

**IDAHO STATE DEPARTMENT OF AGRICULTURE (ISDA)
DIVISION OF PLANT INDUSTRIES**

**2008 INVASIVE SPECIES, PLANT PESTS, NOXIOUS WEEDS, PLANT LAB, NURSERY AND
FIELD INSPECTION PROGRAM SUMMARIES AND SURVEY RESULTS**

INTRODUCTION

The Division of Plant Industries derives its statutory authority from multiple sections of Idaho Code, Title 22, such as the Plant Pest Act, the Noxious Weed Law, the Nursery and Florist Law, and the newly enacted Invasive Species Act. These laws give the Division clear responsibilities to conduct pest surveys, manage invasive species and plant pests to protect Idaho's \$4 billion agricultural industry including crops, nursery, and ranching. The division also cooperates with other agencies, such as Idaho Department of Lands (IDL), University of Idaho (UI), United States Forest Service (USFS), United States Department of Agriculture (USDA), Plant Protection and Quarantine (PPQ), Counties, Cooperative Weed Management Areas (CWMA), and industry groups to protect all of Idaho's landscapes and environments from invasive species threats. Finally, Plant Industries helps fulfill the broader mission of the Department to: *Serve consumers and agriculture by safeguarding the public, plants, animals and the environment through education and regulation.* This report summarizes the comprehensive and cooperative programs conducted during 2008 to enforce Idaho Statutes and meet the broader mission of the Department.

APPLE MAGGOT (AM) (*Rhagoletis pomonella* Walsh) - In 2008, 424 traps were placed in six counties (Boise, Canyon, Gem, Owyhee, Payette and Washington) in the commercial apple production areas of each county. An AM-free zone was established by rules (IDAPA 02.06.08) under the authority of Title 22, Chapter 20, Idaho Code. **The major tree fruit production areas of Payette, Canyon and Owyhee counties were all negative for AM; building on a multi-year record of being AM-free.** ISDA trappers



placed 103 yellow panel traps in Washington County in three host trees - apple, crabapple and hawthorn. Higher density detection surveys targeted the Mann's Creek area and parts of the Weiser river watershed north of the town of Weiser. Four positive traps were found in Washington County near the quarantine line. Of these sites, three were **outside** of the AM-free zone and one positive site was recorded **just within** the AM-free zone. In addition one male AM was trapped in a single trap just east of Emmett, ID. Additional trapping and AM attract and kill spheres will be deployed at this site in 2009. Identifications are made through genitalia dissections performed by UI, insect taxonomist, Mr. Frank

Merickel, at the W. F. Barr Entomological Museum in Moscow. ISDA plans to conduct follow-up surveys in this area in 2009.

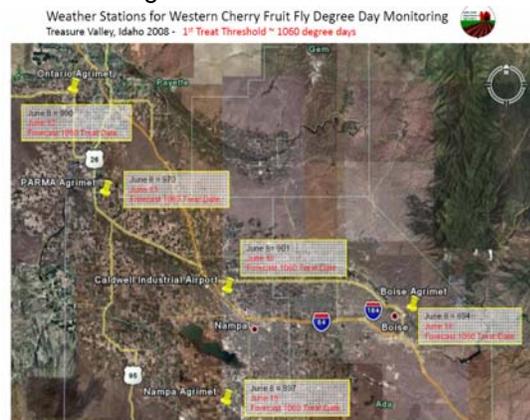
Apple Maggot Five-Year Survey Data Summary, Washington County Area of Concern 2002-2008

Year	Total # sites	Total # traps	Total Positive Traps	% positive traps
2002	28	46	4	8.6
2003	61	121	10	8.3
2004	60	123	3	2.4
2005	59	108	8	7.4
2006	59	102	4	3.9
2007	62	104	4	3.8
2008	60	99	1	1.0

WESTERN CHERRY FRUIT FLY (CFF) (*Rhagoletis indifferens* Curran) - ISDA conducts a trapping program to detect first emergence and tracks degree-day accumulation calculations for CFF. The California Department of Food and Agriculture (CDFA) requires this for compliance with their Western Cherry Fruit Fly Quarantine for states wishing to export fresh sweet cherries to or through California. In April a delegation from ISDA, Oregon Department of Agriculture (ODA), Washington State Department of Agriculture (WSDA), and the NW Horticultural Council visited permit officials at CDFA in Sacramento, California. The cherry import permits for all NW states were reviewed and efforts to streamline the permitting process were discussed. Fruit flies were first caught in yellow panel traps at a site near Homedale and Sunnyslope on June 10, and at a site in Gem County on June 13, 2008. A degree-day model is also used to forecast adult emergence. The dates that the 1060 degree-day treat threshold accumulation were met or exceeded over the past few years is summarized in the table below. Cherry fruit fly spray alert letters were sent out cooperating with the Idaho Cherry Commission to all Idaho cherry growers. Electronic notification was sent out with cooperation from University of Idaho, Extension Service via the NW Pest Alert Network Web Site. The degree-day calculations are made from the Oregon State University, Department of Entomology degree-day computer model. Control applications are recommended on, or prior to 1060 degree-day accumulations according to the publication, "Orchard Pest Management" as published by the Good Fruit Grower, Yakima, WA 1993.



CFF Larvae in a pitted cherry



Western Cherry Fruit Fly Degree Day Accumulations 2004 - 2008

Site	2008 Forecast 1 st Treatment Recommended 1060 degree-day	Historical 1060 degree day accumulations			
		2007	2006	2005	2004
Boise	June 16	June 1	June 4	May 26	June 3
Caldwell	June 16	June 3	June 1	May 27	June 4
Emmett	Not available	June 6	June 11	May 30	June 5
Nampa	June 16	June 3	June 5	May 26	June 3
Ontario	June 12	May 24	May 31	June 1	May 22
Payette	Not available	May 31	May 31	May 20	May 29
Parma	June 13	June 1	June 3	May 23	May 31

EUROPEAN PINE SHOOT MOTH (EPSM) (*Rhyacionia bouliana* Denis & Schiffermuller)



This survey is performed to track EPSM's movement within the state for compliance with California and Montana quarantines. ISDA staff placed 187 EPSM moth traps in nurseries and pine tree plantations spread over 19 counties. **No new confirmed infested counties were reported this year** Recent mild winters and urbanization have contributed to





increased EPSM trap densities over recent seasons. Idaho pine tree growers are experiencing increased EPSM pest incidence. Finding effective control regimes and complying with Montana and California EPSM quarantines continue to challenge this segment of the Idaho nursery industry. A map showing Idaho counties positive for EPSM is located on page 35.

GYPSY MOTH (GM) (*Lymantria dispar* (Linnaeus)) – Report provided by Neal Kittelson and Jeff Fidgen, Idaho State Department of Lands, Coeur d’Alene, Idaho, 208-666-8623

ABSTRACT

In 2008, three GMs were captured in Idaho. These moths were determined by the OTIS Methods Development Lab to be of the European/North American strain (EGM). Two moths were caught in two separate detection traps in Meridian, Ada County, of southwest Idaho, and the third moth was caught in a detection trap in Hayden, Kootenai County, of northern Idaho, (Figure 1). Delimitation trapping was conducted at two locations in south Idaho this season; the first was surrounding the 2007 capture site of one male EGM in Heise, Jefferson County (Figure 2); the second delimitation trapping was surrounding the 2007 capture site of one male EGM in Mountain Home, Elmore County (Figure 2).

INTRODUCTION

Surveys to detect the introduction of the gypsy moth, *Lymantria dispar* L., have been conducted in Idaho each year since 1974 (Table 1). The first GM was discovered in 1986 at Sandpoint, Bonner County. The following year numerous additional moths were caught in Sandpoint and Coeur d’Alene. Ground treatments were conducted in 1988 and aggressive aerial spray eradication programs followed in 1989 and 1990 using a naturally occurring bacterium, *Bacillus thuringiensis* var. *kurstaki* (*B.t.k.*) as the pesticide (Tisdale and Livingston 1990, Livingston 1990). No GMs have been caught in the treated areas since 1989. GMs have been caught in various areas throughout the state in the annual detection surveys every year from 1986 through 1995. No GMs were caught in 1996 or 1997 (Mason and Livingston 1991, 1992, 1993, 1994, 1995, 1996, 1997). Seven GMs were caught in 1998, five all at one site. The other two were at widely separated locations of the state (Mason and Livingston 1998). A 35 acre aerial spray eradication program in Kootenai County, near Huetter, was conducted in 1999 using *B.t.k.* No GMs were caught in 1999 or 2000 (Mason and Livingston 1999 & 2000). Two GMs were caught in 2001 (Casey and Livingston 2001), one each at widely separated locations of the state. No GMs were caught in 2002 or 2003 (Casey and Livingston 2002 & 2003). One GM, determined to be of the Asian variety (AGM), was caught in 2004 near Hauser, Idaho (Lech and Livingston 2004). A 600 acre aerial spray eradication program in Kootenai County, near Hauser, was conducted in 2005 using *B.t.k.* One GM, of the European variety (EGM), was captured in 2005 near Kingston, Idaho (Lech and Livingston 2005). No GMs were captured in 2006 (Lech 2006). Two GM of the European variety were caught in 2007, one in Mountain Home, Elmore County and one in Heise, Jefferson County (Lech and Fidgen 2007). In 2008, three GMs were caught in Idaho: one male of the European variety was caught in Hayden, Kootenai County, and two male moths of the European variety were caught in separate traps in Meridian, Ada County.

Cooperating agencies, with accompanying responsibilities in the Idaho GM program, include the following:

- Idaho Department of Lands - Overall program coordination and trapping in northern Idaho, except in Forest Service campgrounds.
- Idaho Department of Agriculture - Trapping in southwestern Idaho and submission of data to the National Agricultural Pest Information System (NAPIS) data library.
- USDA, APHIS - Provides cost share funding, traps, baits, and technical expertise.
- USDA Forest Service, Region 4 - Trapping in southeastern Idaho.
- USDA Forest Service, Region 1 - Trapping in Forest Service campgrounds in northern Idaho.
- Idaho Department of Transportation – Provides monthly reports of vehicle registrations in Idaho from states that are generally infested with GMs.
- University of Idaho, Moscow – Technical assistance.

Table 1 - Gypsy Moth Trapping History in Idaho

YEAR	NUMBER OF TRAPS SET				NUMBER OF MOTHS CAUGHT ⁶				# POS. TRAPS
	DET. ²	DEL. ³	MASS ⁴	TOTAL	DET. ²	DEL. ³	MASS ⁴	TOTAL	
1974 ¹									
1975	45			45					
1976	254			254					
1977	232			232					
1978	248			248					
1979 ¹									
1980	121			121					
1981	95			95					
1982	35			35					
1983 ¹									
1984 ¹									
1985 ¹									
1986	208			208	1			1	1
1987	420			420	35			35	9
1988	1558	1457		3015	8	414		422	210
1989	2248		7303	9551	17		51	68	54
1990	5640	358	3268	9266	4	2		6	3
1991 ⁵	4641	121		4762	4			4	4
1992	4823	130		4953	2	1		3	3
1993	4314	115		4429	2			2	1
1994	4239	96		4335	1	2		3	3
1995	4522	136		4658	1			1	1
1996	4290	117		4407					
1997	5085	20		5105					
1998	4904			4904	7			7	3
1999	4837	155	90	5082					
2000	5398	36		5434					
2001	5346			5346	2			2	2
2002	5024	35		5059					
2003	5582	35		5617					
2004	5875			5875	1 AGM			1	1 AGM
2005	4989	1441		6430	1			1	1
2006	5380	1473		6853					
2007	4882	1475		6357	2			2	2
2008	4157	69		4226	3			3	3

¹Trapping did occur in Idaho in these years, and no moths were found. However, records are not complete as to the exact number of traps placed.

²Detection.

³Delimitation.

⁴Mass trapping for control at approximately 9 traps/acre.

⁵Number of traps set in 1991 revised after receipt of final data.

⁶All moths captured in Idaho have been of the European variety, except as noted in 2004.

Table 2 – Total Number of Gypsy Moth Traps Placed, by Agency, in Idaho in 2008

AGENCY	DETECTION TRAPS	DELIMIT TRAPS	MASS TRAPS	TOTAL TRAPS
Idaho Dept. of Lands	2199	0	0	2199
Idaho Dept. of Agriculture	1425	44	0	1469
USFS - Region 4	434	23	0	457
USFS - Region 1	84	0	0	84
TOTALS	4142	67	0	4209

2008 EGM PROGRAM

EGM SURVEY:

Detection Trapping - In 2008, the cooperating agencies in the Idaho GM detection program placed 4,142 detection traps throughout the state (Table 2). Trapping cost estimates for the 2008 GM survey program in Idaho are shown in Table 3. Table 4 shows trap placements by county. Pheromone-baited traps were placed on a grid basis at a density of approximately four traps per square mile. Traps were placed throughout the state in cities, towns, surrounding urban areas, and rural communities in accordance with a pre-determined rotation schedule. Cities and communities where 20 or more move-ins occurred were

trapped irrespective of their place in the schedule. A “move-in” is defined as an individual or family moving to Idaho from a state that is generally infested with GMs. This information is derived from vehicle registration information supplied on a monthly basis by the Idaho Department of Transportation. Most infestations are initiated when an egg mass or other life stage of the GM arrives on an outdoor household article brought by someone moving into the area. There were 9,440 move-ins to the state between May 2007 and April 2008; a 17% decrease over the previous year. Campgrounds, tourist attractions and other high-risk locations were also trapped. Three GMs were captured in detection traps in 2008. At the Idaho GM Technical Advisory Committee (TAC) meeting in February of 2007, an effort was made to streamline the survey methods as much as possible while maintaining an effective detection program. The decision was made to begin to decrease detection trap densities from four traps per square mile to two per square mile in category 1 zones. In 2007, the reduction was implemented on three trap zones in north Idaho: Coeur d’Alene, Post Falls and Sandpoint. At the TAC meeting in February of 2008, it was decided that the trap reduction model seemed effective and that additional trap zones in southwest Idaho should be added to the assessment. The trap zones covering Nampa, Boise, and Meridian in southwest Idaho and Sagle West, in north Idaho, were reduced from four to two traps per square mile. This trap density reduction process was accomplished by utilizing a GIS scripting tool designed by Elizabeth Delmelle, GIS Analyst, Sr., and Gretchen Lech, GM Program Coordinator (Cahill and Lech, 2007).

Delimitation Trapping – Delimitation trapping for EGM was conducted surrounding the 2007 capture of one male EGM in Mountain Home, Idaho. Forty-four delimitation traps were placed, checked once during the summer and collected in the fall. All of the traps were negative and one more year of delimitation trapping is planned. A second delimitation survey was conducted around the 2007 capture of one male EGM near Heise, Idaho. Twenty-three delimitation traps were placed, checked once during the summer, and removed in the fall. All traps were negative and one more year of delimitation trapping is also planned for this site.

Mass Trapping – No mass trapping for EGM was conducted in Idaho in 2008.

2008 AGM PROGRAM

The relative risk of introduction of the AGM continues to increase. The capture of one male AGM in Idaho in 2004 is an indication that other entry routes, besides ports, need increased vigilance. Detection trapping will be adjusted, as necessary, based upon the relative risk of AGM introductions.

AGM ERADICATION:

Aerial Spray- No eradication projects were conducted in Idaho during the 2008 season.

AGM SURVEY:

Delimitation Trapping –The final year of the delimitation trapping surround the AGM capture site near Hauser Lake, Idaho was in 2007, and this area has been declared eradicated. There were no delimit surveys for AGM in 2008 and none are planned for 2009.

2009 PROGRAM

Eradication - No eradications are proposed for the 2009 season.

Delimitation Trapping – Delimitation trapping will be conducted at four locations in 2009. The first is surrounding the 2007 capture of one male EGM in Mountain Home, and the second is surrounding the capture of one male EGM in Heise. The third is surrounding the 2008 capture site of one male EGM in Hayden and the fourth surrounding the two capture sites in Meridian. The trap density will be between 16 and 36 traps/mi² at each location.

Table 3 – Estimated Costs of the 2008 Gypsy Moth Survey and Treatment Program

AGENCY	COST	
	European GM	Asian GM
Idaho Department of Lands	\$22,000	
Idaho Department of Agriculture	\$18,000	
US Forest Service- Region 1	\$3,000	
US Forest Service- Region 4	\$15,000	
USDA- APHIS Direct Costs for traps, baits and travel	\$2,000	
USDA- APHIS Cooperative grants	\$22,506	
Total	\$82,506	

AGENCY	COST	
	European GM	Asian GM
GRAND TOTAL	\$82,506	

Table 4 - 2007 Trap Placements by County

County Name	No.	DETECTION 2-4/MILE ²	DELIMITATION 16 -36/MILE ²	MASS 9/ACRE	TOTAL TRAPS
Ada	1	323			323
Bannock	2	102			102
Bear Lake	3	4			4
Benewah	4	75			75
Bingham	5	32			32
Blaine	6	158			158
Boise	7	4			4
Bonner	8	777			777
Bonneville	9	102			102
Boundary	10	133			133
Canyon	11	179			179
Caribou	12	14			14
Cassia	13	19			19
Clark	14	2			2
Clearwater	15	81			81
Custer	16	20			20
Elmore	17	62	44		106
Franklin	18	8			8
Fremont	19	24			24
Gem	20	45			45
Gooding	21	79			79
Idaho	22	89			89
Jefferson	23	8	23		31
Jerome	24	26			26
Kootenai	25	610			610
Latah	26	212			212
Lemhi	27	24			24
Lincoln	28	16			16
Madison	29	15			15
Minidoka	30	26			26
Nez Perce	31	97			97
Owyhee	32	22			22
Payette	33	51			51
Power	34	10			10
Shoshone	35	209			209
Teton	36	16			16
Twin Falls	37	214			214
Valley	38	209			209
Washington	39	45			45
Totals		4142	67	0	4209

Figure 1: State of Idaho 2008 Gypsy Moth Capture Sites

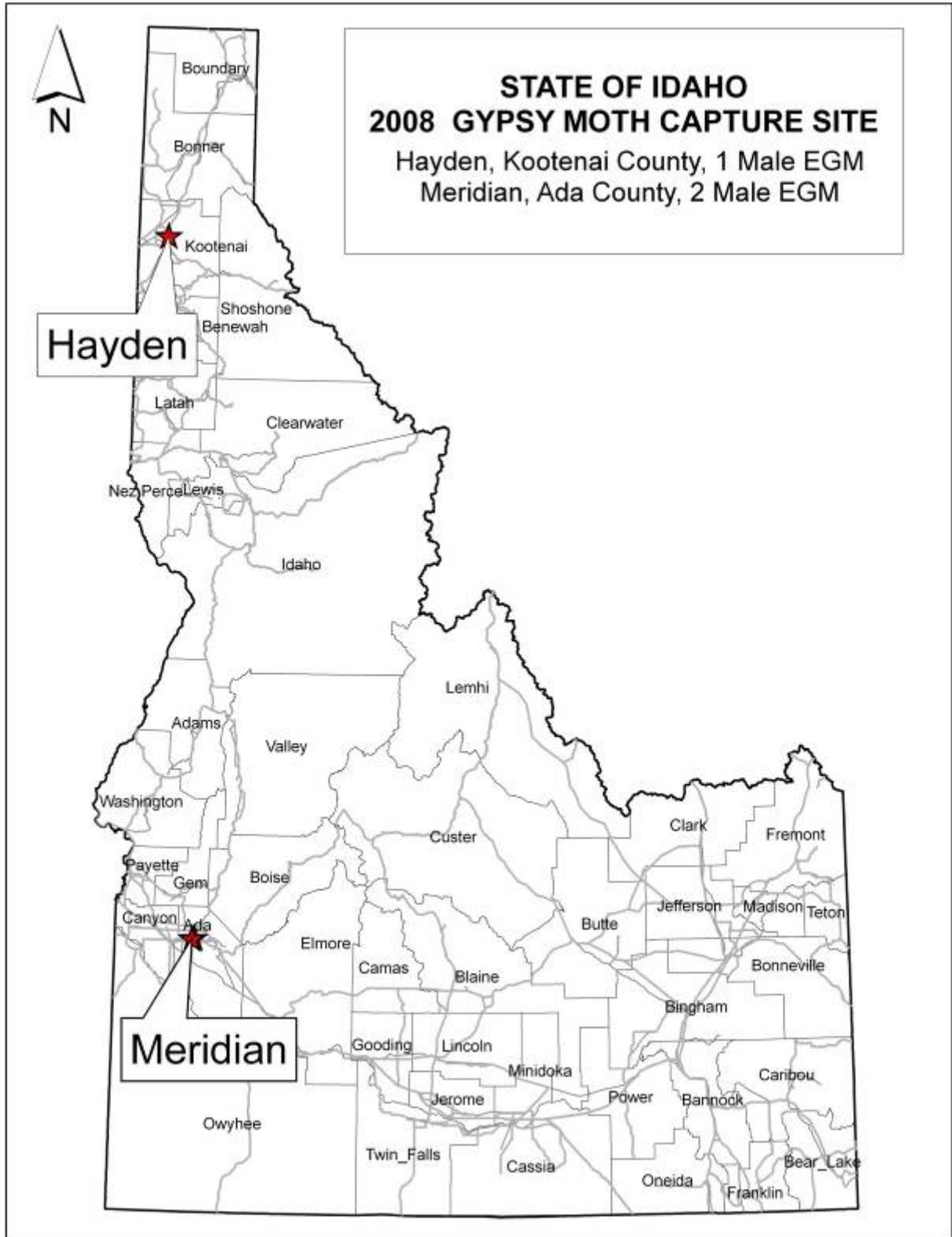
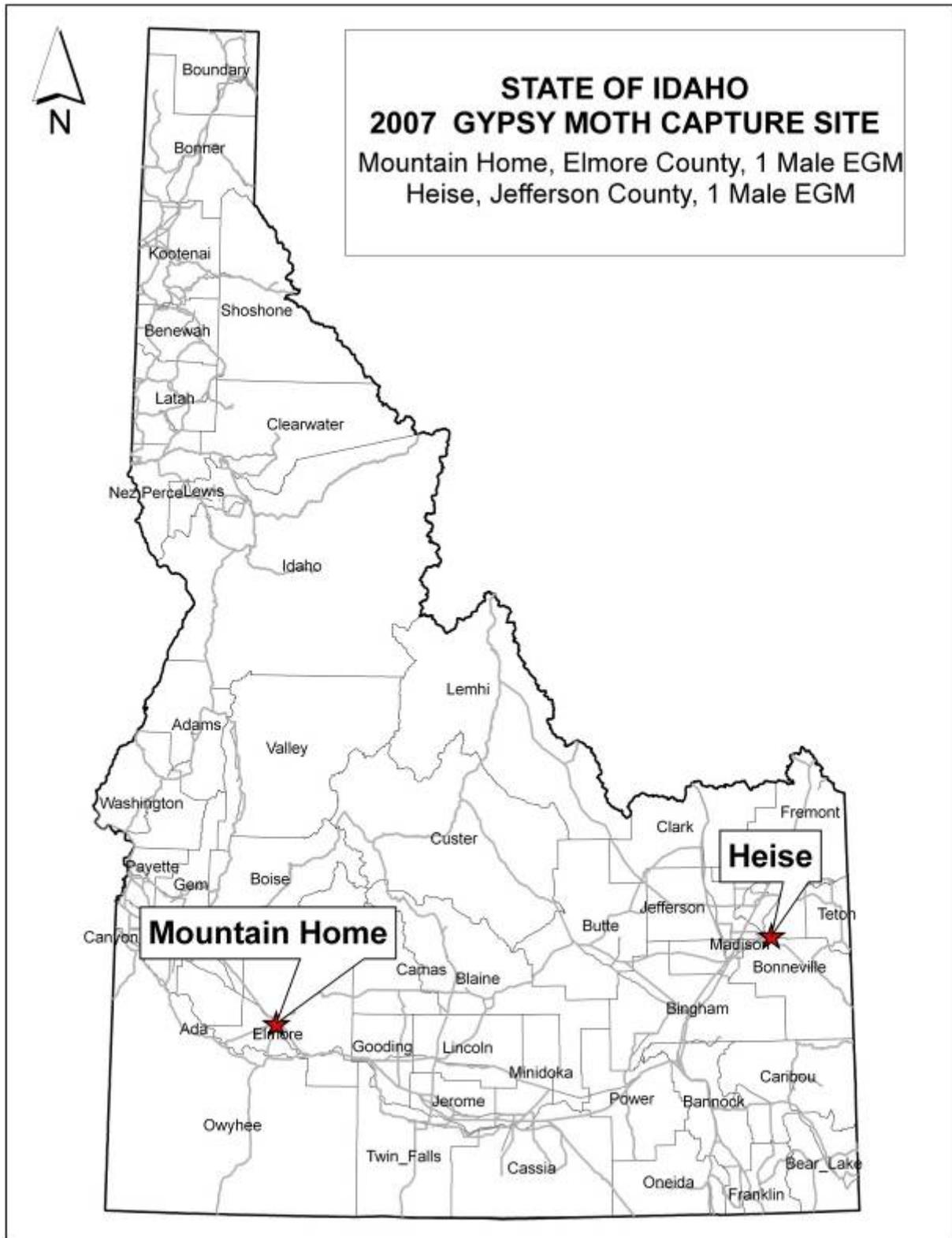


Figure 2: State of Idaho 2007 Gypsy Moth Capture Site





JAPANESE BEETLE (JB) (*Popillia japonica* Newman) – JB quarantines are maintained and vigorously enforced by California, Idaho, Oregon, Utah and Washington. This beetle and its larval form are known to infest over 400 horticultural and ornamental plants, including sod. Establishment of the beetle in Idaho could seriously affect exports to the above-listed states and British Columbia. The beetle is known to infest most states east of the Mississippi River. Eastern Idaho is at increased risk for a possible JB infestation, due to the amount of nursery stock coming in from infested eastern states. In Idaho, 310 traps were placed in 44 counties in 2008. This is a statewide survey of nurseries, turf farms and urban landscape sites in high risk areas. This



annual survey started in 1992 and has been ongoing for the past 17 years, averaging 200 traps per season. This was the highest trap year in the history of ISDA surveys. **No JB were captured in 2008 or in the previous nine years.** Visual inspections of nursery premises are also performed. **All traps and visual inspections were found negative.** Both the Boise Airport and Mountain Home Air Force Base are also trapped annually because of the concern of beetles being transported in passenger, cargo and military aircraft originating from JB infested states. These traps have been negative. A JB trap distribution map for the state is located on page 33.

KARNAL BUNT (KB) (*Tilletia indica*) – ISDA collected 55 wheat samples from 22 counties in Idaho for the 2008 KB Survey. All of the samples were collected and analyzed according to the 2008 National KB Monitoring Plan. Diagnostics were conducted by the USDA, Olney KB Optical Scanning Center in Olney, Texas. **All samples processed were found free of *Tilletia indica*.** Below is a table listing sample numbers by county in the 2008 survey.

COUNTY	Number of KB Samples	COUNTY	Number of KB Samples
Bannock	2	Gooding	1
Bear Lake	1	Jefferson	3
Bingham	8	Lemhi	1
Blaine	1	Lewis	5
Boundary	1	Lincoln	1
Camas	1	Madison	2
Canyon	3	Nez Perce	7
Cassia	5	Owyhee	1
Clearwater	1	Power	5
Elmore	1	Teton	2
Fremont	2	Washington	1

POTATO TUBERWORM SURVEY (PTW)
(*Phthorimaea operculella* Zeller)

- There have been infrequent but notable invasions of this pest into Idaho over the last 60 years. The first incident recorded was in July of 1946 when infested potatoes shipped from California to a Burley processing plant threatened the industry in that area of the state. Using area-wide treatments of DDT, the infestation was successfully eradicated. The University of Idaho, W.F. Barr Entomology Museum in



Moscow recorded a catch of PTW on March 4, 1959 in Boise. The infestation reported in stored potatoes, was collected by R. Portman. That infestation was successfully thwarted. No PTW infestations have been reported since 1959. In 2002, this insect emerged as a serious economic pest in Umatilla County, Oregon and in the Columbia Basin of south central Washington. In 2005, in

response to this growing threat, the UI initiated a limited survey under the direction of Dr. Juan Alvarez, and funded through a grant from the Idaho Potato Commission. ISDA implemented a more extensive statewide detection survey of all potato growing areas after a single male PTW was trapped in August of 2005 near Parma. ISDA has run a detection survey for this insect for three consecutive seasons from 2005 to 2007. The results of the recent surveys are provided in the table below. The most male PTW captured was 19 in 2005. In 2006 and 2007 the PTW numbers dropped off to a statewide total of 6 and 5 respectively. Since the large scale detection surveys revealed extremely low populations of the pest, ISDA scaled back the survey in 2008 to potato fields within five mile radius of the 2007 positive trap locations. **No PTW moths were captured in the 2008 survey which ran from July 14 to October 30. A survey map is located on page 36.**

Year	Detection Traps (Potato Production Counties)	Total Male PTW Captured	Counties with Positives
2005	461	19	Canyon, Payette, Elmore
2006	468	6	Canyon
2007	491	5	Canyon, Owyhee
2008	54 (Canyon Owyhee)	0	none

LIGHT BROWN APPLE MOTH (LBAM) (*Epiphyas postvittana*) - Recent infestations of Light Brown Apple Moth (LBAM), *Epiphyas postvittana*, have been detected in four northern California counties. The detection of this pest has elevated this species as a national priority. Idaho and other western region states initiated LBAM detection surveys. This small moth, a native to Australia, is in the family *Tortricidae*. LBAM larvae have a plant host range in excess of 150 plant genera in over 70 families. Potential hosts in Idaho consist of a wide array of nursery stock, cut flowers, stone fruit (peaches, plums, nectarines, cherries, and apricots), pome fruit (apples and pears), and grapes. Information from regions where LBAM is reported (England, New Zealand, Australia) was analyzed by PPQ. LBAM has only been reported in USDA Plant Hardiness Zones 7 and above. In Idaho, areas in the Treasure Valley and around Lewiston are classified as Zone 7. Counties of concern include: Ada, Canyon, Gem Payette, Owyhee, Washington, and Nez Perce. Idaho imports large amounts of nursery stock from California. This nursery stock is



sold and planted in the fast growing urban areas within the western Treasure Valley in SW Idaho and in the Lewiston area of north central Idaho. Boise and its environs are the fastest growing urban centers in the western region. Dozens of landscape species would be vulnerable to infestation if this pest spread into Idaho from northern California via the plant trade. In addition, northern Idaho counties of Boundary, Bonners, and Kootenai have important nursery production operations which export plant material to other states and Canada. This region was added to the survey since negative survey data in that area of the state would have important trade value to that industry. Eastern Idaho was not trapped because USDA risk models indicated the pest would likely not survive in those areas of the state.

ISDA adopted, as much as practical, the LBAM National Survey Plan with an emphasis on Tier 1 areas for deploying LBAM traps. Establishing freedom from LBAM in Idaho has important and beneficial environmental, pest management and trade implications. Prioritized areas surveyed include:

Tier 1: Nurseries

As it is assumed that the infestation in California initially began from infested nursery stock, nurseries were at the forefront of the Idaho survey. The following list prioritizes nurseries to be surveyed:

1. Nurseries that have received nursery stock from California
2. Nurseries in urban areas
3. Nurseries in general

Trapping sites also included “seasonal” nurseries, such as (1) retail and/or wholesale establishments that are open only during the spring planting seasons, and (2) “big box” and similar stores that sell nursery stock, as many of these establishments import from California and shipments to these stores are often difficult to trace.

Tier 2: Residential, Urban Landscaping, and Public Parks

Due to LBAM’s highly polyphagous nature and dispersal by human activity, the second suggested priority area for the survey was residential and urban landscaping, public parks, etc. Urbanized areas are generally deemed a higher risk for the establishment of LBAM than are crop production areas because (1) there are more frequent occurrences of ornamental plantings (potential introductions) and (2) eradication options in those areas tend to be more limited due to social impacts of control measures. The following list prioritizes residential and urban landscaping, public parks and other urban areas to be surveyed:

1. Public parks/forests and public landscaping, especially areas with large amounts of primary hosts: rose, pine, ornamental fruit trees, etc.
2. Forested and landscaped residential areas.



ISDA staff has deployed 359 SENTRY Delta or Jackson traps for a LBAM detection survey in Idaho Counties (Ada, Canyon, Gem, Payette, Washington, Nez Perce, Latah, Kootenai, Bonner and Boundary). Species specific pheromone lures were provided by the USDA, PPQ, Otis Method Development Center. Approximately 2,154 trap checks were done during the trapping season. Voucher specimens for LBAM were also provided by PPQ and the CDFA. ISDA staff visited the CDFA Plant Pest Diagnostic Center for special LBAM diagnostic training. ISDA did the preliminary filtering of moths captured in LBAM traps. **No suspect target moths were captured. Several non-target species captured with LBAM lures have been identified. Some prominent non-target species captured included: *Agonopterix alstromariana*, *Choristaneura carnana californica*, *Choristoneura* sp., *Sparganothis* sp., *Petrophila kearfottalis*, *Achyra occidentalis* and *Pylalis orphisalis*.** Determinations of the non-target moth species were made by WSDA Entomologist, Eric LaGasa.

OLD WORLD BOLLWORM (OWB) *Helicoverpa armigera*

OWB (*Helicoverpa armigera*) is an exotic pest that feeds on more than 180 cultivated and wild species in at least 45 botanical families. It is currently listed on the APHIS, PPQ National Priority Pest List. Potential crop host plants of importance to Idaho consist of alfalfa, apple, barley, beans, corn, onions and potato. OWB has been intercepted frequently at ports of entry on a variety of fruits, vegetables, plant cuttings and flowers. Larvae are usually intercepted; however, hitchhiking adults have been found on aircraft. This polyphagous species is highly resistant to insecticides. The spread and establishment of this pest would severely compromise current Integrated Pest Management systems established on these crops especially corn. A CAPS Mini Risk Assessment (MRA) and GPDD Fact Sheet have been published and outline the host range, ecological suitability and potential pathways for this species. Ecological suitability analysis, published in the PPQ MRA, indicates that this species is most closely associated with deserts and xeric shrublands. This pest can enter diapause and overwinter as pupae in soil. In Europe, overwintering survival may be limited to below 40 degrees north latitude. This initial survey focused on the diverse SW Idaho irrigated agriculture environment, which is at 43 degrees north latitude. Pheromone traps specific to *Helicoverpa armigera* were placed in crop environments, particularly fields of alfalfa, beans, corn, onions and potatoes at 100 trap sites in six SW Idaho counties (Ada, Canyon, Elmore, Owyhee, Payette, and Washington). Pherocon VI traps were used with lures provided by the PPQ Otis Methods Development Center. Trapping duration averaged 114 days from late May to mid-September. Approximately 800 trap checks were conducted. Diagnostics were conducted by ISDA to separate *H. armigera* from indigenous non-target *H. zea*, corn earworm. One-hundred thirty-three specimens were examined and dissected for species determinations. Another prevalent non-target species caught in the traps was *Anarta decepta* (Grote). Diagnostic support for this survey was provided by Michael Pogue, USDA, ARS, Systematic Entomology Lab, Washington, DC and Richard Worth, Oregon Department of Agriculture, Salem, OR. **There were no target species detected.**



Aeodoeagus of *H. zea* (top) and *H. armigera* (photo courtesy ODA)

trap sites in six SW Idaho counties (Ada, Canyon, Elmore, Owyhee, Payette, and Washington). Pherocon VI traps were used with lures provided by the PPQ Otis Methods Development Center. Trapping duration averaged 114 days from late May to mid-September. Approximately 800 trap checks were conducted. Diagnostics were conducted by ISDA to separate *H. armigera* from indigenous non-target *H. zea*, corn earworm. One-hundred thirty-three specimens were examined and dissected for species determinations. Another prevalent non-target species caught in the traps was *Anarta decepta* (Grote). Diagnostic support for this survey was provided by Michael Pogue, USDA, ARS, Systematic Entomology Lab, Washington, DC and Richard Worth, Oregon Department of Agriculture, Salem, OR. **There were no target species detected.**

***POTATO CYST NEMATODE (PCN) (*Globodera pallida*)**

PCN is a pest of both state and national regulatory concern. Therefore, the responsibility of the PCN Program in Idaho is shared between ISDA and USDA, PPQ. The day-to-day, on-site PCN program operation is managed by the PPQ office in Idaho Falls. The PCN program has expanded to include

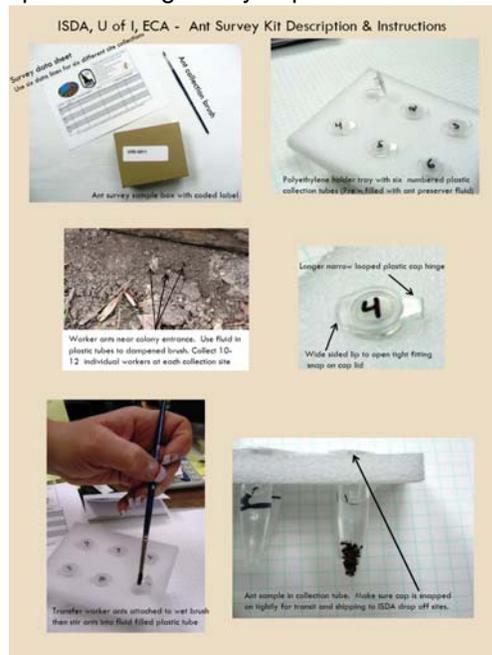
surveillance, delimiting, field eradication and Alberta seed potato trace-forward surveys.



The survey protocol used in Idaho is the National PCN Survey Protocol developed by PPQ. Soil analysis, including the extraction of cysts and preliminary cyst identifications, are conducted by the Idaho Food Quality Assurance Laboratory (IFQAL) Nematology Unit, in Twin Falls and the PPQ Nematology Lab in Idaho Falls. Final determinations of presumptive positives are carried out by the ARS, Nematology Lab in Beltsville, Maryland. A PCN

Eradication Plan Environmental Assessment (EA) was published in April of 2007. A Federal Interim PCN Rule was published in September of 2007. A parallel ISDA PCN rule has been promulgated and it and the USDA rule went into effect on November 1, 2007. In 2008, several thousand acres of associated fields have been released from regulated status. **However, a ninth infested field was detected in December of 2008 during the course of taking delimiting or de-regulating samples, bringing the total number of acres regulated to 1,117.** ISDA has taken the lead to negotiate and write cooperative agreements between the agency and the impacted growers for the control of PCN and prevention of its further spread. PPQ has conducted comprehensive sampling to construct PCN cyst density maps of the nine infested fields. Multi-faceted eradication efforts are in progress with the centerpiece being soil fumigation of the fields with methyl bromide and Telone®. ISDA conducted cyst extraction efficiency studies evaluating the USDA Fenwick Can extraction protocol. Results indicate over 95% extraction efficiency in replicated tests. Pre- and post-fumigation viability testing of eggs from PCN cysts is ongoing. Preliminary results show a significant decrease in viable PCN cysts in soil samples drawn from treated fields. As of December, 44,051 surveillance, delimiting, eradication and Alberta seed stock trace-forward samples have been processed during 2008 by the PPQ, Idaho Falls Lab. In 2008, the ISDA Food Quality Assurance Nematology Lab in Twin Falls has processed over 13,500 samples in support of the overall PCN effort. The total analyzed soil samples of over 57,500 during 2008 have added to an already large PCN database for the Idaho Potato industry. **No additional PCN infestations have been detected outside the cluster of nine fields near Shelley, ID. No positive samples have been detected from any seed potato fields, supporting Idaho freedom from PCN in that important sector of the potato industry.**

URBAN ANT SURVEY- Imported Red Fire Ant (*Solenopsis invicta*) – ISDA and the UI W.F.Barr Entomology Museum initiated a cooperative ant survey targeting exotic species and species of regulatory importance to Idaho. The key species targets consisted of Imported red fire ant (*Solenopsis invicta*), Argentine ant (*Iridomyrmex humilis*), and Pharaoh ant (*Monomorium pharaonis*).



Cooperating organizations that collected survey samples were ISDA, the Idaho Mosquito and Vector Control Association, and the Idaho Environmental Care Association. Special ant collection kits were assembled and mailed to 127 survey participants. Each kit contained six plastic collection vials, making the potential collection total 762. At the conclusion of the survey, ISDA received 167 ant samples from all cooperators at a response rate of 22%. Collection sites were located throughout most of Idaho with individual samples taken from 25 of 44 Idaho counties. A survey site map is located on page 37 of this report. Ant collection sites were made up of urban premises, urban-rural outdoor sites and nurseries. Ant species determinations were made by Frank Merickel, UI Entomology Museum Curator. The results of the ant survey and relative species collection frequencies are presented in the table below. **No ants of regulatory**

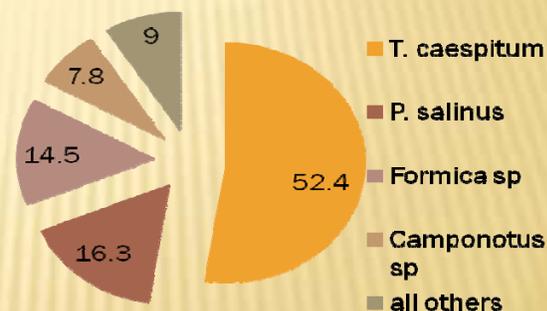
concern were collected nor were there any new species records as a result of this survey. The dominant species in the survey was the Pavement Ant (*Tetramorium caespitum*). This species reported to have arrived in Idaho in 1979 in Lewiston, Nez Perce County, and has spread, rapidly becoming a dominant pest species in the current list of 130 Idaho formicid species.



IDAHO ANT SURVEY SUMMARIZED

Common name	Scientific name	Number of Collections
Pavement ants	<i>Tetramorium caespitum</i>	87
Harvester ants	<i>Pogonomyrmex salinus</i>	27
Field ants	<i>Formica sp</i>	24
Carpenter ants	<i>Campanotus sp</i>	13
Cornfield ants	<i>Lasius sp</i>	10
Odorous house ants	<i>Tepinoma sessile</i>	3
Thief ants	<i>Solenopsis molesta</i>	2
Total		166

Percent of Species in Total Collections



DISEASES AND PESTS FOUND DURING 2008 FIELD INSPECTIONS FOR EXPORT CERTIFICATION

In 2008, 50 seed companies submitted a total of 2,674 fields representing 32 crops. Total acres submitted for inspection were 34,439, with the number of acres actually inspected being 66,114 acres, due to multiple inspections required for some crop diseases. This is an increase in firms from the 48 participants in 2007, and a 10% increase in acreage from the 30,938 submitted in 2007.

Year	# Participating Firms	# of Crops	# Fields	Submitted Acres	Inspected Acres
2003	41	27	3,016	43,433	71,357
2004	44	27	3,355	46,282	79,671
2005	43	28	2,987	42,961	74,905
2006	47	30	2,880	37,859	70,692
2007	48	32	2,439	30,938	58,218
2008	50	32	2,674	34,439	66,114

Alfalfa seed: A total of 790.98 acres were submitted for inspection in 49 fields during the 2008 growing season. There were no reported observations of Alfalfa mosaic virus, *Cercospora medicaginis*, *Clavibacter michiganensis subsp. insidiosum*, *Cuscuta spp.*, *Ditylenchus dipsaci*, *Euphorbia esula*, *Verticillium albo-atrum* or *V. dahliae*, and *Xanthomonas campestris pv. alfalfae*.

Allium (excluding Garlic): One hundred twelve fields totaling 620.21 acres of chive, leek and onion were inspected. All fields inspected were found apparently free from *Peronospora destructor*, *Botrytis aclada*, *Urocystis colchici*, *Alternaria porri*, *Puccinia asparagi*, *Sclerotinia spp.*, *Colletotrichum circinans*, *Ditylenchus dipsaci* and *Sclerotium cepivorum*. Onion yellow dwarf potyvirus was detected in 1.5 acres.

Arugula: One field of four acres was inspected in 2008. No symptoms of *Alternaria brassicae*, *Colletotrichum orbiculare*, *Fusarium oxysporum f. sp. Congutians*, *Plasmodiophora brassica*, *Rhizoctonia solani*, or *Sclerotinia spp.* were found.

Beans, Dry: A total of 132 fields with 1,809.46 acres of dry beans were submitted for inspection in 2008. To meet requirements of IDAPA 02.06.06, Rules Governing the Planting of Bean Seed (*Phaseolus*) Species In Idaho, all fields submitted were also inspected for Halo blight, Common blight, Fuscus blight, Brown spot, Bacterial wilt, and Anthracnose. Approximately 85 acres were found to be infected with Brown spot. In addition, there were no reported observations of Bean common mosaic potyvirus, *Colletotrichum truncatum*, Peanut stunt cucumovirus, *Phoma exigua* var. *diversispora* or Tobacco streak ilavirus in fields requested to be inspected for these diseases.

Beans, Garden: A total of 13,997.98 acres in 760 fields were submitted for inspection in 2008. To meet requirements of IDAPA 02.06.06, Rules Governing the Planting of Bean Seed (*Phaseolus*) Species In Idaho, all fields submitted were also inspected for Halo blight, Common blight, Fuscus blight, Brown spot, Bacterial wilt, and Anthracnose. One hundred seventy-seven acres were found to be infected with Brown spot and 18 acres were positive for Bean common mosaic virus. There were no observations of Bean yellow mosaic virus, *Colletotrichum truncatum*, Pea seed-borne mosaic virus, Peanut stunt virus, *Phoma exigua* var. *diversispora*, or Tobacco streak virus in the fields that had requests to be inspected for these diseases.

Brassicas: A total of six fields and 37 acres of collards, kale, kohlrabi, and turnip were submitted and inspected in 2008. No fields were found positive for *Leptosphaeria maculans*, *Xanthomonas campestris pv. campestris* or *Pseudomonas syringae pv. maculicola*.

Carrot: A total of 940.22 acres in 320 fields were inspected in 2008. There were no observations of *Alternaria dauci*, *Alternari radicina*, *Pectobacterium carotovorum pv. carotovorum*, *Xanthomonas campestris pv. carotae*.

Corn: In 2008, there were 16,068.18 acres in 772 fields individually inspected. High plains virus (HPV) was observed in 497.8 acres, and Wheat streak mosaic potyvirus (WSM) was observed in 56.3 acres. *Sporisorium holci-sorghii* was observed in only 0.25 acres and *Ustilago zaeae* was reported in 5024.63 acres. Maize dwarf mosaic potyvirus (MDMV) was not observed in 2008. These statistics include 144.15 acres in 11 fields submitted for inspection and testing for export to Australia. Of these fields, 89 acres in five fields met the Australian guidelines. Three fields with 34.4 acres failed due to testing positive for Wheat streak mosaic virus or the field proximity was too close to a Wheat streak mosaic positive field. Three fields with 30.75 acres failed due to testing positive for High plains virus or disqualification due to proximity to a High plains virus positive field.

Dill: One field of three acres was submitted for field inspection. There were no cases of *cercospora carotae* or *Pythium spp.* during inspection.

Endive: There were five acres inspected in two fields of endive during the 2008 season. No lettuce mosaic potyvirus (LMV), tomato spotted wilt tospovirus, *Xanthomonas axonopodis pv. Vitians* or *Septoria lactucae* was observed.

Garlic: Three fields totaling 2.1 acres were inspected and found free from any disease symptoms of quarantine significance, including *Sclerotium cepivorum* (Onion white rot).

Grain Seeds: A total of 84 acres in 31 fields of barley, grain sorghum, oats and wheat were inspected. Five acres of barley were found positive for *Xanthomonas translucens*.

Lettuce: There were 232.8 acres submitted in 44 fields of lettuce in 2008. No lettuce mosaic potyvirus (LMV) was observed.

Mint: Eleven fields totaling 110 acres were inspected and found apparently free from *Verticillium dahliae*, mint root borer (*Fumibotys fumalis*), and Mint stem borer (*Pseudomonas nigrina*). Thirty acres in to fields were found positive for mint root borer and mint stem borer.

Peas: In 2008, there were 4,564.23 acres of peas submitted for individual inspection in 339 fields and 2,462.4 acres in 45 fields submitted for area inspection. In total, there were 9,493.92 acres inspected due to multiple inspection requirements for certain diseases. *Phoma pinodella* was observed in 39 acres. *Pseudomonas syringae pv. Pisi*, *Ascochyta pisi*, *Fusarium oxysporum f. sp. Pisi*, and *Erwinia rhapontici* were not found in any fields inspected. In addition, no symptoms of Pea seedborne mosaic virus were observed during the 2008 inspections.

Potato: There were no potato fields submitted for inspection in 2008.

Radish: There were 150 acres submitted for inspection in 2008 in 11 fields. All fields were found apparently free from *Colletotrichum higginsianum*, *Xanthomonas campestris* pv. *campestris*, and *X. campestris* pv. *raphani*.

Red Clover: One field of clover was submitted for inspection in 2008. One hundred ten acres were inspected, and no symptoms of Alfalfa mosaic alfamovirus, *Clavibacter michiganensis* ssp. *insidiosus*, *Ditylenchus dipsaci*, *Verticillium albo-atrum*, *Verticillium dahlia*, or *Xanthomonas alfalfa* ssp. *alfalfa* were observed.

Sunflower: Fifteen fields totaling 170 acres were inspected and found apparently free from *Plasmophora halstedii*.

Thyme: One field with 4.5 acres was submitted for field inspection.

Vine Crops: Eighteen fields totaling 15.41 acres of cantaloupe, pumpkin, squash, watermelon and zucchini were submitted and inspected in 2008. No fields were found positive for *Pseudomonas syringae* pv. *lachrymans*, *Colletotrichum orbiculare*, *Acidovorax avenae* subsp. *citrii*, *Xanthomonas cucurbitae* or cucumber mosaic virus.

NUMBER OF FIELDS AND ACREAGE SUBMITTED FOR INSPECTION UNDER THE IDAHO RULES FOR PHYTOSANITARY AND POST-ENTRY CERTIFICATION AND RULES GOVERNING THE PLANTING OF BEANS (*Phaseolus*) SPECIES IN IDAHO FOR THE 2008 FIELD SEASON

SPECIES	Number of Fields	SUBMITTED ACRES	INSPECTED ACRES
Alfalfa	49	790.98	791.04
Arugula	1	4.00	4.00
Barley	22	29.60	29.60
Beans, Dry	132	1,809.46	3,999.62
Beans, Garden	760	13,997.98	33,277.00
Cantaloupe	2	0.34	0.34
Carrot	320	926.32	940.22
Chive	1	8.00	8.00
Collards	1	1.00	1.00
Corn	772	8,447.36	16,068.18
Dill	1	3.00	3.00
Endive	2	7.00	5.00
Garlic	3	2.10	2.10
Grain Sorghum	7	45.90	45.90
Kale	1	10.00	10.00
Kohlrabi	1	1.00	1.00
Leek	1	5.00	5.00
Lettuce	44	232.80	232.80
Mint	11	55.00	110.00
Oats	1	3.00	3.00
Onion	110	607.21	607.21
Peas	339	4,564.23	9,493.92
Peas, Area	45	2,462.40	0.00
Pumpkin	5	5.00	5.00
Radish	11	150.00	150.00

SPECIES	Number of Fields	SUBMITTED ACRES	INSPECTED ACRES
Red Clover	1	55.00	110.00
Squash	6	5.07	5.07
Sunflower	15	170.00	170.00
Thyme	1	4.50	0
Turnip	3	25.00	25.00
Watermelon	2	2.00	2.00
Wheat	1	5.50	5.50
Zucchini	3	3.00	3.00
TOTALS	2674	34,438.75	66,113.50

Garry West, Program Manager, Division of Plant Industries, Twin Falls, (208) 736-2195, and Emilee Douglas, Agriculture Investigator, Sr., Division of Plant Industries, Nampa, (208) 475-0339 compiled the field disease report.

EXPORT CERTIFICATION FOR THE 2008 CALENDAR YEAR – The ISDA issued 4,311 Federal and 524 State Phytosanitary Certificates for 66 different types of commodities to 92 countries. The Division of Plant Industries certified over 168 million pounds of seed and other commodities for export. The ISDA operates this program under a Memorandum of Understanding with the USDA.

2008 PLANT PATHOLOGY LAB SUMMARY

In 2008, the Plant Pathology Lab received a total of 776 samples upon which 11,768 tests were run. The following table is a breakdown of the number of samples, tests and significant organisms detected. The bean program received 185 seed samples for testing prior to planting in Idaho. All of these samples were tested for *Pseudomonas syringae* subsp. *syringae*, *P. axonopodis* subsp. *phaseolicola*, *Xanthomonas campestris* subsp. *phaseola* (var *fuscans* as well), *Curtobacter flaccumfaciens*, and *Colletotrichum lindemuthianum*. Two samples were found positive for *Pseudomonas syringae* subsp. *syringae* (brown spot). During field inspections of bean crops, an additional two fields were found infected with *P. syringae* subsp. *syringae*. Fields infected with Bean Common Mosaic Virus and *Fusarium oxysporum* were also found. A large number of corn samples were found infected with High Plains Virus and Wheat Streak Mosaic Virus was also detected in corn, although in lower levels than generally found. No Maize Dwarf Mosaic Virus was detected in the Treasure Valley this year. A large number of tests were performed on corn seed samples this year for High Plains Virus. This test requires 10,000 seeds to be grown out and leaves of each plant tested in batches of 10. One lot was found positive. *Salmonella* sp. was also detected in an onion seed lot destined for the sprouting market. One statewide survey was run for Karnal Bunt (*Tilletia indica*) this year. Fifty-five samples were collected from storage areas and fields around the state and sent to Olney Texas. The samples were then run through an electronic sorter which detects discoloration caused by the fungus. No samples from Idaho were found positive for Karnal Bunt.

CROP		#SAMPLES	# TESTS	POSITIVES (Organism)
Bean				
	Seed	185	1107	
	Field	84	129	1 (Bean Common Mosaic) 4 (POTY screen)
				2 (<i>Pseudomonas syringae</i> subsp. <i>syringae</i>)
				2 (<i>Fusarium oxysporum</i>)
Misc Seed				

<u>CROP</u>		<u>#SAMPLES</u>	<u># TESTS</u>	<u>POSITIVES (Organism)</u>
	Alfalfa	8	16	
	Barley	1	2	
	Chickpea	20	20	
	Clover	4	4	
	Coriander	1	1	
	Corn	33	9083	1 (High Plains Virus)
	Onion	6	9	1 (<i>Salmonella</i> sp)
	Pea	5	5	
	Pepper	1	1	
	Radish	1	2	
	Spinach	2	2	2 (<i>Verticillium</i> sp.)
	Tomato	1	1	
	Wheat	2	4	
	Wheat, Barley, Triticale mix	1	1	
Potato	"Year Out"	7	21	Potato Virus Y, A, PLRV
Phytophthora ramorum				
	traceforward	38	38	
Misc. Field				
	Alfalfa	5	7	
	Allium	1	1	
	Barley	3	5	1 (<i>Helminthosporium gramineum</i>)
				1 (<i>Xanthomonas translucens</i>)
	Carrot	11	11	
	Chives	1	1	
	Clover	1	1	
	Corn	239	1162	2 (Wheat Streak Mosaic)
				40 (High Plains Virus)
	Cornus	1	1	
	Dogwood	1	2	1 (<i>Sphaeropsis</i> twig blight)
	Garlic	1	1	1 (Garlic Mosaic Virus)
	Lettuce	1	2	
	Malus	1	1	
	Maple	1	1	
	Mint	8	8	
	Onion	15	20	3 (Iris Yellow Spot Virus) 1(POTY screen)
	Oriental Lily	1	1	
	Pea	19	28	3 (POTY screen positive)

<u>CROP</u>		<u>#SAMPLES</u>	<u># TESTS</u>	<u>POSITIVES (Organism)</u>
				2 (<i>Phoma medicaginis var pinodella</i>)
	Pine	2	3	1 (<i>Rhizosphaeria</i> sp.)
	Radish	2	1	1 (<i>Albugo candida</i>)
	Tomato	1	2	
	Safflower	1	2	
	Sunflower	4	5	
	Yucca	1	1	1 (<i>Paraphaeosphaeria obtusispora</i>)
Wheat Survey	karnal bunt	55	55	sent to Olney Texas
TOTALS		776	11,768	

SUDDEN OAK DEATH (SOD) (*Phytophthora ramorum*) – ISDA, cooperating with PPQ, conducted *Phytophthora ramorum* trace-forward inspections and lab diagnostics for nurseries that received host material from infected suppliers. All samples and testing were done according to USDA/APHIS/PPQ trace-forward protocols. Two samples showed suspicious ELISA results and were sent to the USDA/APHIS/PPQ/PHP/PSPI in Beltsville, MD for molecular diagnostics. All samples taken in the trace-forward survey were negative for *P. ramorum*. Idaho still remains *P. ramorum* free.



Inspection Date	Establishment	Location	County	Diagnostic Results
03/26/2008	Rose Lund	Nampa	Canyon	22 samples
05/21/2008	Think Green	Boise	Ada	3 sample
05/22/2008	Eagle Landscaping	Eagle	Ada	6 samples
05/19/2008	Jayker's Nursery	Boise	Ada	1 sample
05/28/2008	Jon C. Irby Landscaping	Meridian	Ada	1 sample
06/05/2008	Murillo's Landscaping	Boise	Ada	4 samples

SEED LAB SUMMARY

The Idaho State Seed Laboratory received 3,617 service samples in fiscal year 2008 and completed 5,580 tests. Top crops for services were peas, beans, wheat, alfalfa, sagebrush, wheatgrass, barley, triticale, onion, and corn. Two-hundred sixty regulatory enforcement samples were tested for purity, germination, licensing and labeling requirements, with 138 total violations; 83 resulting in enforcement actions. A big change for the seed lab this year was a complete remodel funded by the Idaho State Permanent Building Fund. The lab was granted resources for new flooring, paint, counter tops, ceiling tiles and replacement of a faulty dishwasher. An open house was held inviting people to tour and see the new look.



CULL ONION INSPECTIONS AND ACTIONS

The 2008 season in the Idaho's southwest counties for detection of cull onion disposal sites started by monitoring these counties by vehicle and air to try to identify the areas of concern before violations occurred. The most common complaints are about private landowners who allow their fields to become cull onion dumps. Onion packers will sort out the cull onions in their sheds to make room for the current onion crop and contract private landowners to dispose of the culls by spreading the onions on their fields. The problem begins when the landowner fails to monitor the drivers bringing in the culls and end up with large piles instead of spread onions. This makes it difficult to spread, disk and bury the onions, and the company and the landowner is now potentially in violation of IDAPA 02.06.17 - RULES GOVERNING THE DISPOSAL OF CULL ONIONS AND POTATOES. Companies who process onions may also dispose of the onion waste by taking them to sheep ranches, cattle feedlots or dairies. Feedlot and dairy cull feeders use the culls to mix into the cattle feed. This needs to be done on a daily basis so the possibility of an offensive smell or the attraction of large amounts of insects will not generate complaint calls. There were three investigations of odor compliant calls on cull feeders in the 2008 season due to the offensive onion smell. Sheep cull feeders should feed the cull onions on a daily basis and should not bring in more culls than the sheep can consume. An average size sheep can consume up to 35 lbs of culls per day. Sheep cull feeders are the second most common on-going complaint calls during the cull onion disposal season due to the large amount of culls allowed to be brought in and piled at sheep ranches. A formal complaint and investigation report was made with Animal Industries (Dairy) against a dairy in Fruitland, but no formal action was taken against this site, only a verbal warning was issued and follow-up visit was required. Five onion sheds and one sheep feeder were brought into compliance. They were dumping culls and feeding long after the deadline (they have a week after they dump/feed the culls to properly dispose the culls) and the sites were monitored to ensure their compliance. The others were given verbal warnings and a follow-up visits, if needed. The majority of cull disposers and feeders are aware of the cull onion rules and the consequences and will comply when contacted. **There were nine onion sheds that were visited and interviewed in person or by phone due to the inability of meeting the time frames of these rules whether it is the disposing of cull onions by field spreading, pitting or feeding.**

OTHER REGULATORY INSPECTIONS AND ACTIONS - ISDA, under the authority of Title 22, Chapters, 4, 5, 23, & 24, Idaho Code, and IDAPA defined pest quarantines, conducted over 6,752 inspections and took action against various pest threats and other violations. In 2008, there were over 2,150 licensed nurseries, and of those, 1,113 were inspected for compliance with the Idaho Nursery and Florists Law and for the presence of plant pests and noxious weeds. In addition, specific checks were made for compliance with other state laws, quarantines and pests of particular concern. The results of these inspections and regulatory actions are listed below:

Quarantine/Pests	NO. OF INSPECTIONS	Incidents	Corrective Action	Stop Sales
Certified Seed Potatoes	125	9	2	5
Onion White Rot	169	23	0	18
European Corn Borer	323	0	0	0
Japanese Beetle	641	0	0	0
Mint Quarantine	127	0	0	0
Crop Management Zone	35	0	0	0
Grape Quarantine	97	0	0	4
Peach Tree Quarantine	68	0	0	0
Sudden Oak Death	527	1	0	4
Pine Shoot Beetle	335	0	0	0
Gypsy Moth	566	0	0	0
Red Imported Fire Ants	462	0	0	0
Noxious Weeds	783	33	9	15
Idaho Seed Law	281	114	1	113
Nematodes	3	0	0	0
Aphids	923	30	6	0
Late Blight	316	0	0	0

Quarantine/Pests	NO. OF INSPECTIONS	Incidents	Corrective Action	Stop Sales
Hops	19	0	0	0
Retail Potatoes	120	7	1	0
General Pests	142	109	28	13
Snails	690	3	0	0
Day Lily Rust	0	0	0	0
Total Inspections	6,752	337	47	172

ISDA NOXIOUS WEED PROGRAM SUMMARY

Noxious Weeds Cost Share

The Noxious Weeds Program at ISDA continues to work with Cooperative Weed Management Areas (CWMA), Counties, Tribes, landowners, and Federal partners to provide leadership, training and support for noxious weed management in Idaho. CWMA in Idaho continue to excel at bringing people together across agency and administrative boundaries to fight the spread of noxious weeds. Their efforts help to protect wild land habitat, ecosystem diversity, recreational opportunities



and agriculture in Idaho. ISDA distributed \$1.7 million in cost share grants to CWMA for on-the-ground integrated weed management in 2007. Program applicants provided over \$6 million in matching contributions which resulted in a total of over 192,000 acres of noxious weeds treated and over one million acres surveyed and mapped. Education and prevention are key to the success of Idaho's program and over 4.3 million contacts were made state-wide for noxious weed education and awareness. Final numbers for the 2008 Noxious Weeds Cost Share Program were still being

compiled at the time of this publication.



Noxious Weed Free Forage and Straw (NWFFS)

The U.S. Forest Service requires all forage and straw possessed on their lands to be certified as noxious weed free to prevent the introduction and spread of noxious weeds. ISDA administers this program to facilitate compliance for equine users and revegetation managers. In 2008 ISDA conducted Weed Free Forage and Straw Inspector training throughout the state. Over 9,770 acres were inspected and certified weed free by trained CWMA and County cooperators for a value of over \$3.3 million. Certified weed free products such as hay bales, cubes, pellets, and compressed bales makes weed free forage increasingly more accessible and available to horse and mule recreationalists. The NWFFS program plays an important role in protecting Idaho's wild places from noxious weed introduction



Eurasian Watermilfoil



Eurasian watermilfoil (EWM) is one of the most problematic invasive aquatic plants in North America. EWM out competes native vegetation and degrades aquatic habitats by reducing biodiversity. EWM forms dense canopies of growth in the water that can make boating and fishing impossible. Dense plant growth degrades water quality and fisheries and encourages

mosquito growth. An aggressive treatment program began in 2006 to prevent further spread of EWM and to eradicate the plant from treated waterbodies.

The Eurasian watermilfoil program entered its third year in 2008, and eradication efforts continue in the infested lakes of Idaho. Over 2,900 acres of EWM were treated in 2008 using herbicides, diver assisted suction dredging, and benthic barriers. ISDA distributed \$2.16 million in 2008 for treatment, education, survey, and prevention projects throughout the state. Surveys have illustrated a significant reduction in EWM populations in treated waterbodies and eradication appears to have been achieved in a number of lakes.



Survey has also illustrated that native plant abundance and diversity has increased following EWM treatment, providing improved habitat for invertebrates, fish, and waterfowl. To date, EWM has not been found in Eastern Idaho. Several education and prevention projects from eastern Idaho were awarded funding in 2008 to try and keep it that way. An aggressive prevention program at Henry's Lake was initiated by Fremont County in 2008, to prevent the introduction of EWM and other invasive aquatic species. The lake brings in over \$15 million a year to the County just from vacationing fisherman and to date, no invasive aquatic species have been detected in the lake. Fremont County along, with local residents and nonprofit groups, received funding through the milfoil program for boat wash stations and educational materials to make fishermen aware of the threat of EWM and other invasive aquatic species to Henry's Lake. All boats are now required to be cleaned before launching in the lake to prevent the introduction of invasive aquatic species and to protect this valuable resource.

Hydrilla



Hydrilla is the most aggressive and resilient aquatic noxious weed in North America. It is an Early Detection/Rapid Response (EDRR) noxious weed in Idaho and it was identified in Bruneau and Boise in 2008. The Bruneau River population was treated with herbicide, diver assisted suction dredging, and hand pulling along the seven miles of river where established plants were found. Established populations appear to be limited to geothermally influenced areas of the river and no hydrilla has been found downstream in CJ Strike Reservoir or in the Snake River. Treatment and survey efforts are ongoing. A second hydrilla population was identified in Boise in 400 meters of a geothermally influenced ditch. This population was treated

by hand removal several times in 2008 and periodic inspection will continue in 2009. No hydrilla has been found in the downstream canal system or in the Boise River. Survey efforts are ongoing.

Brazilian Elodea



Brazilian elodea has historically been a popular aquarium plant throughout the US. It is an extremely aggressive aquatic weed and is an EDRR species in Idaho. Three populations of Brazilian elodea were identified and treated in Idaho in 2008. A population in Moscow was treated chemically and appears to be eradicated. Two ponds in Ada County have also been aggressively treated with herbicide and appear to be nearing eradication. Continued survey for this aggressive invader is ongoing.

Parrotfeather

Parrotfeather milfoil is a control listed noxious weed in Idaho. It can obstruct water flow in irrigation ditches and take over shallow lake habitats. An aggressive parrotfeather treatment program was undertaken in Gem County in 2008 on several acres of dense infestation. The populations were treated chemically, resulting in a significant reduction in plant density and distribution. Survey and treatment efforts will be ongoing in 2009.



ISDA INVASIVE SPECIES PROGRAM SUMMARY

The **Idaho Invasive Species Program** was initiated in 2005 to improve the coordination of activities within the State. The program coordinates efforts throughout Idaho by working with state agencies, federal agencies, local governments and non-governmental organizations to address the state recommendation to “*ensure that a comprehensive invasive species program in Idaho is not diluted by competing efforts among various agencies.*” In order to carry this out, a full-time “Invasive Species Coordinator” was budgeted within the Department of Agriculture in 2007.

The Idaho Invasive Species Council was established by Executive Order (E.O. 2001-11). Per this Executive Order (which was continued as E.O. 2006-28), the Director of the Idaho State Department of Agriculture (ISDA) chairs the Council. Membership includes a representative from the Office of the Governor and the directors (or their designee) of the Idaho Department of Environmental Quality, the Idaho Department of Parks and Recreation, the Idaho Department of Fish and Game, the Idaho Department of Lands, the Idaho Department of Water Resources, the Idaho Department of Commerce & Labor, the Idaho Department of Health and Welfare and the Idaho Transportation Department. Representatives and members of federal entities, local government organizations, tribal governments, Idaho universities and private and not-for-profit organizations with an interest in invasive species are also invited to participate.

The Idaho Invasive Species Law was enacted by the Legislature in 2008. The intent of this law is to address the increasing threat of invasive species in the State of Idaho by providing policy direction, planning and authority to combat invasive species infestations and to prevent the introduction of new invasive species. This law establishes the duties of the ISDA and the Director, authorizes the Director to promulgate rules and gives authority to conduct inspections as necessary. ISDA is promulgating **Invasive Species Rules** through the negotiated rulemaking process.

With the recent discovery (January 2007) of the notorious quagga mussel in Western waters, the Idaho Invasive Species Program initiated an early detection and rapid response (EDRR) monitoring network in Idaho. This network is a partnership between ISDA, Idaho Department of Fish and Game (IDFG), Idaho Power, various canal companies, local governments and lake associations. To date, quagga and zebra mussels have not been detected in Idaho. The Invasive Species Program also began implementing an education and outreach campaign for this species in 2007. The goal of this campaign is to reach audiences through targeted outreach avenues.

In an effort to prepare for a quagga mussel outbreak in Idaho, the Invasive Species Program is also active in interagency programs such as the Western Regional Panel and the 100th Meridian Initiative. Participation in these groups is becoming increasingly important as neighboring states are becoming impacted by species such as quagga mussel. Education, detection and decontamination programs must be coordinated so that western states send a consistent message to various audiences – from boaters to truckers to the water-gardening public.

The Invasive Species Program has also been working with the US Fish and Wildlife Services and the Pacific States Marine Fisheries Commission to develop a “*Columbia River Basin Interagency Invasive Species Response Plan for Zebra Mussels and Other Dreissenid Species.*” The purpose of the plan is to coordinate a rapid, effective, and efficient interagency response in order to delineate, contain, and when feasible, eradicate zebra, quagga, and other dreissenid mussel populations if they are introduced to the Columbia River Basin. The plan recognizes that a dreissenid invasion in the Columbia River Basin is an environmental emergency and any hope of containment necessitates immediate action. The provisions of this plan are intended to enhance interagency coordination by implementing containment and initial control efforts. Governor Otter signed onto this plan in 2008, making Idaho a cooperator.

***ISDA AND USDA COOPERATIVE RANGELAND GRASSHOPPER AND MORMON CRICKET SUPPRESSION PROGRAM**

Introduction

Grasshoppers and Mormon crickets continue to be one of the most serious pest problems in Idaho rangelands and adjacent croplands. Based on annual surveys conducted by the United States Department of Agriculture (USDA), Animal Plant Health Inspection Service (APHIS), Idaho has experienced very serious pest outbreaks during the last few years. The management and the timely control of grasshopper and Mormon cricket populations are high priorities for the Idaho State Department of Agriculture (ISDA) and our cooperators at USDA, APHIS. Congress has addressed this issue with special funding to the impacted states of Idaho, Utah and Nevada.

Background

Sixty-four percent of Idaho lands are administered by the Federal Government and 43% percent of the state (21.8 million acres) is classified as rangeland. The Bureau of Land Management administers 11.8 million acres in Idaho, much of it prime grasshopper/Mormon cricket habitat. There is a significant area of grasshopper and Mormon cricket habitat on federal lands that borders private rangeland and irrigated cropland in the state. Mormon crickets and grasshoppers (primarily about six species) are cyclical economic pest problems, particularly in southern Idaho. In recent years, however, significant outbreaks have also occurred in north central and northern Idaho.

Summary of Grasshopper Survey Results

Southeast, southwest and northern Idaho experienced major grasshopper outbreaks in 2008. Damage to hayfields, pastures, rangeland, gardens and landscape plants were observed throughout these areas. The southeast and southwest infestations were a mixture of *Melanoplus sanguinipes*, *M. femurrubrum*, *Aulocara ellioti* and *Camnula pellucida* grasshopper species. New infestations were found further north in Kootenai, Benewah and Latah Counties and was dominated by the *Camnula pellucida* grasshopper. The populations in northern Idaho are troubling since this degree of infestation has not been seen in recent history. The late summer and fall season should have allowed exceptional oviposition opportunities, and there are currently no factors that would indicate any reason to expect major decreases in overall grasshopper populations in 2009. It is reasonable to expect significant grasshopper outbreaks to occur in many areas of the state, including northern Idaho, during the 2009 season.

Summary of Mormon Cricket Survey Results

The Mormon cricket, *Anabrus simplex*, outbreak continued to decline in 2008 compared to 2007 and 2006. The Owyhee County infestation was similar to 2007, only it was more concentrated in the northern region of the county and along Highway 95 to the Oregon border. There were limited infestations of Mormon crickets in Adams and Washington Counties. In eastern Idaho, infestations continued to occur in Oneida, Power and Bannock Counties. Control activities have decreased for the second year in a row with fewer calls for assistance on Mormon cricket infestations.

The long-legged cricket, *Anabrus longipes*, was found in Latah and Benewah Counties. *A. longipes*, a sibling species to the Mormon cricket, has not been found in Idaho for several years. This species rarely reaches high densities and is considered to be less damaging than the Mormon cricket.

Summary of ISDA Program

In 2008, ISDA continued to suppress outbreaks of grasshopper and Mormon crickets statewide. Over 470 landowners in 27 counties received assistance in the form of bait or cost-share spray projects. A total of 247,838 lbs. of bait was distributed to private landowners, an increase of 58,880 lbs. from the bait distributed in 2007. One cost-share project protected 1,592 acres from a grasshopper infestation in Valley County with ISDA assistance of \$9,823.50 to cover 2/3 of the treatment costs. The remaining 1/3 of the cost was paid by the private landowners. In addition, ISDA protected 194 acres of impacted state and county lands primarily along county road rights-of-way.

2008 – ISDA APPLICATION COST SHARE PROJECTS FOR PRIVATE LAND OWNERS FOR GRASSHOPPER SUPPRESSION

Project / Location	Acres Treated	Total Protected Acres*	Insecticide	Cost to ISDA (2/3)	Cost to Private Landowner (1/3)	Total Project Cost	Cost Per Acre Treated
Valley County	1,592	1,592	Malathion ULV	\$9,823.50	\$4,902.50	\$14,726	\$9.25

ISDA 2008 CARBARYL GROUND BAITING TREATMENTS ON COUNTY ROAD RIGHTS-OF-WAY AND STATE LANDS

Owyhee	3,500 lbs.	169 Acres
Cassia	250 lbs.	25 Acres
Total	3,750 lbs.	194 Acres

MULTI-YEAR SUMMARY OF CARBARYL BAIT TREATMENTS ON COUNTY ROAD RIGHTS-OF-WAY AND STATE LANDS

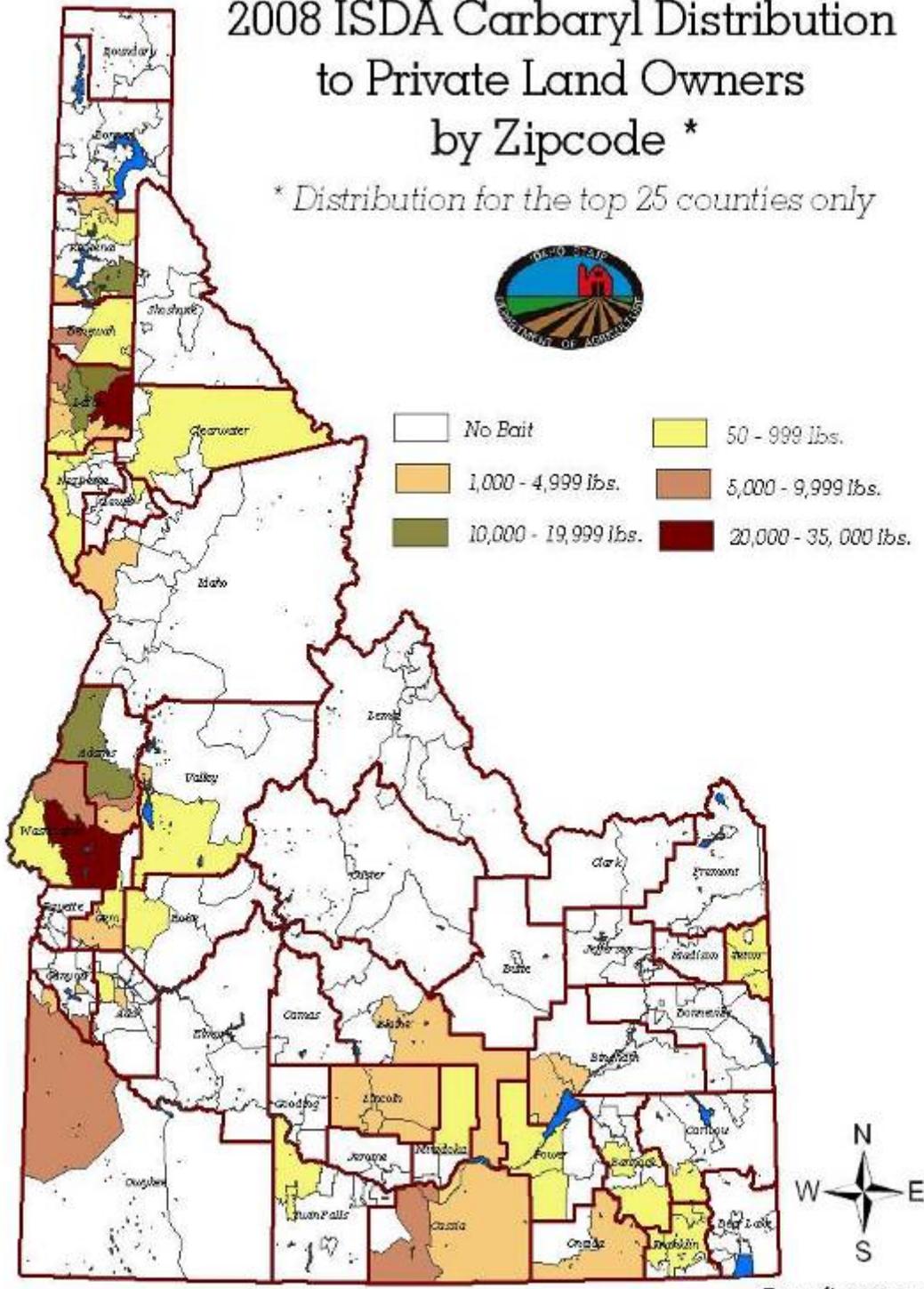
Year	Total Pounds Applied	Acres Treated
2005	12,175	1,218
2006	6,612	661
2007	3,906	340
2008	3,750	194

2008 - ISDA BAIT DISTRIBUTIONS TO PRIVATE LANDOWNERS FOR MORMON CRICKET AND GRASSHOPPER SUPPRESSION

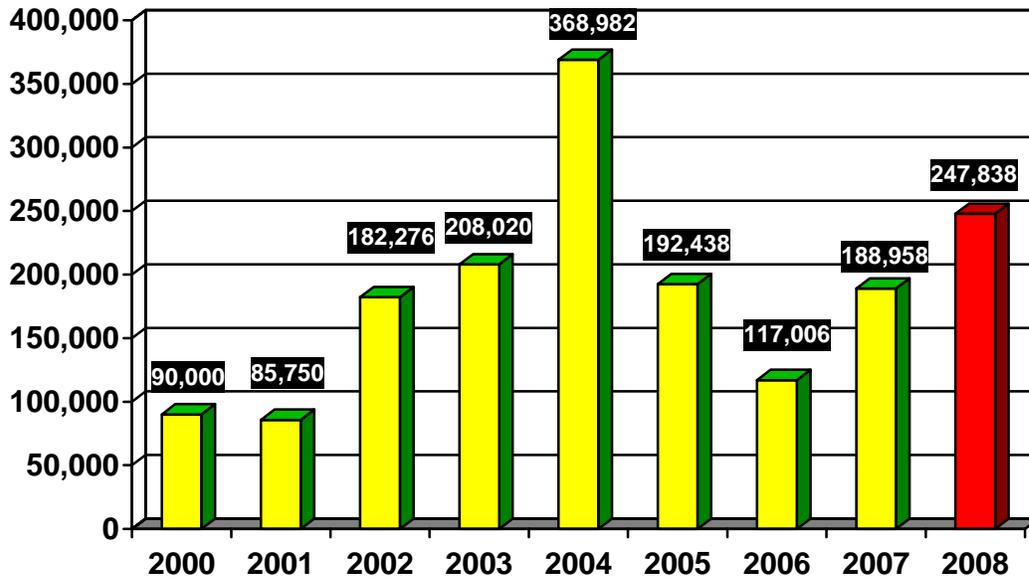
Rank	County	Carbaryl Bait Distributed (lbs)	Number of Distributions
1	Latah	73,900	131
2	Washington	31,250	42
3	Adams	26,150	68
4	Cassia	20,500	25
5	Kootenai	20,500	35
6	Owyhee	18,238	42
7	Elmore	10,500	4
8	Camas	9,250	5
9	Benewah	8,900	12
10	Lincoln	4,550	9
11	Oneida	4,350	28
12	Bingham	3,600	8
13	Valley	3,100	8
14	Gem	2,500	1
15	Ada	2,100	2
16	Blaine	1,950	2
17	Power	1,250	12
18	Idaho	1,000	1
19	9 Other Counties	4,250	35
Totals	27 Counties	247,838	470

2008 ISDA Carbaryl Distribution to Private Land Owners by Zipcode *

* Distribution for the top 25 counties only



ISDA GRASSHOPPER AND MORMON CRICKET SUPPRESSION PROGRAM
POUNDS OF CARBARYL BAIT DISTRIBUTED TO PRIVATE LANDOWNERS 2000-2008



ISDA GRASSHOPPER/MORMON CRICKET PROGRAM - MAJOR COOPERATORS

During the 2008 season the following cooperators provided significant help in bait distributions and overall program delivery:

- University of Idaho, Extension Service, Adams County
- University of Idaho, Extension Service, Bannock County
- University of Idaho, Extension Service, Benewah County.
- University of Idaho, Extension Service, Cassia County
- University of Idaho, Extension Service, Franklin County
- University of Idaho, Extension Service, Latah County
- University of Idaho, Extension Service, Nez Perce County
- University of Idaho, Extension Service, Oneida County
- Randy Rowe Trucking Company, Twin Falls, ID.
- Boise County Road Department, Gardena, ID.
- Long Valley Farm Services, Donnelly, ID.
- Midvale Phone Company, Midvale, ID.
- Primeland Cooperative – Grangeville, ID.
- Primeland Cooperative – Lewiston, ID.
- Primeland Cooperative – Moscow, ID.

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***2008 PUBLIC OUTREACH AND EDUCATIONAL PRESENTATIONS ON INVASIVE SPECIES, PEST SURVEY AND DETECTION AND GRASSHOPPER MANAGEMENT PROGRAMS**

Date	ISDA Staff	Event	Target Audience
January 10	Simko	ISDA Legislative Breakfast Invasive Insect Presentation	Idaho state legislators and other policy makers
February 22	Simko	Kootenai Valley Nursery Growers Associations Winter Conference	Nursery growers and allied personnel
March 5	Simko	PI Investigator Training Exotic Tree Borers	ISDA Plant Industries investigators
March 6	Simko/Lawson	ID House Agricultural Affairs Committee 2007 ISDA Grasshopper Program Report	Idaho state legislators
March 13	Simko/Lawson	ID Senate Agricultural Affairs Committee 2007 ISDA Grasshopper Program Report	Idaho state legislators
March 17	Simko	Mountain Home Chamber of Commerce	Local business and civic leaders
March 18	Simko	Eagle City Horticulture Training	Eagle City residents
April 9	Simko	Valley County Pesticide Applicator Training	Local pest control operators and applicators
April 11	Simko	Boise State University, Horticulture Class	Undergraduate students
April 16	Simko	Idaho Invasive Species Council	ID department al officials
April 22	Simko/Lawson	ISDA and U of Wyoming Grasshopper IPM Workshop	Government and university staff involved in grasshopper management in southern Idaho
May 15	Simko	SW Idaho PI Investigator LBAM Training	ISDA Plant Industries investigators
May 14	Simko	SW Idaho Fruit Growers Lunch Meeting	Local tree fruit growers and crop consultants
May 20-21	Simko	ISDA Grasshopper Program Outreach	Latah, Benewah County landowners
May 28	Simko	U of I Extension Educators Grasshopper Program Training, Twin Falls	South central Idaho U of I extension educators
July 30	Simko	Idaho State CAPS Committee Updates and 09 Planning	Committee members
August 23	Simko	Idaho Botanical Garden Bug Day	Ada county youth
September 23	Simko	NW Branch, International Society of Arborist Conference	Certified arborist from the PNW region
October 2	Simko	Ad Hoc Grower Meeting Abandoned Orchard Protocols	Local orchardists and extension educators
November 13	Simko	ID Mosquito and Vector Control Association Annual Conference	Vector control professionals
November 25	Simko	ID Horticulture Society Annual Conference	Fruit growers, allied industry and government reps
December 9 & 11	Simko	ID Environmental Care Association Annual Conference Boise and Twin Falls	Licensed professional pest control operators
December 10	Lawson	Owyhee Pesticide Applicators Training	Local growers and ranchers
December 16	Simko, Heckathorne	Meridian City Gypsy Moth Delimiting Survey Report	City executives, council and department heads

Date	ISDA Staff	Event	Target Audience
January 10	Ferriter	ISDA Legislative Breakfast – Invasive Species Program	Idaho state legislators and other policy makers
January 15	Ferriter	National ANS Task Force	Federal partners
January 15	Ferriter	Idaho Nursery and Landscape Association	Industry
January 22	Woolf/Ferriter	Bruneau Hydrilla outreach	Local ranchers and water users
January 30	Ferriter	Idaho Weed Conference	Weed superintendents and weed control professionals
January 30	Ferriter	National Park Service meeting	NPS Staff
March 13	Ferriter	Western Regional Panel	Western Aquatic Nuisance Species managers
March 19	Ferriter	Southwest Weed Control Superintendents	Weed Superintendents
March 25	Ferriter	Weed Supervisors Meeting	Idaho Weed Supervisors
March 22	Ferriter	Bruneau Field Day – Invasive Species	Local landowners and water users
March 23	Ferriter	Columbia River Basin Aquatic Nuisance Species	WA, OR, MT, ID Aquatic Nuisance Species managers
April 11	Ferriter	Federated Fly Fishers of America	Anglers
April 28	Ferriter	Watercraft Inspection Training	State and Federal agency personnel – Boise Area
April 29	Ferriter	Watercraft Inspection Training	State and Federal Agency personnel – Northern Idaho
July 15	Ferriter	Watercraft Inspection Training	State and Federal agency personnel – Eastern Idaho
October 7	Ferriter	Weed Summit Annual Meeting	State and Federal partners
December 10	Ferriter	USFS National Invasive Species Coordinator's Annual Meeting	USFS Program leaders
January 15	Safford	Payette County Cooperative Weed Management Meeting	Farmers
January 28	Safford	Caldwell Ag Show	Farmers
February 6	Safford	Payette County Weed Control Recertification Seminar	Farmers
March 19	Safford	Southwest Idaho Weed Control Association Meeting	Weed Control Industry
May 21	Safford	Balloons over Idaho Club	Hot air balloon owners
June 12	Safford	Lower Weiser Cooperative Weed Management Weed Tour	Farmers and Government Weed Workers
June 18	Safford	Ada County Master Gardeners Meeting	Master Gardeners
June 24	Safford	Treasure Valley Backcountry Horsemen Meeting	Equine Recreationists
December 1	Safford	University of Idaho Recertification Seminar	Farmers
December 17	Safford	Payette County Weed Control Recertification Seminar	Farmers

Date	ISDA Staff	Event	Target Audience
January 15	Woof	Idaho Aquatic Nuisance Species Taskforce	Idaho invasive aquatic species managers
January 16	Woof	Idaho Invasive Species Council	State Agencies and cooperators who work with Invasive Aquatic Species
January 17	Woof	Bruneau Hydrilla Meeting	Bruneau residents and state and Federal cooperators
January 28	Woof	Idaho Weed Coordinating Committee	County Weed Managers
January 30	Woof	Idaho Weed Conference	Regional Weed Managers
February 21	Woof	Washington County Noxious Weed Meeting	Weed Managers in Washington County
March 4	Woof	Western Aquatic Plant Management Society	Western Aquatic Plant Managers
March 13	Woof	DEQ BURP Annual Supervisor Meeting	Idaho BURP field crews
March 19	Woof	Southwest Weed Control Association Meeting	Idaho Weed Managers
March 21	Woof	Boise State University Horticulture Class Presentation	Undergraduate Students
April 10	Woof	Northside Tri County CWMA Meeting	Weed Managers
April 16	Woof	Idaho Invasive Species Council & Idaho Aquatic Nuisance Species Taskforce Meeting	Invasive Aquatic Species Managers from State Agencies and Federal Partners
April 22	Woof	Bonner County Invasive Aquatic Species Taskforce Meeting	Invasive Species Working Group
April 24	Woof	Eurasian Watermilfoil Public Information Meeting Harrison, ID	Harrison Residents
May 21	Woof	Eurasian Watermilfoil Informational Meeting, Sandpoint, ID	Bonner County Residents
May 22	Woof	Southside Middle School Invasive Species Presentation	5 th and 6 th Grade Students
May 22	Woof	Cocolalla Lake Association Meeting	Bonner County Residents
June 18	Woof	Eastern Idaho Eurasian Watermilfoil Meeting, Twin Falls	Eastern Idaho Weed Managers
June 21	Woof	Idaho Native Plant Society Annual Meeting	Public Interested in Invasive Aquatic Species
July 15	Woof	Idaho Invasive Species Council & Idaho Aquatic Nuisance Species Taskforce Meeting	Invasive Aquatic Species Managers from State Agencies and Federal Partners
August 26	Woof	Priest Lake Public Eurasian Watermilfoil Survey	Priest Lake Residents
September 4	Woof	Oregon Weed Board Meeting	Oregon Weed Managers
September 10	Woof	Bruneau Hydrilla Meeting	Bruneau residents and state and Federal cooperators
September 17	Woof	Northern Interior Columbia Basin Invasive Aquatic Plant Summit. Coeur d'Alene, ID	Regional Aquatic Weed Managers

Date	ISDA Staff	Event	Target Audience
September 18	Woof	Central Kootenai Invasive Plant Committee Community Workshop. Nelson, BC	Regional Weed Managers and Interested Public
October 29	Woof	ISDA Inspector Annual Training	ISDA Agriculture Inspectors
November 12	Woof	Idaho Invasive Species Council & Idaho Aquatic Nuisance Species Taskforce Meeting	Invasive Aquatic Species Managers from State Agencies and Federal Partners
December 8	Woof	Friends of the Teton River Waterwise Presentation. Driggs, ID	Public Interested in Invasive Aquatic Species

ISDA acknowledges the cooperation received from the University of Idaho, Plant Soils and Entomological Sciences Department faculty and staff for assistance in surveys and diagnostics.

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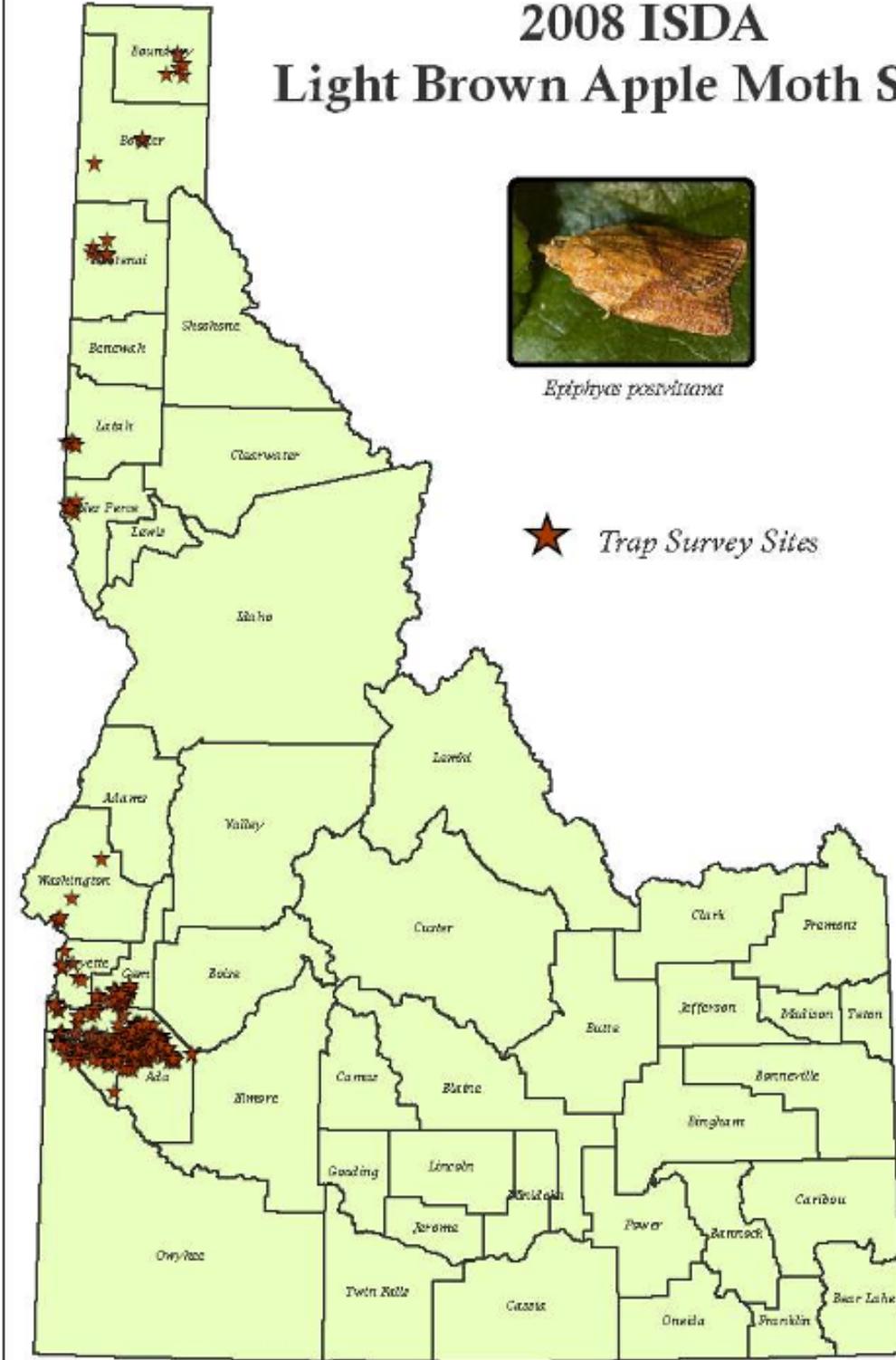
ISDA Website: www.agri.idaho.gov This report as well as past year's summary reports are available at the ISDA Website:
<http://www.agri.idaho.gov/Categories/PlantsInsects/RegulatedAndInvasiveInsects/Insectsformreports.php>

2008 ISDA Light Brown Apple Moth Survey



Ephyas postvittana

★ *Trap Survey Sites*

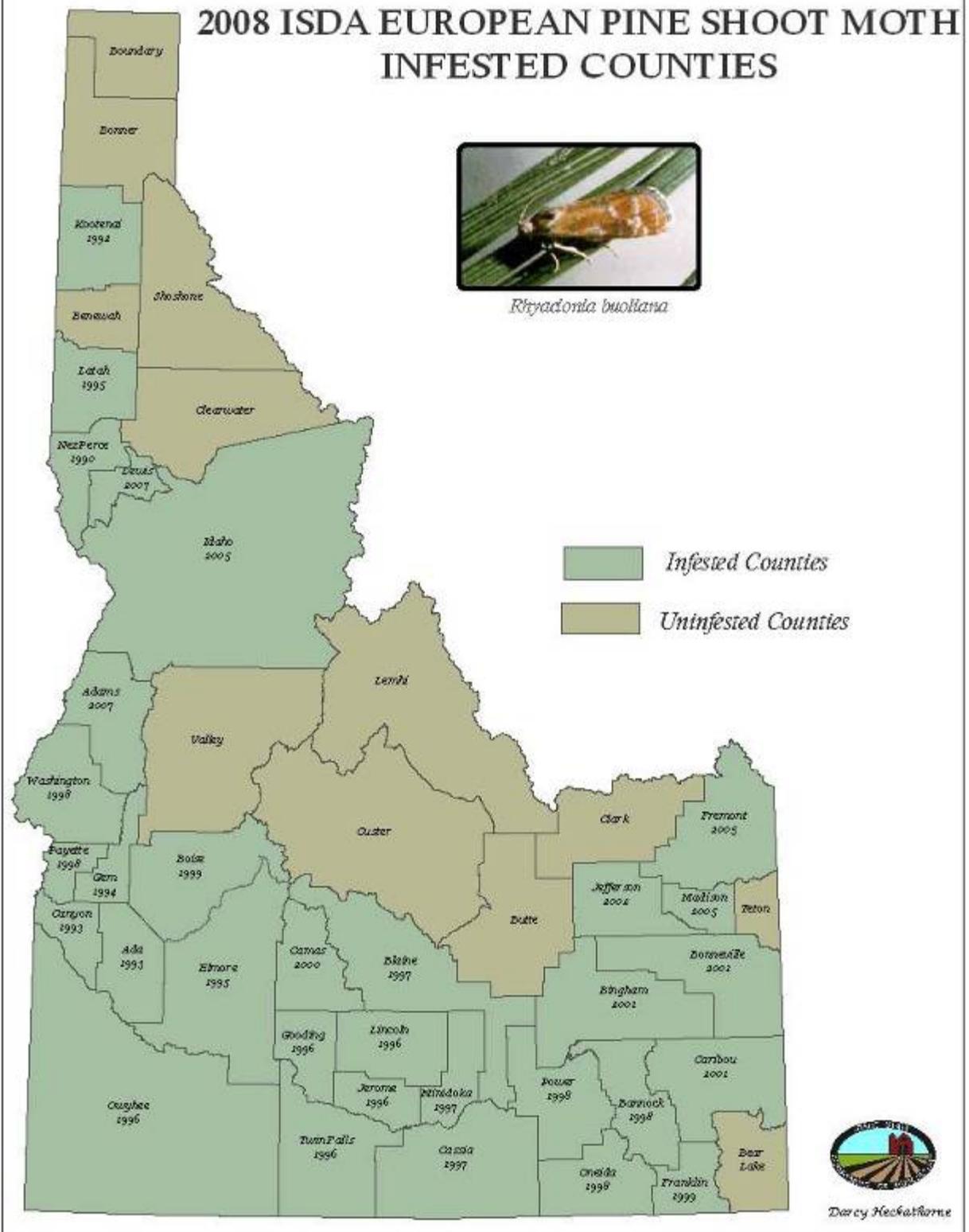


Darcy Heckelbence

2008 ISDA EUROPEAN PINE SHOOT MOTH INFESTED COUNTIES



Rhyacionia buoliana

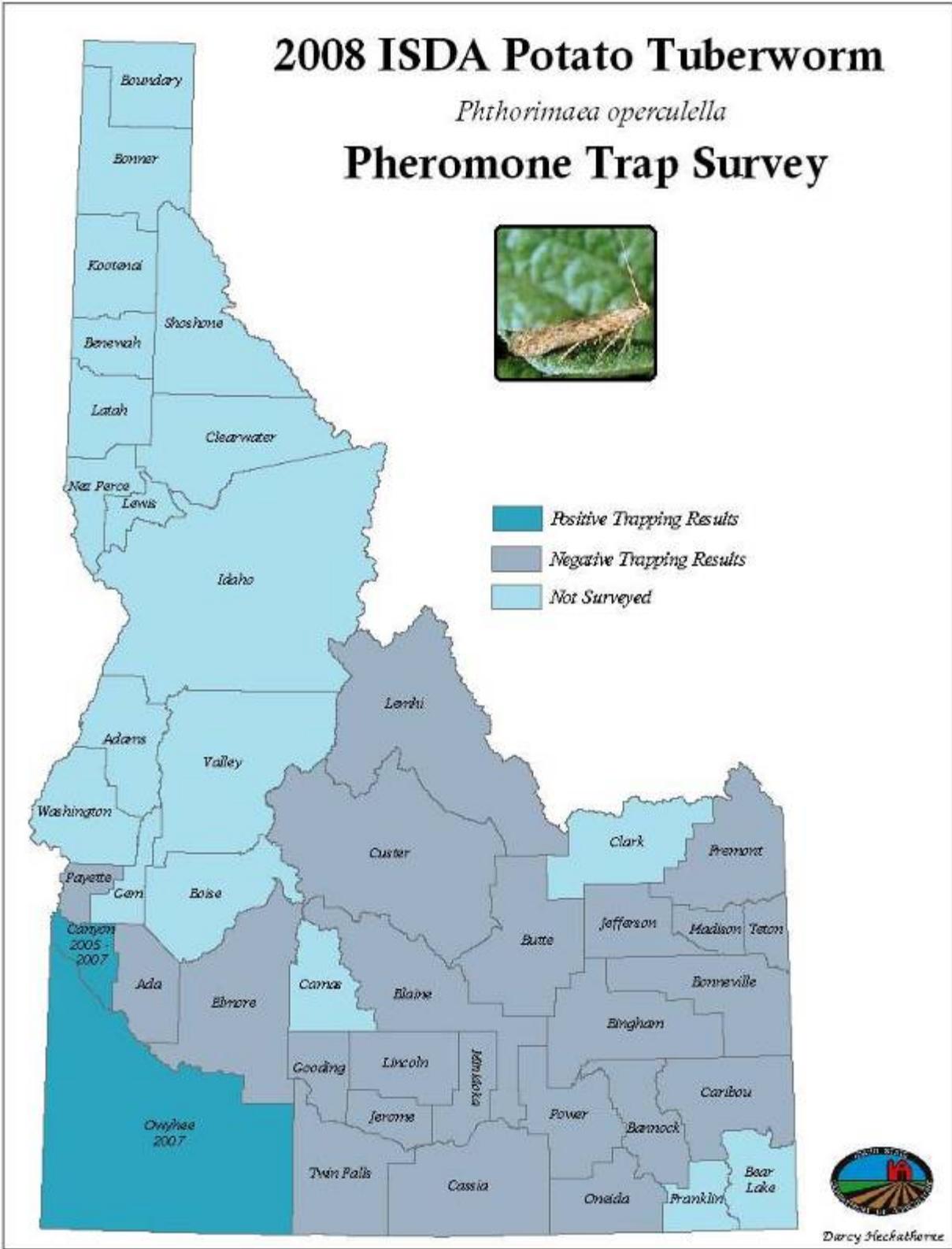


Darcy Heckathorn

2008 ISDA Potato Tuberworm

Phthorimaea operculella

Pheromone Trap Survey



2008 Idaho Ant Survey

ISDA, Division of Plant Industries
University of Idaho, W.F. Barr
Entomology Museum

Cooperators:

ISDA AG Resources

Idaho Environmental Care Association

Idaho Mosquito and Vector Control Association



Collection sites

