Practical Considerations Toward Improving Soil Health and Functionality

Gerald Davis Agronomist- CCA/PCA
Grimmway Farms/Organic Div.

GRIMMWAY
GF
FARMS
Bunny-Luv
Cal-Organic
FARMS
Healthy by Choice
Since 1984

Grimmway Organic Production Areas

Central and Southern California

Kern County

Santa Barbara County

Riverside County

Imperial County

Washington

Tri-Cities Area

Year-Round Offer

Arugula

Bok Choy
Mature & Baby

Beets
Gold, Red, Rainbow

Broccoli

Cabbage
Green & Red

Carrots
Orange & Rainbow

Cauliflower

Chard
Green, Red, Rainbow

Cilantro

Collard Greens

Daikon

Dandelion
Green & Red

Dill

Fennel

Green Onions
Bunched & Bagged

Kale
Green, Red, Lacinato

Leeks

Lettuce (Iceberg)

Leaf Lettuce
Green & Red

Butter Lettuce
Green & Red

Romaine Lettuce
Green & Red

Mustard Greens

Onions (Yellow)

Parsley
Curly & Italian

Potatoes
Golden, Red, Russet

Radishes
Red & Easter Egg

Cal-Organic
FARMS
Healthy by Choice
Since 1984
ORGANICALLY
GROWN PRODUCE
GREEN CABBAGE
RED CABBAGE
BOK CHOY
NAPA
LEEKS
PRODUCE OF U.S.A.
Cal-Organic

Grimmway Farms History

"Do what you say you're going to do and treat people the way you want to be treated." -Rod Grimm

- **1968** – Grimm brothers open roadside stand in Anaheim, CA
- **1981** – Grimmway made the bold move to Kern County
- **1985** – Opening of the freezer division
- **1990** – The advent of the baby carrot
- **1991** – Acquisition of Belridge Farms
- **1995** – Acquisition of Mike Yurosek & Sons
- **2000** – Acquisition of King Pak Potatoes
- **2001** – Acquisition of Cal-Organic Farms
- **2009** – Opened an organic greenhouse in Tehachapi, CA
- **2014** – Introduction of TRUE Organic juices
- **Present** – Ongoing organic & value added innovation

"Take care of the customer…with consistent quality and service." -Bob Grimm

Crop and Farming Background

25 years experience in pest control and agronomy for a large acreage, multi-region, certified organic vegetable operation.

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Cal-Organic 1993-	**1,200 acres**
Cal-Organic 2001-	**6,500 acres**
Grimmway Organic 2018-	**35,000+ acres**

Crop and Farming Background

Former owner and operator of 25 acre Apple/Peach/Vegetable direct market operation in Tehachapi, CA (1994-98)

Crop and Farming Background

- 9 years crop consulting/sales with Western Farm Service in California, Washington, Oregon

- Graduated from Oregon State University Degree studies in Tree Fruit/ Vegetable Production

National Organic Standards Board (NOSB)

Primary function is to review materials that have been petitioned for inclusion on the National List of synthetic materials allowed for use in organic production.

National Organic Standards Board (NOSB)

-15 members appointed for 5 year terms by the Secretary of Agriculture

- Made up of individuals from a variety of fields involved with organic production, handling, certification, as well as consumer and environmental advocacy.

19

Challenges

% Nematode Infestation by Area/Field

- Bakersfield Production Area- 293 fields

  Root Knot nematode presence fields- 5 (1.7%)

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RKN populations decline and disappear under compost and green manure application regime

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NEMATODE SAMPLE ANALYSIS

ID SERVICES LLC

Gerry Davis
Crystal Organic Farms, LLC
12000 Main St.
Lamont, CA 93241

Kim Horton
Khorton@grimmway.com

Lab #19941
Sampled By: ID Services
Date Sampled: 3/29/16
Date Processed: 4/1/16
Date Reported: 4/6/16

Ranch 208
R822; 80.3 acs.

	Plant Parasitic Nematodes		*Soil Ecology	
	Extraction Method		BF + FF	MI
A	SF	NPN	922	922
B		NPN	536	536
C		NPN	243	243
D		NPN	471	471
E		NPN	327	327
F		NPN	540	540
G		NPN	441	441
H		NPN	862	862

Field Information
16 cores/sample, 0-18" deep, ripped.
No weeds or crop residue present.

R821 R822

A	B	C	D	E	F	G	H

*Bacterial and Fungal Feeding Nematode counts under 100 are considered low.
MI (Management index) = BF+FF divided by Total PP, excluding Pin
When MI is approximately 1 or less consider enhanced nematode management strategies.
Comments: (These are general comments only, not a written Pest Control recommendation.)

Please review the sample map including listed landmarks. Contact the laboratory within 3 days of receipt if there is the possibility that the wrong field was sampled. If no notice is received, it is mutually agreed that the proper field was sampled.

Terms and Extraction Methods

NPN = No Plant Parasitic Nematodes Recovered
BF+FF = Bacterial & Fungal Feeding Nematodes
PP = Plant Parasitic Nematodes
Approximate Extraction Efficiency, EE.
EE varies depending upon soil texture & moisture.
Root Knot Larvae SF = 68% EE, Larvae only.
SF = Sieving Sugar Flotation; Sample volume = 500 cc soil
WR = Washed Roots; Sample data standardized to 30 grams roots
FE = Funnel Extraction; Sample data standardized to 30 grams of

Alan Butterfield - APCA #72539 - CCA #5534
12419 Lytle Ave. - McFarland, CA 93250-9629

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NEMATODE SAMPLE ANALYSIS

ID SERVICES LLC

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Crystal Organic Farms, LLC
12000 Main St.
Lamont, CA 93241

Kim Horton
Khorton@grimmway.com

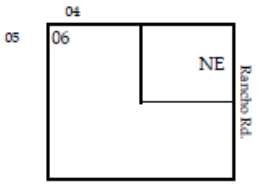
Lab #20079
Sampled By: ID Services
Date Sampled: 4/21/16
Date Processed: 4/26/16
Date Reported: 5/13/16

Arvin West 06
16AW06; 28.6 acs

NE

	Plant Parasitic Nematodes		*Soil Ecology	
	Extraction Method		BF + FF	MI
	SF	NPN	834	834

Field Information
16 cores/sample, 0-18" deep, ripped & disced. No weeds or crop residue present. Fertility delivered to Cal O Office.



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WR = Washed Roots; Sample data standardized to 30 grams roots
FE = Funnel Extraction; Sample data standardized to 30 gms of plant material

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12419 Lytle Ave. - McFarland, CA 93250-9629
Laboratory (661) 792-2051 - Cellular (661) 978-8290

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NEMATODE SAMPLE ANALYSIS

Gerry Davis
Crystal Organic Farms, LLC
12000 Main St.
Lamont, CA 93241
845-9745

Picked up at office

		Plant Parasitic Nematodes		Soil Ecology		Field In
	Extraction Method	Root Knot	Stubby Root	BF + FF	WI	
Sample GV05 - MS	SF	6,109	2	267	0.04	None a

WI = BF+FF/Total PP, excluding Pin

11.00 x 8.43 in

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NEMATODE SAMPLE ANALYSIS

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Kim Horton
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Lab #
Sampl
Date S
Date P
Date R

Green Valley 05
16GV05; 79.1 Acs.

Field I
16 core
Ripped
3 Ferti

	Extraction Method	Plant Parasitic Nematodes: Root Knot	Plant Parasitic Nematodes: Stubby Root	*Soil Ecology: BF + FF	*Soil Ecology: MI
A	SF		18	327	18.2
B			17	295	17.4
C		6	45	414	8.1
D			32	213	6.7
E			11	99	9.0
F			20	243	12.2
G			26	283	10.9
H			36	185	5.1

*Bacterial and Fungal Feeding Nematode counts under 100 are considered low

Please review the sample map including listed

11.00 x 8.50 in

400

There are still many challenges ahead.

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- State groundwater protection regulations

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- Surface water runoff regulations

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- State groundwater protection regulations
- Surface water runoff regulations
- Emerging restrictions on aquifer over-pumping
- NOx emissions from agriculture
- Agriculture is portrayed as a major problem and polluter

What’s the next step?

What’s the next step?

- Be proactive. Direct major efforts into new farming methods that lead to healthy soils

What’s the next step?

- Be proactive.
- Be ready to face the prospect that current production strategies will not remain profitable under the weight of environmental reforms.

What’s the next step?

- Be proactive.
- Be ready to face the prospect that current production strategies will not remain profitable under the weight of environmental reforms.
- Be willing to change

How?

- Direct major efforts into new farming methods that lead to healthy soils

How?

- Direct major efforts into new farming methods that lead to healthy soils
- Work toward rebuilding soil aggregate structure in our soils

How?

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- Be proactive. Direct major efforts into new farming methods that lead to healthy soils
- Work toward rebuilding soil aggregate structure in our soils
- Do this by minimizing disturbance to our soils
- Disturbance includes chemical intrusions as well as tillage

Is that possible or practical?

What does that look like?

Is that possible or practical?

What does that look like?

Gabe Brown’s farm is a case study

No-Till-High Diversity Livestock Integration Zero Synthetics

No-Till-Medium Diversity-High Synthetic Use

MAYER
Farm Equipment

ed to use fertilizers? - Gabe Brown

Organic-Tillage - High Diversity

Brown’s Farm Soil Data

Other resources

- Ray Archuleta (NRCS- retired)
- Dr. David Leonard (New Mexico State U.)

Questions?