Presentation Summary

MustGrow™ a Tested, Proven and Registered alternative

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Fumigation as we know it today, may no longer be the normal practice for fruit and vegetable growers throughout North America. Recent changes in the availability of registered soil fumigants, new regulatory guidelines and a growing public demand for soil fumigant to be further restricted or phase out, is forcing the agricultural industry to rethink their approach towards nematode and soil disease management.

MustGrow™ a new soil fumigant

MustGrow™ controls a broad range of soil borne nematodes such as Root Knot, Sting, Ring and Spiral along with the management of soil diseases such as Verticillium, Fusarium, and Pythium. The majority of Mustard Products & Technologies' (MPT) field studies have focused on the use of the product as a pre-plant plant granular treatment applied 14 days prior to transplanting the crop. Although any crops can follow a MustGrow™ treatment, MPT has focused on it's use in strawberry, raspberry and tomato crops

Performance proven

It is the performance of MustGrow™ in the field that is truly intriguing, especially when looking at yields; quite often it out performs those obtained from Methyl Bromide and Inline®. Mustard Products & Technologies (MPT) the manufactures of MustGrow™ have been adamant about launching the product on a solid foundation of scientific research and product performance data. To this end MPT has committed to an extensive amount of research across North America, most significantly in California.

Nematode Control

The following summary from 18 trials (strawberry and tomato) illustrating the control of Root Knot nematode 14 – 28 days after application. Similar results are achieved on other nematode species.

Root Knot Nematode			
Sampled days after treatment			14-28DAA
Number of trials			18
MustGrow	1000	lb/ac	83.7
MustGrow	1500	lb/ac	82.7
MustGrow	2000	lb/ac	89.5
Methyl Bromide 50:50	17.4	gal/ac.	97.8
Inline	20	gal/ac.	91.4
Paladin 79:21	40	gal/ac.	94.3

Soil pathogen and disease management

Soil disease control was recorded in 10 trials 14 – 28 days after application. Results as expected with MustGrow™ alone were not as good as with the synthetic products but no disease systems were evident in the crop and yields were not affected. Additional trials found that reduced MustGrow™ rates with a sequential application of Chloropicrin, also at low rates, resulted in outstanding soil

pathogen and disease control. This is a very good option to reduce pesticide rates in conventional production.

		Control as % of Unterated		
		Pythium	**Fusarium**	**Verticillium**
PicClor 60 EC	25 gal/a	100.0	99.9	100.0
Chloropicrin EC	15 gal/a	100.0	100.0	100.0
MustGrow	1000 lb/a	52.3	58.7	77.2
MustGrow + Chloropicrin	750 lb/a +5 gal/a	100.0	95.7	100.0

Increased Crop Yields

When compared to an untreated check the following % yield gains were recorded in 9 different strawberry and tomato trials.

Yield Increases vs Controls			% Increase
Number of trials			9
MustGrow	1000	lb/ac	29.6
MustGrow	1500	lb/ac	27.4
MustGrow	2000	lb/ac	25.3
Methyl Bromide 50:50	17.4	gal/ac.	35.7
Inline	20	gal/ac.	28.1
Paladin 79:21	40	gal/ac.	32.2

The increases in yield can be attributed to the control in nematodes and soil diseases, but academics believe that in addition to this, MustGrow™ may also be encouraging microbiological activity within the soil profile and creating the 'optimum' environment for plant growth and thus increased yields. Sterilization of the soil is not being achieved; absolute soil pathogen control may be a step down from the synthetic standards but the desirable soil microbes are also not being eliminated.

MustGrow™ is a real alternative. Manufactured from mustard seed it is 100% natural, organic, but an outstanding performer. For the use in organic and conventional crop production systems MustGrow™ protects the crop while boosting yields – what is more important?