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Climatic conditions vary considerably between sugarbeet growing regions of the world, from hot desert areas to coastal regions and high mountain regions. This variability in climatic conditions results in differences in the damage threshold levels of Heterodera schachtii, depending on time of planting and differences in the growing season. This report compares the importance of soil sampling techniques, temperature, inoculum densities, and crop rotation on the relationship of H. schachtii to sugarbeet yields. There was a direct relationship between soil sampling techniques to nematode population densities and sugarbeet yields. The greatest sampling efficiency was obtained when samples were collected at spacing intervals under 25 meters. Sampling efficiency declines as the rotation period is increased. Eggs/cm³ soil are positively correlated and viable cysts are negatively correlated to sugarbeet yields. The base temperature for H. schachtii is 8 C, and there is a positive correlation between the economic threshold level and soil planting temperature. The economic threshold population is also affected by the accumulative degree-days during the growing season. It requires about 400 degree days for the life cycle of H. schachtii (J2 to J2), and nematode soil populations may vary from two to more than five generations per year that directly affects sugarbeet growth.

Table 1. Seasonal decline of sugarbeet cyst nematode populations at different soil depths, Yuma, ID, 1990-92

Nematode	% of Nematode Reduction			
	Sampling Depth (cm)		Sampling Depth (cm)	
	0-30	31-60	0-30	31-60
Viable Cyst	23	38	19	24
Juvenile	47	28	19	27
Egg	39	22	24	31