The IR-4 Project
Providing Safe and Effective Pest Management Solutions for Specialty Crop Growers

IR-4 MBA Programs

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www.ir4.rutgers.edu

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IR-4 MBA Programs

Jack A. Norton, Ph. D
Manager, IR-4 MBA Programs

6500 North Oak Heritage Trail
Edmond, Oklahoma 73003

405-340-1800 (phone)
405-340-1895 (fax)
405-250-1665 (cell)
732-932-9575 ext 612 (Rutgers)

Norton.jack@worldnet.att.net
norton@aesop.rutgers.edu

IR-4 MBA Programs

- The registration of crop protection products for use on specialty crops.
- Minor or Specialty Crops ≤ 300,000 acres
- Specialty crops-Intensively cultivated high value crops

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IR-4 Partnerships

US EPA

Land Grant Universities

Specialty Crop Commodity Organizations

IR-4

Through partnerships and ongoing collaboration, IR-4 is in a uniquely favorable position to locate, develop and assist in the registration of viable methyl bromide alternatives

CDPR

USDA CSREES
USDA ARS

Agricultural Chemic
Industry

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IR-4 Regulatory Support

Collaboration with Commodity Organizations
-- CA Cut Flower Commission
-- CA Strawberry Commission
-- Mulched Vegetable MBA Alliance/FL
-- CA Almond Board, Blue Diamond

Collaboration with Sponsoring Companies
-- Funding of Field programs
-- Regulatory cooperation and support

Field Programs to establish MBA status for candidate products

Collaboration with Land Grant Universities and USDA ARS in Field Programs

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IR-4 MBA Program

IR-4 Regulatory Support

Member USDA/EPA MBA Working Group
--Meetings on prospective candidates for MBA status

EPA Decision for Expedited Registrations
--USDA ARS
--IR-4

Official MBA status
--Will not exempt FIFRA data requirements
--Can expedite Data Reviews
--Possible Registration Time Savings 2-2½ years

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IR-4 MBA Outreach

Newsletters

Meetings

Field Tours

Presentations

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IR-4 Company-Sponsored Programs

Soil Applications

- Strawberries
- Tomatoes
- Peppers
- Cucurbit Vegetables
- Cut Flower
- Bulb Crops
- Ginseng
- Asparagus
- Turf

Post-Harvest

- Nutmeat
- In-shell Nuts
- Dried Fruit
- Spices
- Cocoa
- Cocoa Beans

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IR-4 MBA Program

Short term
EPA Registered Products

Intermediate term
Products Pending Registration

Longer term Experimental Products

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IR-4 MBA Programs

Longer-Term Development Objectives

Soil Applications

-- FMC 3825 200 CS
-- Multiguard Protect (Furfural)
-- Propylene Oxide
-- SEP-100 (Sodium Azide)
-- STAN Seed Treatments
-- Sulfentrazone

Post Harvest

-- Propylene Oxide

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IR-4 MBA Program

Intermediate Term Products

Soil Applications

-- Basamid (dazomet)
-- Fosthiazate
-- Midas (iodomethane)
-- Multiguard Protect (Furfural)
-- SEP-100 (Sodium Azide)

Post Harvest

-- Propylene Oxide

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Product Meeting Short-Term Objective

Soil Applications

-- Telone/Inline (1,3-dichloropropene)
-- Chloropicrin
-- Metam Sodium/metam potassium
-- Sandea (halosulfuron methyl)
-- Envoke (trifloxysulfuron sodium)

Post Harvest

-- Propylene oxide
-- Sulfuryl Fluoride

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IR-4 MBA Programs-MBA Regulatory Successes

- Telone (1,3-dichloropropene) label amendments
  - 300 ft buffer-100 ft buffer
  - PPE for applicators
  - Township Caps-CA
- Fosthiazate - Tomatoes
- Trifloxysulfuron sodium (Envoke)-Tomatoes
- Halosulfuron methyl (Sandea)-Tomatoes, Pepper, Cucurbit Vegetables
- Propylene oxide- In- Shell Nut, Cocoa Beans

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IR-4 MBA Programs-MBA Regulatory Successes

- **Fast Track Status/Pending Registration**
  - **Dazomet (Basamid)-Tomato, Strawberry**
  - **Iodomethane (Midas)-Tomato, Pepper, Strawberry, Cucurbit**
  - **Propylene Oxide-Additional Post Harvest label Amendments for Improved Efficacy**
  - **Fosthiazate-Tomatoes (Label Revisions)**
  - **Furfural (Multiguard Protect) -Greenhouse Non-Food Uses**
  - **Sodium Azide (SEP-100) – Non-Food Uses**

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IR-4 MBA Programs 1998-2004

- Large Scale Field Programs-Commercially Applied
- All treatment Replicated 4-6x
- 4 strawberry trial/year (2 CA; 2 FL)
- 4 Fresh market tomato trial/year (2 CA; 2 FL)
- All trials fall commercial yield
- Harvested Fruit Quality
- MB/PIC Standard (350 lbs/A)-ALL Trials
- UTC All Trials
- Other crops/Locations 2003; 2004

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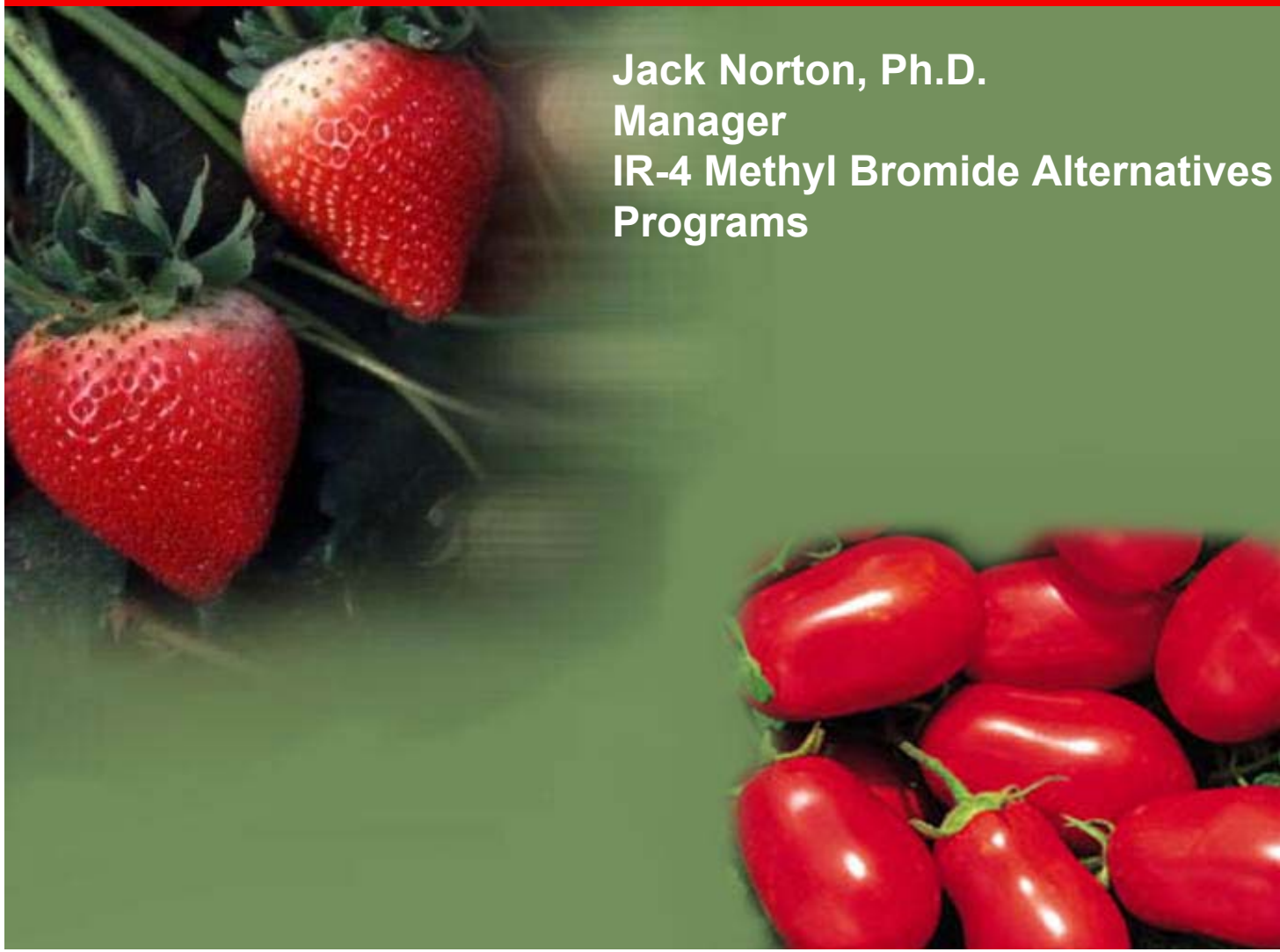
USDA IR-4 Methyl Bromide Alternatives Trials Summary



Jack Norton, Ph.D.
Manager
IR-4 Methyl Bromide Alternatives Programs

Treatment	Mean Marketable Fruit Yields Expressed as Mean Percentages of MB / Pic Yields[1]					
	Strawberry (1999-2003)[2]			Tomato (2000-2002)[3]		
	California[4]	Florida[5]	Grand Mean	California[6]	Florida[7]	Grand Mean
1. Telone C35 / InLine + Metam	104.9 a	108.8 a	106.9 a	107.0 a	73.8 bc	90.4 a
2. Telone C35 / InLine + Basamid	109.6 a	114.2 a	111.9 a	105.5 a	82.8 ab	94.2 a
3. Iodomethane / Chloropicrin	100.3 a	104.3 a	102.3 a	106.5 a	90.0 ab	98.3 a
4. Methyl Bromide / Chloropicrin	100.0 a	100.0 a	100.0 a	100.0 a	100.0 a	100.0 a
5. UTC	70.1 b		---	106.8 a	64.3 c	

[1] Means within a column followed by the same letter are not significantly different ($P \leq 0.05$, DMRT).
[2] Averages are from four years of trial work, two CA and two FL trials per year.
[3] Averages are from three years of trial work, two CA trials in 2000, one CA trial each in 2001 and 2002, and two FL trials in 2000 and 2001.
[4] Primary soilborne pests / pathogens in the Ca strawberry trials were “root-nibbling” fungal pathogens, including *Rhizoctonia solani*, *Pythium* spp., and *Cylindrocarpon* spp.
[5] Primary soilborne pests in the Fl strawberry trials were the sting nematode (*Belonolaimus longicaudatus*) and yellow nutsedge (*Cyperus esculentus*).
[6] Primary soilborne pests / pathogens in the Ca tomato trials were the soilborne fungal pathogens *Verticillium dahliae* and *Fusarium oxysporu* Incidence of both pathogens was low due to repeated historical use of mb / pic.
[7] Primary soilborne pests / pathogens in the Fl tomato trials were the root-knot nematode (*Meloidogyne* spp.), *Verticillium dahliae*, and yellow nutsedge (*Cyperus esculentus*).

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2004 IR-4 MBA Programs

- Strawberries---CA---Driscolls
- Cut Flower/Bulbs---CA---Ajwa, Gerik and FL---Gilreath
- Asparagus---MI---Hausbeck
- Ginseng---MI---Hausbeck
- Cantaloupe---MI, FL, AL---Hausbeck, Gilreath, Kabana
- Cucumber---MI, NC---Hausbeck, Louws
- Tomato---MI, FL, AL, NC---Hausbeck, Gilreath, Kabana, Louws
- Pepper---MI, FL, AL, NC---Hausbeck, Gilreath, Kabana, Louws
- Summer and Winter squash---MI---Hausbeck
- Eggplant---MI---Hausbeck

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IR-4 MBA Programs-Sponsoring Companies

- Aberco, Inc---Propylene Oxide
- Ajay, North America---AJ1629
- American Pacific Corporation---SEP-100 (Sodium Azide)
- AMVAC---VAPAM, KPAM
- Arvesta, Incorporated---Iodomethane
- BASF (now Certis USA)---Basamid (Dazomet)
- Dow AgroSciences---Telone/Inline
- FMC Corporation---Sulfentrazone, F3825
- Gowan Company---Halosulfuron methyl
- Harborchem (now Agriguard company)---MULTIGUARD™ Products

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IR-4 MBA Programs-Sponsoring Companies

- Helena Chemicals---ENZONE
- Illova Sugar, Ltd (now Agriguard company)---Crop Guard™ Products
- ISK Biosciences---Fosthiazate
- Metam Sodium Task Force---Metam Sodium
- Niklor Chemical Company---Chloropicrin EC
- Syngenta Crop Protection---Trifloxysulfuron Sodium, Dual Magnum, Stan
- Uniroyal Chemical---MCC-A1641
- Valent---DiTera ES

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