



ENTFACT-125

VENDORS OF BENEFICIAL ORGANISMS IN NORTH AMERICA

D.W. Johnson, Extension Entomologist, University of Kentucky

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Introduction

Current attitudes in the United States concerning food safety and environmental quality have raised the general public's interest in alternative (non-synthetic pesticide) pest controls. Although unknown to most people, research and implementation of biological control projects has a long history in the United States. The year 1998 marks the 109th anniversary of the importation and release of the *Vedalia* beetle into the citrus groves of California. This "lady beetle" predator single-handedly reduced a major pest (Cottony Cushion Scale) to sub-economic levels.

Kentucky also has successfully utilized biological control. Importation and release of parasites and management of a fungal disease have greatly reduced the first generation of alfalfa weevil. Currently, research exploring the use of insect viral pathogens to control tobacco budworm is underway.

Although the use of one living organism (beneficial) to control another (pest) works, it can be quite complicated. Simple purchase of a beneficial organism may not be the answer to your pest problem. However, if you are willing to experiment and learn, you may find that use of the various forms of biological control provides good pest control.

Conditions for Success

Biological control (biocontrol) is very different from the use of insecticides for controlling insect pests. While biocontrol does work, is less harsh on the environment and is safer for people to handle, it also is much more complicated to implement. Unlike chemical insecticides, biocontrol organisms, called beneficials, are alive. They have behaviors which must be understood and are subject to the same adverse environmental factors as are the pest insects.

For best success, ensure that there is some prey for your beneficial organisms to feed on. (Pest insects are the food source of beneficials.) If beneficial organisms are released into an area with no prey, they will either leave in search of prey or die of starvation. Second, use as little insecticide as possible. Beneficials will be killed just as easily as pests by these materials. Additionally, because pest insects are prey (food) for beneficials, killing the pests removes the beneficials' food source. Therefore, beneficials are hit twice as hard as pests by any insecticidal application. As you become more adept at using beneficials, you will find that there are some "insecticides" that may be employed with no, or slight, harm to your beneficial insects.

Predatory Mites

PM Predatory Mites -- various species
PMC -- *Amblyseius californicus*
PMU -- *Amblyseius cucumeris* (for thrips)
PMI -- *Amblyseius iroquois* (for thrips)
PMO -- *Metaseiulus occidentalis*
PML -- *Phytoseiulus longipes*
PMM -- *Amblyseius mckenziei* (= *barker*)
PMP -- *Phytoseiulus persimilis*
PMA -- *Pyemotes tritici* (for ants)

Fly Parasites

FP Fly Parasites -- various species
FPR -- *Carcinops* sp.
FPM -- *Muscidifurax raptor*
FPL -- *Muscidifurax raptorellus*

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UNIVERSITY OF KENTUCKY, KENTUCKY STATE UNIVERSITY, U. S. DEPARTMENT OF AGRICULTURE, AND KENTUCKY COUNTIES COOPERATING

FPZ -- *Muscidifurax zaraptor*
FPN -- *Nasonia vitripennis*
FPP -- *Pachycrepoideus vindemiae*
FPC -- *Spalangia cameroni*
FPS -- *Spalangia endius*
FPA -- *Spalangia nigroaenea*
FPG -- *Sphegigaster sp.*

Parasitic Nematodes

PN Parasitic Nematodes -- various species
PNB -- *Neoaplectana bibionis*
PNG -- *Neoaplectana glaseri*
PNH -- *Heterorhabditis heliothidis*
PNC -- *Steinernema feltiae* (= *Neoaplectana carpocapsae*)

Other Organisms

CGP -- *Agrobacterium radiobacter* -- Crown Gall Preventive
AE -- *Anagrus epos* -- Leafhopper Parasite
AC -- *Anisopteromalus calandrae* -- Stored Product Weevil Parasite
APA -- *Aphidoletes aphidimyza* -- Aphid Predator
RSM -- *Aphytis melinus* -- Red Scale Parasite
BP -- *Bacillus popilliae* -- Milky Spore
MB -- *Bacillus thuringiensis israeliensis* -- Mosquito Bacterium*
CPB -- *Bacillus thuringiensis var. San Diego* -- Colorado Potato Beetle*
BH -- *Bracon hebetor* -- Stored Product Moth Larva Parasite
CN -- *Chilocorus nigritus* -- Scale Predator
GL -- *Chrysoperia carnea* or *C. rufilabrus* -- Green Lacewings
RSB -- *Comperiella bifasciata* -- Red Scale Parasite
GMC -- *Cotesia melanoscela* -- Gypsy Moth Parasite
MD -- *Cryptolaemus montrouzieri* -- Mealybug Destroyer
DB -- *Dacnusa sibirica* -- Leafminer Parasite
DP -- *Delphastus sp.* -- Whitefly Egg Predator
DI -- *Diglyphus isaea* -- Leafminer Parasite
CPP -- *Edovum puttleri* -- Colorado Potato Beetle Parasite
GWP -- *Encarsia formosa* -- Greenhouse Whitefly Parasite
MF -- *Gambusia affinis* -- Mosquito Fish
AM -- *Aphidus matricariae* -- Aphid parasite
MBP -- *Orius tristicolor* -- Thrips predator
GMI -- *Glyptapanteles indiensis* -- Gypsy moth parasite
GMG -- *Glyptapanteles flavicoxis* -- Gypsy Moth Parasite
NOW -- *Goniozus legneri* -- Navel Orangeworm Parasite
CL -- *Hippodamia convergens* -- Convergent Ladybird Beetle
CMD -- *Leptomastix dactylopii* -- Citrus Mealybug Parasite
LT -- *Lysiphlebus testaceipes* -- Greenbug Parasite

BSP -- *Metaphycus helvolus* -- Black Scale Parasite
GMM -- *Meteorus pulchricornis* -- Gypsy Moth Parasite
PBP -- *Microchelonus blackburni* -- Pink Bollworm Parasite
PM -- *Podisus maculiventris* -- Mexican Bean Beetle Predator
MCP -- Mormon Cricket Pathogen
GHP -- *Nosema locustae* -- Grasshopper Pathogen
NPV -- Nuclear Polyhedrosis Virus
BBP -- *Pediobius foveolatus* -- Bean Beetle Parasite
NOP -- *Pentalitomastix sp.* -- Navel Orangeworm Parasite
DS -- *Rumina decollata* -- Decollate Snail
PMT -- *Tenodera aridifolia sinensis* -- Praying Mantis
EW -- *Trichogramma sp. (minutum, p latneri, pretiosum)* -- Egg Wasps
XF -- *Xylocoris flavipes* -- Stored Product General Predator

*The larval bacterium *Bacillus thuringiensis* is available through many retail and wholesale concerns under various brand names.

NOTE: Many vendors listed in this publication are also listed in: Johnson, D.W. 1998 Vendors of Microbial and Botanical Insecticides and Insect Monitoring Devices. Entfact-124.

These two publications in conjunction with the appropriate publications listing synthetic insecticides for your crop will give you the widest possible range of insect control tactics.

Retail and Wholesale Suppliers

Ag Bio Chem Inc.

3 Fleetwood Court, Orinda, CA 94563
(415)254-0789
Other Organisms: CGP

Applied Biomomics

11074 W. Saanich Rd, Sidney, B.C., Canada, V8L
3X9
(604) 656-2132
Predatory Mites: PMM, PMO, PMP, PMU
Fly Parasites: FP
Other Organisms: APA, BSP, CMD, GWP, MD,
RSM, MMU, DP, CL

Associates Insectary

P.O. Box 969, Santa Paula, CA 93060
(805) 933-1301
Other Organisms: DS, MD, RSM

Beneficial Insectary

245 Oak Run Road, Oak Run, CA 96069
(916) 472-3715
Predatory Mites: PMC, PML, PMO, PMP
Fly Parasites: FP, FPM, FPN, FPS, FPZ
Other Organisms: EW, GHP, GL

Beneficial Insects Ltd.

P.O. Box 154, Banta, CA 95304
(209)835-6158
Fly Parasites: FP
Other Organisms: EW, GL

Better Yield Insects

P.O. Box 3451, Tecumseh Station, Windsor, Ontario
Canada, N8N 3C4
(519)735-0002
Predatory Mites: PMM, PMP
Other Organisms: APA, GWP

Bio Ag Services

4218 W. Muscat, Fresno, CA 93706
(209)268-2835
Predatory Mites: PMC, PMP
Fly Parasites: FPG, FPG, FPS, FPZ
Other Organisms: AE

Bio-Con Systems

P.O. Box 30186
San Bernardino, CA 92413
(619) 242-3800
Other Organisms: DS

Biofac

P.O. Box 87, Mathis, TX 78368
(512)547-3259
Predatory Mites: PMA
Fly Parasites: FPM, FPS
Other Organisms: AC, BH, EW, GL, XF

Bio Insect Control

710 S. Columbia, Plainview, TX 79072
(806)293-5861
Other Organisms: EW, CL

BioLogic

P.O. Box 177, 18056 Springtown Rd.
Willow Hill, PA 17271-0177
(717)349-2789
Parasitic Nematodes: PN, PNC

Biosys

1057 E. Meadow Circle, Palo Alto, CA 94303
(415) 856-9500
Parasitic Nematodes: PNC

Biotactics Inc.

22412 Pico Street, Grand Terrace, CA 92324
(714)783-2148
Predatory Mites: PMC, PML, PMO, PMP

Bo-Biotrol, Inc.

54 S. Bear Creek Drive, Merced, CA 95340
(209)722-4985
Fly Parasites: FP
Other Organisms: EW, GL, NOW, NOP

B.R. Supply Company

P.O. Box 845, Exeter, CA 93221
Parasitic Nematodes: PN, PNB, PNC, PNG

Burgess Seed & Plant Co.

Department 91, 905 Four Seasons Road,
Bloomington, IL 61701
(309)663-9551
Other Organisms: BP

Burpee Seed Company

300 Park Avenue, Warminster, PA 18974
(215) 674-4900
Parasitic Nematodes: PN
Other Organisms: CL, EW, GL, PMT

Fairfax Biological

Laboratories, Inc., Clinton Corners, NY 12514
(914) 266-3705
Other Organisms: BP

Farmers Seed & Nursery

Department 71, 1706 Morrissey Drive
Bloomington, IL 61704
(309)663-9551
Other Organisms: BP, GHP, MB

Henry Field Seed & Nursery Co.

415 N. Burnett St., Shenandoah, IA 51602
(605)665-4491
Fly Parasites: FP
Other Organisms: CL, EW, GHP, GL, PMT

Foothill Ag Research, Inc.

510 W. Chase Drive, Corona, CA 91720
(714)371-0120
Predatory Mites: PM
Fly Parasites: FP
Other Organisms: BSP, CL, DS, EW, GL, GWP, MD,
PMT, RSM

Fountain's Sierra Bug Co.

P.O. Box 114, Rough & Ready, CA 95975
(916)273-0513
Other Organisms: CL

Gerhart, Inc.

6346 Avon Belden Road, North Ridgeville, OH 44039
Predatory Mites: PMM, PMP, PMU
Other Organisms: APA, DB, DI, GWP
(216)327-8056

Gurney Seed & Nursery Corp.

2nd and Capitol, Yankton, SD 57078
(605)665-4451
Fly Parasites: FP
Other Organisms: CL, EW, GHP, GL, PMT

Harmony Farm Supply

P.O. Box 460, Graton, CA 95444
(707)823-9125
Predatory Mites: PMC, PML, PMM, PMO, PMP,
PMU
Fly Parasites: FPM, FPP, EPR, FPS
Parasitic Nematodes: PN, PNH, PNC
Other Organisms: ABA, BSP, CL, CGP, DS, EW,
GHP, GL, GWP, MB, MD, PMT, RSB, RSM,
CPB, DB

Hydro-Gardens, Inc.

P.O. Box 9707, Colorado Springs, CO 80932
(303)893-3618
Predatory Mites: PMM, PMP, PMC, PMU, PML
Parasitic Nematodes: PNH, PNC
Other Organisms: APA, CL, GL, GWP, MD, DP,
GHP, EW

IPM Laboratories, Inc.

Main Street, Locke, NY 13092-0099
(315)497-3129
Predatory Mites: PMP, PMU, PMC, PMO, PML,
PMM
Fly Parasites: FPC, FPM, FPN
Parasitic Nematodes: PNC
Other Organisms: CGP, GWP, APA, MB, GL, MD,
DP, DI, EW

Kunafin Trichogramma Insectaries

Route 1, P.O. Box 39, Quemado, TX 78877
(512) 773-0149
Predatory Mites: PMA
Fly Parasites: EPA, FPC, FPG, FPL, FPM, FPS, FPZ
Other Organisms: CL, EW, GL

Lakeland Nurseries Sales Inc.

340 Poplar Street, Hanover, PA 17331
(717)637-5555
Other Organisms: CL, PMT

Mead's Resistant Predatory

Mites, 9093 Troxel Road, Chico, CA 95928
(916)895-8125
Predatory Mites: PMO

Mellinger's Nursery

2310 W. South Range Road, North Lima, OH 44452
(216)549-9861
(800)321-7444 (orders/catalog)
Fly Parasites: FPS, FPZ
Other Organisms: BP, CL, EW, GHP, GL, GWP,
MCP, MD, PMT

Miller Nurseries

5060 West Lake Road, Canandaigua, NY 14424
(716) 396-2647
Other Organisms: BP

Chuck Musgrove

2707 Monroe St., Riverside CA 92504
(714)785-1680
Other Organisms: DS

National Gypsy Moth Management Group

RD 1, Box 715, Landisburg, PA 17040
(717)789-3434
Other Organisms: GMC, GMG, GMM, GMI

Nationwide Seed & Supply

4801 Fengenbush Lane, Louisville, KY 40228
(502) 499-0115
Other Organisms: PMT

Gardens Alive!

Hwy 48, P.O. Box 149
(812) 623-3800
Predatory Mites: PMC, PML, PMP
Fly Parasites: PN
Parasitic Nematodes: PNH, PNC
Other Organisms: BP, CL, CPB, EW, GHP, GL,
GWP, MB, PM, PMT

Natural Pest Controls

8864 Little Creek Drive, Orangevale, CA 95662
(916) 726-0855
Predatory Mites: PMC, PMO, PMP, PMU
Fly Parasites: FPN, FPS, FPZ
Other Organisms: BSP, CL, DB, DI, EW, GL, MB,
MF, PBP, PMT

Nature's Control

P.O. Box 35, Medford, OR 97501
(503) 899-8318
Predatory Mites: PMC, PML, PMP
Fly Parasites: FP
Parasitic Nematodes: PN
Other Organisms: APA, CL, EW, GL, MD, PMT

Necessary Trading Co.

P.O. Box 603, New Castle, VA 24127
(703) 864-5103
Predatory Mites: PMC, PMO, PMP
Fly Parasites: FP
Parasitic Nematodes: PNC
Other Organisms: BBP, BP, CL, CPP, EW, GHP, GL,
GWP, MB, MD, NPV

Organic Control, Inc.

5132 Venice Blvd., Los Angeles, CA 90019
(213) 937-7444
Predatory Mites: PMP
Fly Parasites: FP
Parasitic Nematodes: PNC
Other Organisms: CL, PMT, GL, EW, DS, GWP

Organic Pest Mgmt. Consultant

P.O. Box 55267, Seattle, WA 98155
(206)367-0707
Predatory Mites: PM, PMI, PMU
Fly Parasites: FP
Parasitic Nematodes: PNC
Other Organisms: APA, BSP, CL, CMD, EW, GL,
GWP, MB, MD, PMT, RSM

Richard Owen Nursery

Department 36, 2300 East Lincoln St.
Bloomington, IL 61701
(309)663-9551
Other Organisms: BP

Pacific Tree Farms

4301 Lynwood Drive, Chula Vista, CA 92010
(619) 422-2400
Predatory Mites: PMC, PML, PMO, PMP
Other Organisms: DS

Plant Sciences, Inc.

514 Calabasas Road, Watsonville, CA 95076
(408)728-7771
Predatory Mites: PMP, PMU
Other Organisms: DB, DI, GWP

Praxis

2723 116th Avenue, Allegan, MI 49010
(616)673-2793
Predatory Mites: PM
Fly Parasites: FP
Parasitic Nematodes: PN
Other Organisms: CMD, DP, GWP, MG, RSM

Richters

P.O. Box 26 Goodwood, Ontario Canada, LOC LAO
(416) 640-6677
Predatory Mites: PMP Canada only
Fly Parasites: FP
Parasitic Nematodes: PN Canada only
Other Organisms: CL, EW, GL, PMT, APA, GWP
Canada only

Rincon-Vitova Insectaries, Inc.

P.O. Box 95, Oak View, CA 93022
(805)643-5407
Predatory Mites: PMC, PMO, PMP
Fly Parasites: FP
Other Organisms: BSP, CL, CMD, DS, EW, GWP,
MD

Sespe Creek Insectary

1400 Grand Avenue, Fillmore, CA 93015
(805)524-3565
Predatory Mites: PM
Fly Parasites: FP
Other Organisms: BSP, CL, DS, EW, GL, GWP,
RSM

Spalding Laboratories

760 Printz Road, Arroyo Grande, CA 93420
(805)489-5946
Fly Parasites: FPG, FPM, FPS

Troy Hygro Systems

4096 CTH ES, East Troy, WI 53120
(414)642-5928
Predatory Mites: PM
Other Organisms: APA, GWP, MD

Unique Insect Control

5504 Sperry Drive, Citrus Heights, CA 95621
(916)961-7945
Predatory Mites: PMC, PMO, PMP
Fly Parasites: FPM, FPS
Other Organisms: CL, EW, GL, GWP, PMT

West Coast Ladybug

Sales P.O. Box 903, Gridley, CA 95948

(916)534-0840

Other Organisms: CL, PMT

Whittier Enterprises

P.O. Box 3958, Chico, CA 95927

(916) 895-8170

Predatory Mites: PMO