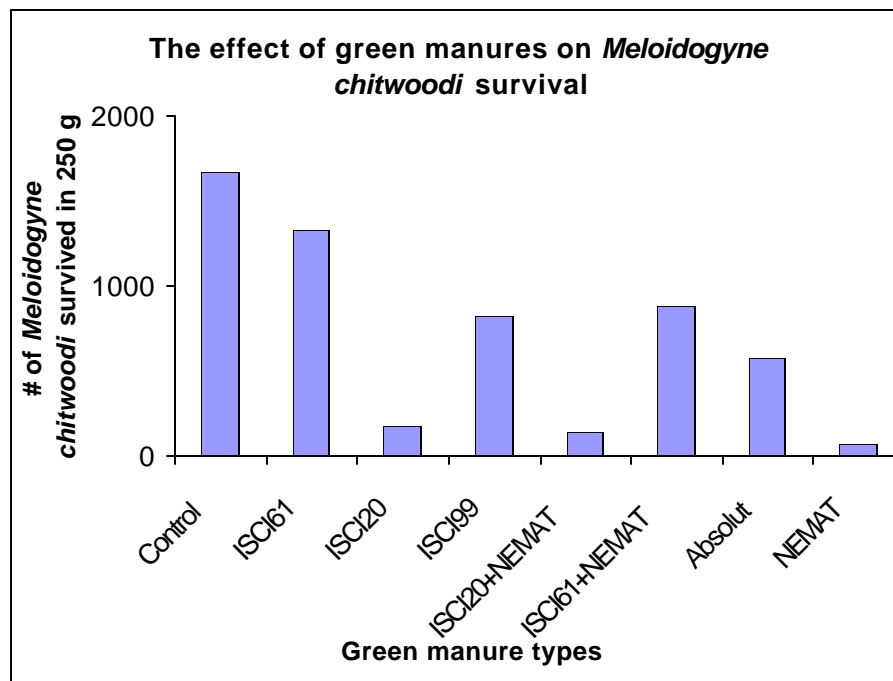


**Screening of Mustards and other *Brassic*s for nematode control**

- 1) White mustard (*Brassica hirta*) and sudangrass (*Sorghum sudanense*)- field
- 2) *Brassic*s screening - on the beneficial and parasitic nematodes - greenhouse
- 3) Screening for new plant derived nematicides – Milkweed (*Asclepias syriaca*)

**Nematode counts in fumigated and cover crop treatments of four soil series sampled prior to planting in the spring of 2002.**

Soil Series/Treatment		Free-living	Lesion	Stunt
<b>Nematodes / 250 g soil</b>				
Quincy sand	- Fumigated <sup>†</sup>	90a <sup>†</sup>	8 <sup>NS</sup>	3 <sup>NS</sup>
	- Fallow	74a	1	8
	<b>- Mustard</b>	<b>138b**</b>	<b>30</b>	<b>11</b>
Quincy loamy fine sand	- Fumigated <sup>†</sup>	29a	nf	nf
	- Sudangrass	178b*	nf	nf
Warden silt loam	- Fumigated <sup>†</sup>	36 <sup>NS</sup>	11 <sup>NS</sup>	nf
	<b>- Mustard</b>	<b>89</b>	<b>37</b>	<b>nf</b>
Shano silt loam	- Fumigated	132a	151a	nf
	<b>- Mustard</b>	<b>404b*</b>	<b>238b**</b>	<b>nf</b>



- **Several generations per season, residual population causes serious damage at harvest.**
- **Nematodes are present at <sup>3</sup> 3 feet deep in soil.**
- **They are very mobile, and can move 6 feet upwards to re-infest treated zone.**
- **Damage to tubers by the nematodes increase in cold storage (Base temp = 5-6 0C).**
- **Quality problem, low tolerance.**
- **1 nematode/250 cm<sup>3</sup> soil at planting requires control measures.**
- **Widely spread (60-70% of potato fields).**
- **Well adapted to the Pacific Northwest of USA (3-5 generations/year).**
- **Expensive to control (\$ 200-250/acre)**
  
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- **Green manure amendments control nematodes, fungi, and suppress weeds.**
- **Improve soil physical conditions (increase water infiltration, decrease erosion ...**
- **Organic matter increases if combined with minimum tillage**
- **Cover crop is non host so nematodes decline while cover crop is growing.**
- **Decomposition of incorporated cover crop biomass releases ‘nematicidal’ compounds.**
- **Incorporated cover crop biomass enhances growth of nematode bioantagonists.**
- **Protection with cover crops enhanced when combined with nonfumigant nematicides.**
- **Tuber protection from *Meloidogyne chitwoodi* with cover crops is possible in short season potato cultivars – result in fewer nematodes i.e. Rapeseed + Mocap plots provided control**