PROMAX® and ZAP® Reduce Nematodes, Increase Yields for Green Chiles in New Mexico

Field Trial

Background

Soil nematodes can be harmful to plant roots and decrease crop yields. Many current treatments involve the use of toxic chemicals that can negatively affect soil. Huma Gro® offers an OMRI-Listed product, **Promax®**, that controls harmful soil nematodes. It is environmentally friendly, with zero re-entry restrictions. Another Huma Gro® product, **Zap®**, is recommended for use after **Promax®** application to rebuild and enhance beneficial soil biology.

Objective

The objective of this product trial was to evaluate the effects of **Promax®** and **Zap®** on controlling soil nematodes and improving the yield of green chile peppers.

Materials and Methods

A farm near Deming, New Mexico with high parasitic nematode counts (Table 1) and reduced pepper yields, was selected for this experiment. A crop of green chile pepper (variety AZ 1904) was used in this test. **Promax®** (1 gal/acre) was applied to soil one week before planting on 10 acres. Then **Zap®** (0.5 gal/acre) was applied shortly after the peppers were planted. The nematode counts were made before the application of **Promax®** and **Zap®** in April and then again in June. Yield was measured for untreated (Check) and treated areas at harvest.

Table 1. Pretreatment Soil Nematode Average Counts in April

SAMPLE	HERBIVORES			BENEFICIAL NEMATODES			
	Melado-gyne (Southern RKN)	Protylen-chus (Lesion)	Tylencho-rhynchus (Stunt)	Tylenchids	Bacteri-vores	Fungivores	Omnivores (Dorylam-oid)
N 1-5 Avg.	590	40	0	58	122	42	4
S 1-5 Avg.	24	56	2	138	224	84	2

Table 2. Post-treatment Soil Nematode Average Counts in June

SAMPLE	HERBIVORES			BENEFICIAL NEMATODES			
	Melado-gyne (Southern RKN)	Protylen-chus (Lesion)	Tylencho-rhynchus (Stunt)	Tylenchids	Bacteri-vores	Fungivores	Omnivores (Dorylam-oid)
N 1-5 Avg.	28	18	0	42	312	38	10
S 1-5 Avg.	0	16	0	62	410	72	4

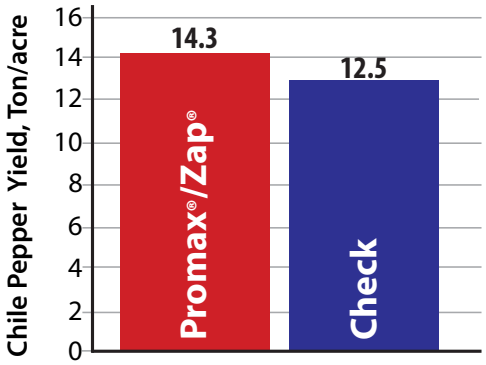

Figure 1. Promax®/Zap® Treatment Yield

Results

The parasitic nematodes were largely controlled by **Promax®/Zap®** treatment, and the beneficial nematode population proliferated in the field. Before treatment, the average counts of Southern Root Knot and Lesion nematodes for the north and south field combined were 307 and 48 (per 100 cc soil), respectively (Table 1). After treatment, these numbers declined to 14 for Southern Root Knot and to 17 (per 100 cc soil) for Lesion nematodes (Table 2).

Conclusion

The **Promax®/Zap®** treatment lowered the parasitic nematode population and improved the beneficial population. This positive effect increased the yield of green chile peppers (Figure 1) and resulted in 13% higher net gain per acre for the farmer.

Products

Integrated Pest Management:

Promax®, OMRI-Listed for organic farming, is formulated to deliver maximum performance and adequate residual activities. **Promax®** is compatible with most insecticides, miticides, fungicides, herbicides and fertilizers; therefore, it is considered as an ideal product in tank mix strategies and in rotation programs.

Zap®, complexed with Micro Carbon Technology®, is a formulation of nutrients for feeding the native beneficial soil biological balance. **Zap®** feeds a strong, vigorous soil biology, which indirectly results in the natural improvement of soil health.

1331 W. Houston Avenue, Gilbert, AZ 85233 | 800.961.1220 | Fax 480.425.3061 | info@humagro.com | www.humagro.com

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