silage or Brewery Compost:

A. The rye/vetch cover crop was established in strips (30' X 200') in the root rot field in early September, 1997 (this was the third repeat of the test in the same plots). For comparison, similar strips were maintained fallow. Prior to planting the cover crop mixture, fresh corn silage (15 T/A) was spread over one-third of each of the fallow and cover crop strips and incorporated. The cover crop mixture was mowed and incorporated on May 5-6, 1998 (25 T/A, fresh weight). Brewery compost (12 T/A) was spread and incorporated into another third of each strip and lightly incorporated on May 7, 1998. The entire test plot area was prepared, treated with herbicides, and planted with the cultivar 'Labrador' on May 28. All practices employed were according to commercial production recommendations. The plots were harvested on July 30. The use of a mixture of a rye/vetch as a cover crop significantly increased plant population, increased pod yield and slightly reduced root rot severity ratings (Table 1, Figs. 1-3). In the fallow plots, the addition of the brewery compost resulted in significant increase in plant population and pod yield as well as significant reduction in root rot severity ratings. The addition of the fresh corn silage also exhibited similar effect as the brewery compost, but the differences were not statistically significant. Interestingly, the addition of the brewery compost and the corn silage did not show a clear beneficial effects in combination with the rye/vetch mixture as a cover crop, although plant population and pod yield were higher in the plots receiving the two amendments.

B. A cover crop of rye was established in 10 field microplots (fiber-glass cylinders, 4-ft in diameter, and inserted in the ground about 10") in late August, 1997, whereas another 10 microplots were similarly set-up and maintained fallow. The rye in the microplots was cut and incorporated in early May, 1998. Three weeks later, all the microplots were planted to 'Labrador'. Half of the microplots of each treatment were maintained wet for the first 4 weeks after planting, whereas the others were watered only as needed. Results obtained suggested that the maintenance of excessive moisture conditions following planting increased root rot severity and reduced bean yield in the fallow and the rye microplots (Table 2). However, the benefit of the rye cover crop was more evident under the normal moisture conditions.

For a printed copy of the entire report, please contact the NYS IPM office at:

IPM House  
630 W. North St.  
New York State Agricultural Experiment Station  
Geneva NY 14456  
315-878-2353