

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

**2009 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 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 industries 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 2009 to enforce Idaho Statutes and meet the broader mission of the Department.



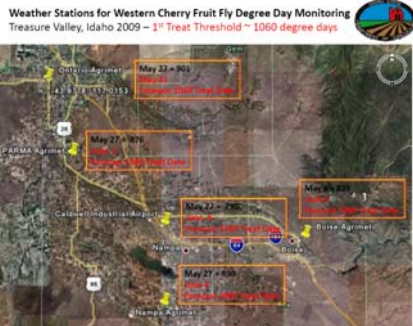
APPLE MAGGOT (AM) (*Rhagoletis pomonella* Walsh) – ISDA established, by Administrative Rule, an AM-free regulated area containing the major apple productions of the state. An annual trapping program using yellow panel traps and ammonium carbonate dispenser surveys for AM within areas just outside this regulated area. In 2009, 405 traps were placed in six counties (Boise, Canyon, Gem, Owyhee, Payette and Washington) in commercial apple orchards and home landscape trees. **Again, this year, 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. Nine positive traps were found in Washington County near the quarantine line. Of these sites, four were **outside** of the AM-free zone and five positive sites were recorded **just within** the AM-free zone. Additionally, as a prophylactic control measure, red AM attract and kill spheres were deployed at several sites where AM adults were captured in 2008. Species confirmations were made through genitalia dissections performed by the ISDA entomologist. The Department plans to continue with an area-wide detection survey in 2010.

Apple Maggot Eight-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
2009	68	103	9	8.7

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) require this for compliance with their Western Cherry Fruit Fly Quarantine for states wishing to export fresh sweet cherries into or through California. The cherry import permits for all NW states were reviewed and efforts to streamline the permitting process were continued. Fruit flies were first caught in yellow panel traps at a site near Sunnyslope on June 1 and at



a site in Gem County on June 2, 2009. A degree-day model was 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 to all Idaho cherry growers in cooperation with the Idaho Cherry Commission. 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.

Western Cherry Fruit Fly Degree Day Accumulations 2005 - 2009

Site	2009 Forecast 1 st Treatment Recommended 1060 degree-day	2008	2007	2006	2005
Boise	June 3	June 17	June 1	June 4	May 26
Caldwell	June 6	June 16	June 3	June 1	May 27
Emmett	Not available	Not available	June 6	June 11	May 30
Nampa	June 4	June 16	June 3	June 5	May 26
Ontario	May 31	June 13	May 24	May 31	June 1
Payette	Not available	Not available	May 31	May 31	May 20
Parma	June 1	June 14	June 1	June 3	May 23



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 81 EPSM traps in nurseries and pine tree plantations spread over 12 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, especially in Austrian pine nurseries. Idaho pine tree growers are experiencing increased EPSM pest pressure. 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 38.

GYPSY MOTH (GM) (*Lymantria dispar* (Linnaeus)) – Report provided by Neal Kittelson Idaho State Department of Lands, Coeur d’Alene, Idaho, 208-666-8626.

ABSTRACT

In 2009, one GM was captured in Idaho. This moth was determined by the OTIS Methods Development Lab (OTIS) to be of the European/North American strain (EGM). This one moth was caught in southwest Idaho, in Rexburg, Madison County (Figure 1, page 8). A delimiting survey is a survey to establish the boundaries of an area considered to be infested by or free from a pest. Delimitation surveys or trapping was conducted at three locations in south Idaho this season and at one location in northern Idaho. In southern Idaho, the first location was surrounding the 2007 capture site of one male EGM in Heise, Jefferson County (Figure 2, page 9); the second delimitation trapping was surrounding the 2007 capture site of one male EGM in Mountain Home, Elmore County (Figure 2); and the third location surrounds the capture sites of two male EGM in Meridian, Ada County (Figure 3, page 10). In northern Idaho, the delimiting survey was surrounding the 2008 capture site of one male EGM in Hayden, Kootenai County (Figure 3).

INTRODUCTION

The GM is a destructive defoliator of forest and shade trees as well as some conifers. Since introduction of the EGM into the United States in 1869, it has spread throughout New England and has become permanently established in all or part of 19 northeast and midwest states. Once a pest becomes established, eradication is usually not possible, and this has been the case for the EGM. The Asian gypsy moth (AGM) was first discovered in North America in 1991 near the port of Vancouver, British Columbia, Canada. Since that time, AGM have been discovered and eradicated in California, Idaho, North Carolina, Oregon, Texas and Washington State. Generally, AGM are introduced by ships moving cargo from overseas, whereas EGM are most often introduced to the west by people moving household items from generally infested areas of the United States.

The State of Idaho has eradicated all introductions of both EGM and AGM. As a result, Idaho has no established infestations of GM. It is the purpose of the Idaho Gypsy Moth Survey Program to detect new introductions of GM in a timely manner, before they become large enough to require extensive treatment for eradication. Delimitation and eradication can then be achieved with the least expense and least risk of environmental impact.

LIFE CYCLE

The GM goes through four life stages: egg, caterpillar (larva), pupa and adult moth. It has one generation per year and overwinters in the egg stage. Each female lays 50-1,000 eggs in one mass which is covered with velvety golden or buff-colored hairs from the female’s abdomen. The egg mass is about ¾ inch wide and 1– 1 ½ inches long and is attached to trees, logs, rocks, buildings, sandbox toys and on outdoor household articles.

Caterpillars hatch from eggs between mid-April and mid-June. This is the only damaging stage. A single caterpillar can eat up to three square feet of leaves in its lifetime. The caterpillars are voracious feeders and can grow to 2" in length. Larger (older) caterpillars have five pairs of blue spots and six pairs of rusty red spots along their backs. They typically feed in the treetops at night but migrate down the trunk to the ground each day as protection from the heat and birds.

Once a caterpillar matures, it transforms into a non-feeding stage called the pupa. The pupa is an immobile stage during which the caterpillar changes into an adult moth. Pupae may gyrate if they are disturbed, but left alone they will appear still as the change occurs. They are dark reddish brown and leathery. A mature caterpillar may produce a flimsy “cocoon” with strands of silk that is used to attach themselves to as a pupa to vertical surfaces. They are usually found in crevices on tree trunks or on larger branches. Pupae may also be found buried in leaf litter.

Adult moths emerge late in July and could be present until early October, depending upon location. Females have tan bodies from 1" to 2" long. Their wings are cream colored with dark brown zigzag markings. They are heavy and do not fly. Instead, females emit a scent (pheromone) to attract a mate. Scientists have been able to produce this pheromone synthetically and use it to trap male moths. Males are medium sized (approx 1½ inch wingspan), brownish gray, have feathery antennae and fly in the late afternoon. Adult moths live for about one week, during which time the sexes mate. Females lay eggs during August and early September, starting the life cycle over again.

HOSTS

The GM caterpillar generally prefer oaks as hosts, however have the ability to feed on several hundred species of trees and shrubs. Preferred broadleaf hosts include oak, apple, alder, aspen, filbert, willow, birch and plum. Coniferous species, such as Douglas-fir and western hemlock, are suitable hosts as well.

HISTORY

Surveys to detect the introduction of the GM, *Lymantria dispar* L., have been conducted in Idaho each year since 1974 (Table 1). The first gypsy moth was discovered in 1986 at Sandpoint in 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 GM have been caught in the treated areas since 1989. In 2004, a GM determined to be of the Asian variety (AGM) was caught 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. GM have been caught in various areas throughout the state in the annual detection surveys from 1986 through 2009 (Table 1).

Cooperating agencies, with accompanying responsibilities in the Idaho gypsy moth 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 gypsy moths.
- 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	Acres Treated
	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	5 B.t.k.
1989	2248		7303	9551	17		51	68	54	380 B.t.k.
1990	5640	358	3268	9266	4	2		6	3	1055 B.t.k.
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	

	NUMBER OF TRAPS SET				NUMBER OF MOTHS CAUGHT ⁶				# POS. TRAPS	Acres Treated
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						1999 <i>B.t.k.</i>
2000	5398	36		5434						
2001	5346			5346	2			2	2	
2002	5024	35		5059						
2003	5582	35		5617						
2004	5875			5875	1 <i>AGM</i>			1	1 <i>AGM</i>	
2005	4989	1441		6430	1			1	1	600 <i>B.t.k.</i>
2006	5380	1473		6853						
2007	4882	1475		6357	2			2	2	
2008	4157	69		4226	3			3	3	
2009	4972	419		5391	1			1	1	

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 2009.

AGENCY	DETECTION TRAPS	DELIMIT TRAPS	MASS TRAPS	TOTAL TRAPS
Idaho Dept. of Lands	2845	49	0	2894
Idaho Dept. of Agriculture	1461	347	0	1808
USFS - Region 4	582	23	0	605
USFS - Region 1	84	0	0	84
TOTALS	4972	419	0	5391

2009 EGM PROGRAM

EGM SURVEY:

Detection Trapping - In 2009, the cooperating agencies in the Idaho GM detection program placed 4917 detection traps throughout the state (Table 2). Trapping costs for the 2009 GM survey program in Idaho are shown in Table 3 (page 6). Table 4 (page 7) shows trap placements by county. Pheromone-baited traps were placed on a grid basis at a density of approximately two-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 GM. 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. Between May 2008 and April 2009, there were 7,844 move-ins to the state; a 17% decrease over the previous year. Campgrounds, tourist attractions, and other high-risk locations were also trapped. One GM was captured in detection traps in 2009 in Rexburg, Madison County. This moth was determined by the OTIS Methods Development Lab (OTIS) to be of the European/North American strain (EGM).

At the Idaho Gypsy Moth Technical Advisory Committee (TAC) meeting in February, 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 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 additionally 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, former IDL Gypsy Moth Program Coordinator.

In a further effort to optimize survey methods, it was decided at the February 2008 TAC meeting to explore GM hazard and risk models pertaining to Idaho. A GM all risk model was produced for Idaho in 2008 and 2009. This model includes a hazard map, produced by BioSim using historic weather data from across Idaho. The hazard map shows the probability of establishment of gypsy moth if introduced. The model also includes a risk map, which was developed using available GIS layers including: vegetation (hosts), roads, highways and railroads (GM entrance pathways), lakes and rivers (tourism and vacation areas) and cities (based on population). These layers were chosen based on the fact that they all affect the introduction rate of GM to Idaho. All of the layers were combined to give an all risk model for Idaho. This model now allows us to optimize trapping activity by evaluating whether trap zones are providing adequate coverage in high risk areas or if there are zones that can be modified because they fall into low risk areas. Another advancement along the same lines is the update to the "move-in" database. The database now houses addresses and geocoded locations for people moving in from gypsy moth infested states. The GM program can now map move-ins using ArcGIS, and along with the all risk model, the program is better able to evaluate trapping efficiency.

Delimitation Trapping – Delimitation trapping for EGM was conducted at four locations in 2009; one in northern Idaho and three in southern Idaho. A second year of delimit trapping surrounding the 2007 capture of one male EGM in Mountain Home, Idaho and the 2007 capture of one male EGM near Heise, Idaho. The first year of delimiting was conducted surrounding the 2008 capture site of one male EGM in Hayden, Idaho. The Hayden survey consisted of 49 traps, and no moths were captured in 2009. The first year of delimiting was also conducted surrounding the 2008 capture sites of two male EGMs in Meridian, Idaho. The Meridian delimit consisted of 303 traps, due to the large amount of "move-ins" in 2008. No gypsy moths were captured in any of the delimiting traps placed in 2009.

Mass Trapping – No mass trapping for EGM was conducted in Idaho in 2009.

2009 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 routes besides ports need increased vigilance. Detection trapping will be adjusted, as necessary, based upon relative risk of AGM introductions.

AGM ERADICATION:

Aerial Spray- No eradication projects were conducted in Idaho during the 2009 season.

AGM SURVEY:

Delimitation Trapping –The final year of the delimitation trapping surround the AGM capture site near Hauser Lake, Idaho was 2007 and the infestation in this area has been declared eradicated. There were no delimit surveys for AGM in 2009 and none are planned for 2010.

2010 PROGRAM

Eradication - No eradications are proposed for the 2010 season.

Delimitation Trapping – Delimitation trapping will be continued at two locations in 2010. The first is surrounding the 2008 capture site of one male EGM in Hayden and the second surrounding the two capture sites in Meridian. A new delimit survey will be conducted in Rexburg following the capture of one male EGM there in 2009. The trap density will be between 16 and 36 traps/ mi² at each location.

Table 3 – Estimated costs of the 2009 gypsy moth survey and treatment program.

AGENCY	COST	
	European GM	Asian GM
State Funds to Idaho Department of Lands and Idaho State	\$77,000	

AGENCY	COST	
	European GM	Asian GM
Department of Agriculture		
USDA – APHIS Cooperative Grant to ISDA and IDL	\$22,500	
US Forest Service- Region 1	\$3,000	
US Forest Service- Region 4	\$15,000	
USDA- APHIS Direct Costs for traps, baits and travel	\$3,000	
Total	\$120,500	
GRAND TOTAL	\$120,500	

Table 4 - 2009 Trap placements by county

County Name	No.	DETECTION 2-4/MILE2	DELIMITATION 16 -36/MILE2	MASS 9/ACRE	TOTAL TRAPS
Ada	1	374	303		677
Bannock	2	120			120
Bear Lake	3	24			24
Benewah	4	196			196
Bingham	5	44			44
Blaine	6	157			157
Boise	7	4			4
Bonner	8	744			732
Bonneville	9	121			121
Boundary	10	46			38
Canyon	11	179			179
Caribou	12	22			22
Cassia	13	23			23
Clark	14	2			2
Clearwater	15	125			111
Custer	16	33			33
Elmore	17	63	44		107
Franklin	18	32			32
Fremont	19	31			31
Gem	20	45			45
Gooding	21	79			79
Idaho	22	142			113
Jefferson	23	20	23		49
Jerome	24	26			26
Kootenai	25	907	49		956
Latah	26	415			414
Lemhi	27	20			20
Lewis	28	34			34
Lincoln	29	16			16
Madison	30	23			23
Minidoka	31	26			26
Nez Perce	32	141			141
Oneida	33	13			13

County Name	No.	DETECTION 2-4/MILE2	DELIMITATION 16 -36/MILE2	MASS 9/ACRE	TOTAL TRAPS
Payette	34	54			54
Power	35	10			10
Shoshone	36	179			161
Teton	37	12			12
Twin Falls	38	215			215
Valley	39	210			210
Washington	40	45			45

Totals	4972	419	0	5391
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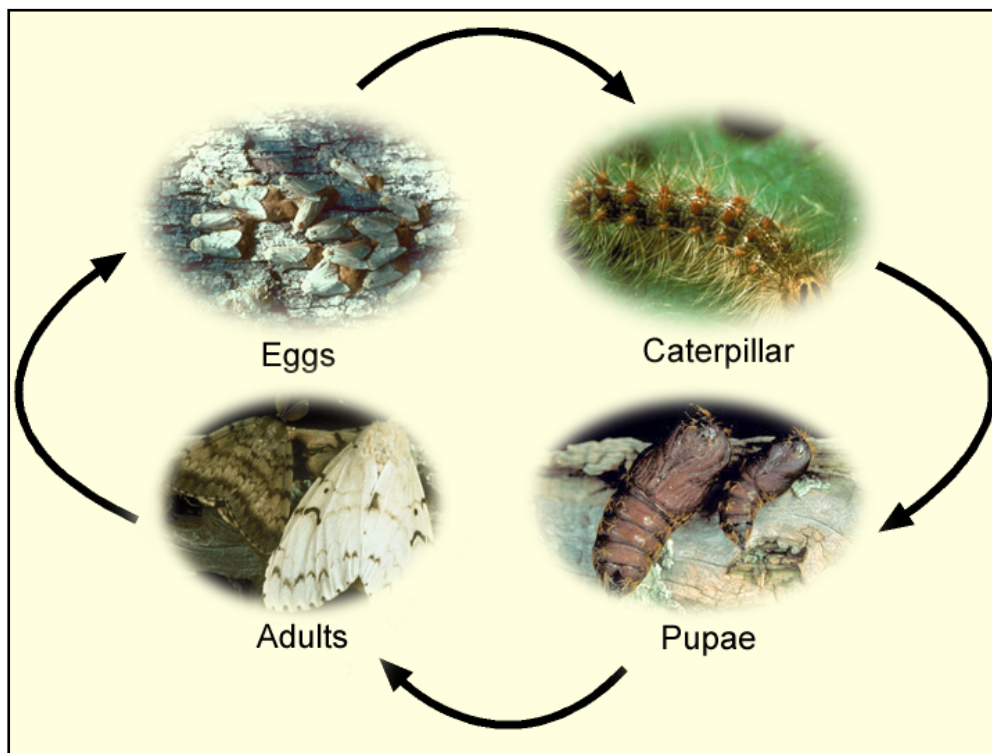


Figure 1: State of Idaho 2009 Gypsy Moth Capture Sites

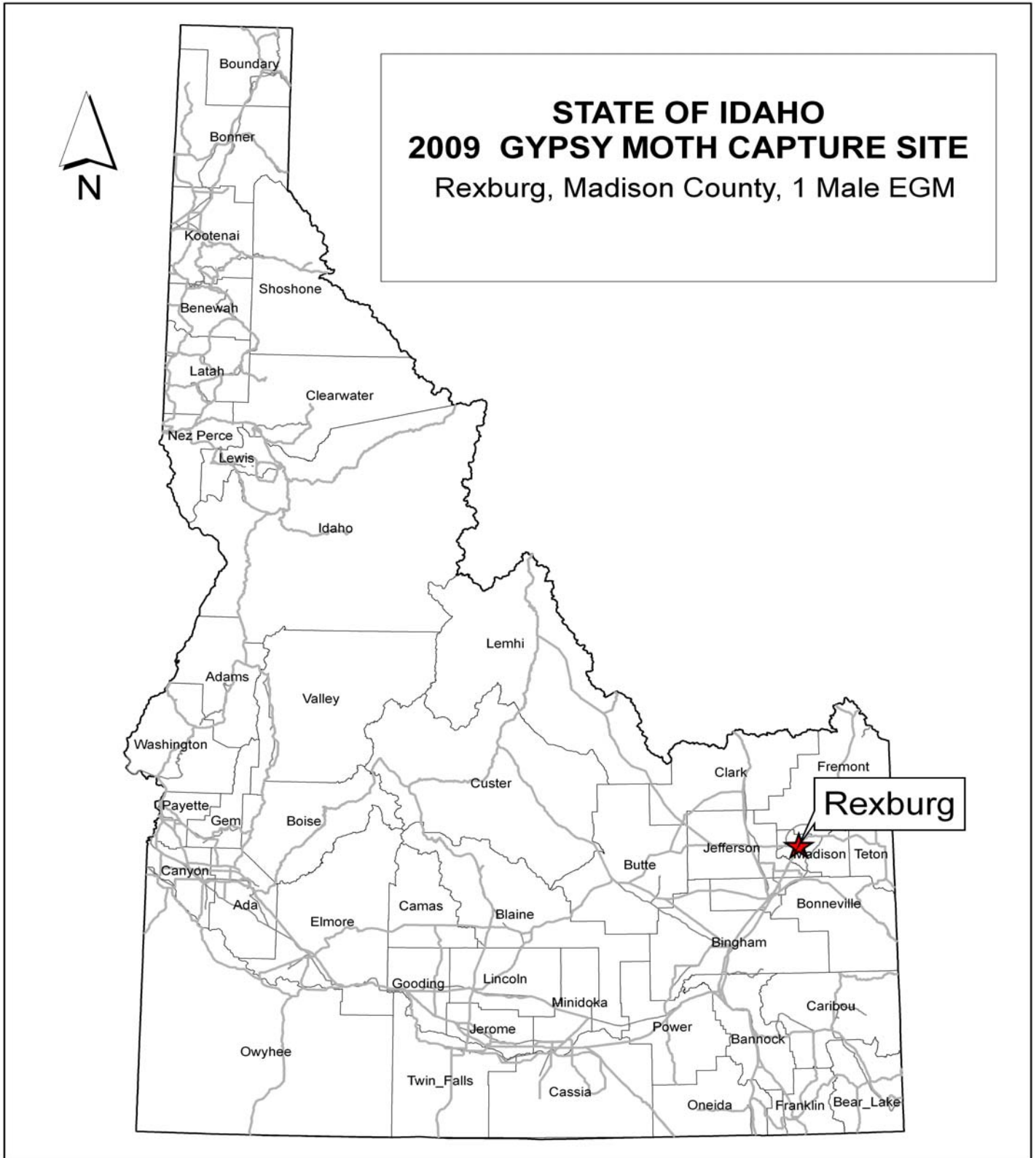


Figure 2: State of Idaho 2007 Gypsy Moth Capture Site

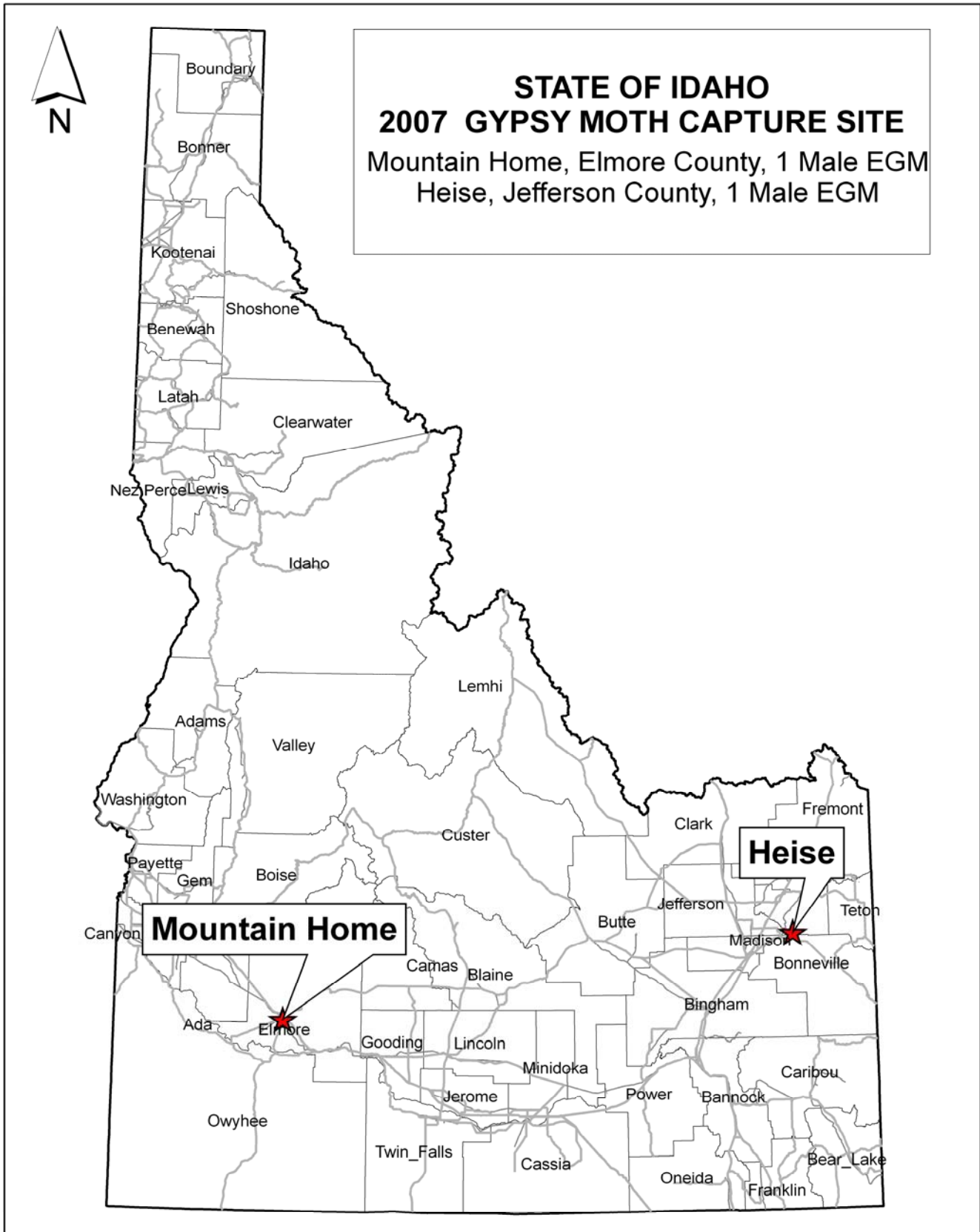
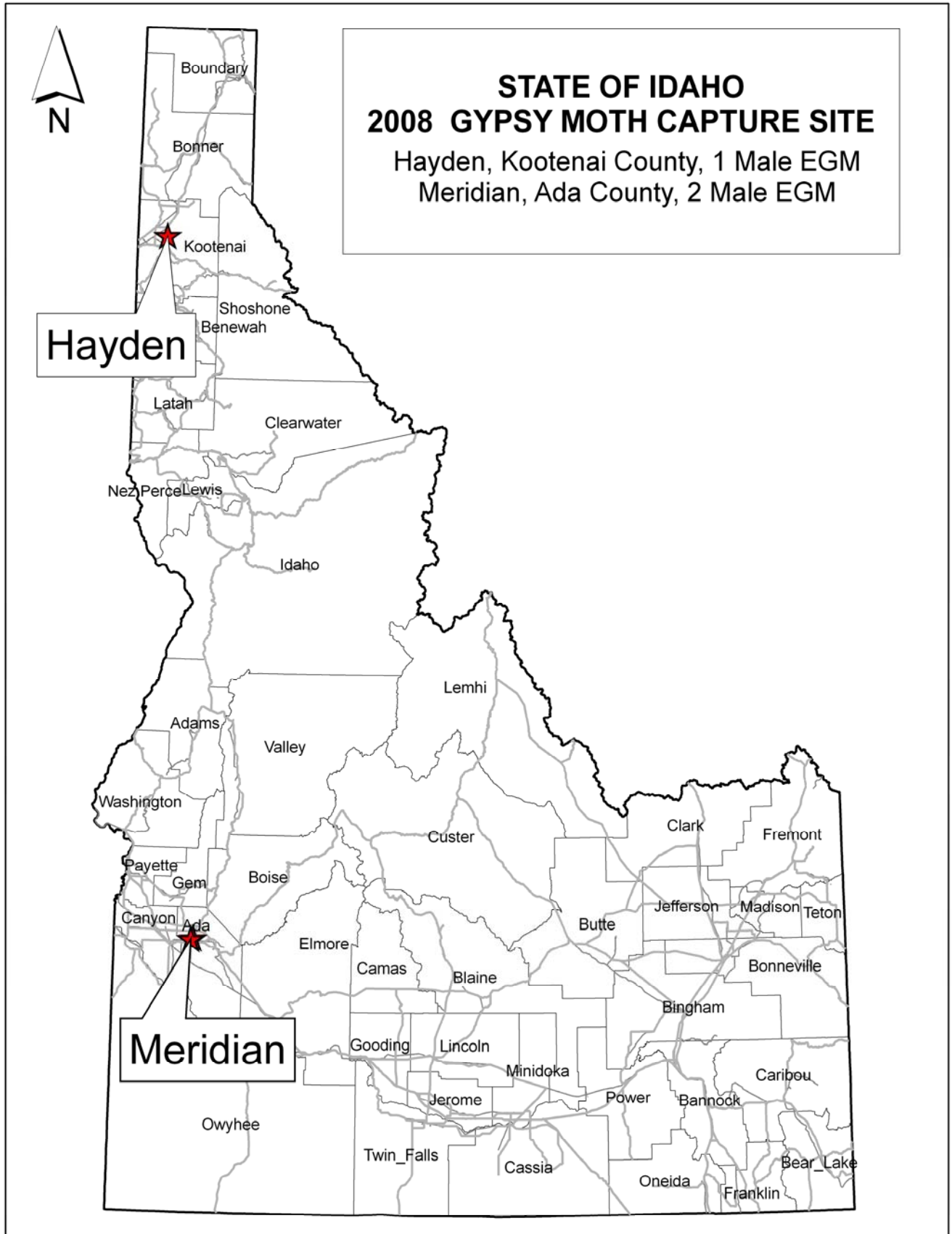


Figure 3: State of Idaho 2008 Gypsy Moth Capture Sites





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, 315 traps were placed in 44 counties in 2009. 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 18 years, averaging 200 traps per season. This was the highest trap year in the history of ISDA surveys. **No JB were captured in 2009 or in the previous ten 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 shipment of container roses was shipped to Idaho from an Oklahoma nursery, a state known to be JB infested. To verify that the shipment was in compliance with the ISDA JB quarantine, residue samples of the potting soil were tested for the insecticide listed on the phytosanitary certificate. The soil residue tests came back positive for bifenthrin residues confirming the required shipment protocol was followed. A JB trap distribution map for the state is located on page 36.



2009 ORIENTAL FRUIT MOTH (*Grapholita molesta*) (LEPIDOPTERA:TORTRICIDAE) PHEROMONE TRAP SURVEY IN SOUTHWEST IDAHO PEACH ORCHARDS

INTRODUCTION

Idaho State Department of Agriculture (ISDA), Division of Plant Industries, in cooperation with the Northwest Horticultural Council, conducted a survey during 2009 for the occurrence of the Oriental Fruit Moth (*Grapholita molesta*) (OFM) in southwest Idaho peach orchards. This pest is known to occur in SW Idaho, based on an official ISDA survey conducted in 1999 and more recent anecdotal reports from crop consultants specializing in stone fruit production. During the 1999 OFM trapping program, ISDA set out a total 62 traps in six SW Idaho counties where the majority of commercial stone fruit production in the state is located. ISDA conducted a new survey in 2009 to assess changes in OFM population densities in essentially the same stone fruit production region of state. The *2007 Census of Agriculture* reports 1,013 acres of peaches in the four counties surveyed for OFM during 2009. This area represents over 86% of the statewide acreage and also includes the dominant packers and shippers operating in Idaho. Canyon County alone contains 938 acres or 80% of the statewide total for peaches. Results of both 1999 and 2009 OFM surveys are presented in this report.



Results of both 1999 and 2009 OFM surveys are presented in this report.

SURVEY METHODS

The 2009 OFM survey was conducted primarily in commercial peach orchards in SW Idaho stone fruit production area including Canyon, Gem, Payette and Washington counties. A total of 50 peach orchards sites (100 total OFM traps) were selected, which included predominately conventionally managed orchards, but also included one organic farm. At each orchard block, two trapping stations were typically set up using Sentry L P Delta traps and Trece OFM Long-Life (12 week) lures. The lures were replaced one time during the trapping season. Traps were deployed between May 12-21 and all traps were removed between October 5-20. Traps were checked about every 10 days from

trap placement through July. An ISDA trapper inspected the traps and all suspect Lepidoptera were examined by the ISDA entomologist for final diagnostics and species identification.

RESULTS

During the 2009 OFM survey all traps were negative for OFM. Sound IPM programs and ecological factors have suppressed OFM pest pressures to very low levels, as reflected by this survey. In addition, in the Idaho stone fruit production area there has been aggressive removal of abandoned orchards since 1999, which reduced OFM population reservoirs contaminating adjacent managed orchards. In conclusion, the phytosanitary risk of shipping OFM-contaminated fruit from Idaho remains minimal for both intra-state and international markets. Trapping results for both the 1999 and 2009 ISDA OFM surveys are summarized in the tables below.

1999 OFM Pheromone Trap Survey

County	Number of Traps	Number of Positive OFM Traps	Total Moths Captured
Boise	1	1	20
Canyon	11	0	0
Gem	25	14	287
Owyhee	2	0	0
Payette	21	0	0
Washington	2	0	0

2009 OFM Pheromone Trap Survey

County	Number of Traps	Number of Positive OFM Traps	Total Moths Captured
Canyon	67	0	0
Gem	16	0	0
Payette	7	0	0
Washington	10	0	0

POTATO TUBERWORM SURVEY (PTW) (*Phthorimaea operculella* Zeller) - The results of the recent surveys are provided in the table below. The highest number of male PTW captured was 19 in 2005. In 2006 and 2007, the PTW numbers dropped off to a statewide total of six and five 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 a 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. In 2009, ISDA set PTW traps at 10 sites on, or in close proximity to the University of Idaho, Parma Experiment Station. This season five adult male PTW were captured. No reports of tuber damage have been reported during the five-year adult survey.

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
2009	10 (Parma, ID)	5	Canyon

LIGHT BROWN APPLE MOTH (LBAM) (*Epiphyas postvittana*) - The exotic tortricid, LBAM, has been detected in several counties in California. USDA, Plant Protection and Quarantine (PPQ) has elevated this pest to a national priority status, funding surveys in most states. Larvae of this species have a plant host range in excess of 150 plant genera in over 70 families. Potential hosts in Idaho include: 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 USDA, PPQ. LBAM has only been reported in USDA Plant Hardiness zones 7 and above. In Idaho, areas of the Treasure Valley and around Lewiston, ID are classified as zone 7. A total of 430 traps were deployed in 14 counties. Of those counties, 69 traps were placed in vineyard sites and 361 traps placed in retail nurseries and other urban landscape sites. Jackson traps with LBAM pheromone lures provided by the Otis Lab, USDA PPQ, Cape Cod, Massachusetts were used in the survey. The average trapping period was 105 days. **No LBAM were detected in this survey.** In 2009, the prominent non-target species captured were *Achyra occidentalis* and *Pyralis orphisalis* (Pyralidae). Determinations of the non-target microlepidopteran species were made with assistance from Dr. Eric LaGasa, Washington State Department of Agriculture, Olympia, WA.



EUROPEAN GRAPEVINE MOTH SURVEY IN IDAHO VINEYARDS (EGM) (*Lobesia botrana*) - The first North

American record for EGM, *Lobesia botrana*, was reported from a vineyard near Oakville, Napa County, California, in October 2009. This tortricid has a host range that includes grapes, olives, blackberries, cherries, nectarines, persimmons and pomegranates. It is a serious multivoltine pest of grapes

feeding on the flowers and fruit. As part of this season's exotic grape insect survey, 64 traps in eight counties were deployed for this species. ISDA used red plastic delta traps baited with pheromone lures provided by OTIS Lab, USDA PPQ, Cape Cod, Massachusetts. The average trapping period was 96 days. **No target species were detected.** Also, no conspicuous indigenous non-target species appeared to be attracted to the EGM pheromone.



GRAPE MEALYBUG (GMB) (*Pseudococcus maritimus*) AND VINE MEALYBUG (VMB) (*Planococcus ficus*) SURVEY IN IDAHO VINEYARDS - GMB is reported in literature as a native

North American species. A description of the GMB (Bakers mealybug) is included in *The Insects of Western North America*, E.O. Essig, 1946 edition. The 2009 edition of the PNW Insect Management Handbook includes management guidelines for this insect in the Grape Pest Section. VMB is an invasive species recently established in several California grape producing areas and is established as far north as Napa and Sonoma Counties. Both wine and table grape plantings were surveyed for two species of grape infesting mealybugs; the GMB, *Pseudococcus maritimus* and the VMB, *Planococcus ficus*. A total of 91 vineyards were selected in 10 Idaho counties. The survey utilized green delta traps baited with synthetic female pheromone for the two species provided by Dr. Jocelyn Millar, Entomology Department, University of California, Riverside. Additional plant surveys were done as part

of the regular servicing of the male mealybug traps. The trapping duration for the VMB males averaged 100 days.

Species determinations on male mealybug specimens captured in the traps as well as females collected on vines were made at ISDA with technical and diagnostic assistance from Dr. Gillian Watson, California Department of Food and Agriculture, Plant Pest Diagnostic Center, Sacramento, CA and Dr. Penny Gullan, University of California, Davis, Entomology Department, Davis, CA. GMB traps at all survey sites were presumptively positive for *Pseudococcus maritimus* males. Infestations of immature and adult female GMB were found at 14 vineyards surveyed with 12 records in Canyon County, one record in Owyhee County, and one record in Twin Falls County. Slide mounts of females were prepared at ISDA with final determinations made by Dr. P. Gullan, University of California, Davis. No active infestations of GMB were observed in the seven vineyard sites in the Lewiston, Idaho area although all traps captured GMB males. **No VMB males were captured at any of the vineyard sites, nor were any infestations of VMB found in the grape plantings.** Previous to this survey University of Idaho



W.F.Barr Entomological Museum did not have an official state record or specimens of *Pseudococcus maritimus* in its collection. Anecdotal reports from vineyard managers indicate first GMB infestations were observed in Canyon County, ID in 2004.

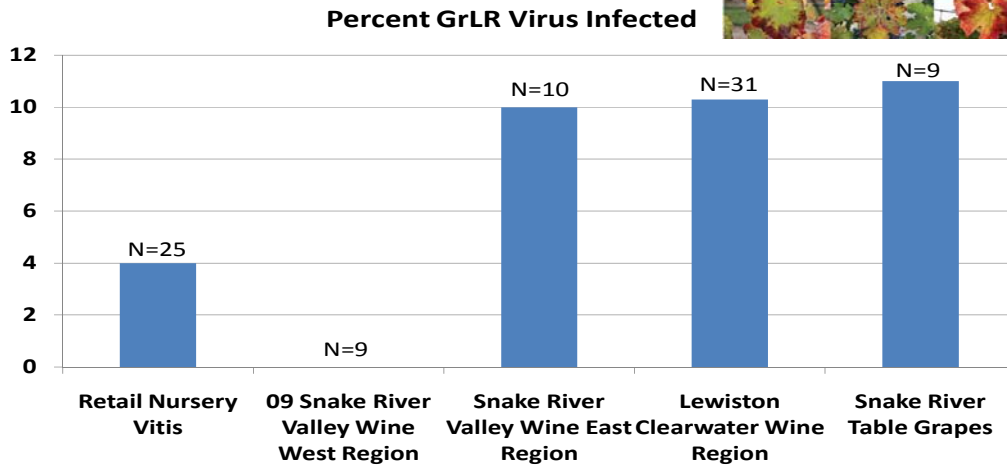
GRAPE DISEASE SURVEY RESULTS – Three grape diseases were surveyed for in conjunction with the GMB and VMB insect pest trapping mentioned above. The diseases surveyed for included Australian Yellows Phytoplasma (AUSGY), Grape leafroll virus complex (GrLRV) and grape fan leaf virus (GFLV). At these sites, visual searches were conducted at the beginning of the growing season for symptoms of AUSGY. **No symptomatic plants were observed for this disease (AUSGY).** A total of 84 vineyard blocks or nursery plants had leaf samples analyzed for virus infection and 25 dormant whole plant samples were collected from retail nurseries selected from across the state. The



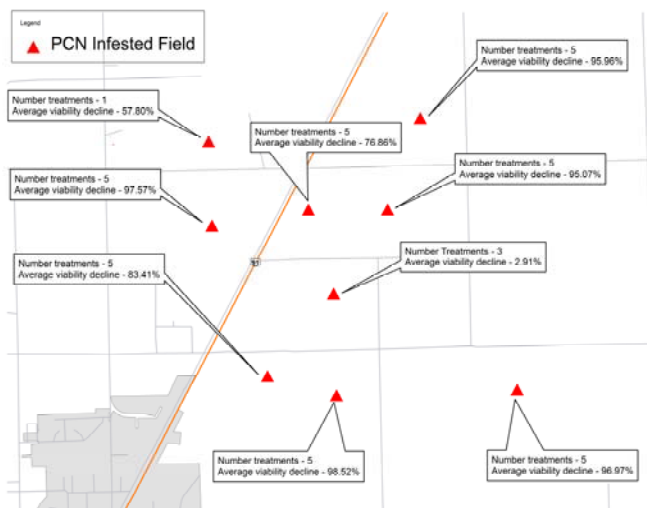
plants were placed in the ISDA greenhouse to break dormancy and accelerate foliar growth. Foliage samples were then collected and diagnostics were run for virus infections. During the harvest season, 59 vineyard sites were surveyed and suspected virus infected leaf samples were collected. A total of 50 wine grape samples were collected for virus diagnostics; 19 samples from the Snake River Valley Wine Region of southern Idaho and 31 samples from the Lewiston - Clearwater Wine Region. Additionally, nine samples were collected from the table grape plantings in the Snake River Valley. **The results of this survey reveal that 6% of the grape samples tested were infected with one or more species of**

GrLRV. One sample out of the 25 of the retail nursery plants was found infected with one species of GrLRV. **None of the samples were positive for GFLV.** The results of the GrLRV, broken down by region and grape class, are provided in the table below. All virus diagnostics were conducted under the supervision of Dr. Alex Karasev, Virologist, University of Idaho, Department of Plant Soils and Entomological Sciences, Moscow, Idaho. Virus detection diagnostics employed Polymerase Chain Reaction (PCR) technology.

2009 ISDA/U of I Grape Virus Survey



POTATO CYST NEMATODE (PCN) (*Globodera pallida*) – PCN is a pest of both state and national regulatory concern. PCN infestations are currently limited to nine fields near Shelley, Idaho, covering an area of 1,100 acres. An additional 3,889 acres remain under regulation. A total of 17,120 acres of associated fields in the regulated area were released from their regulated status in 2009. The final Federal quarantine rule for PCN in Idaho was published in April of 2009. Parallel ISDA rules are still in effect. USDA and ISDA continue a cooperative multi-faceted eradication effort in the regulated area. Cooperative Agreements between ISDA and impacted growers, for the management of the PCN, are in place and functioning. Since the initial detection of PCN in April of 2006, more than 190,000 soil samples have been collected and analyzed to support Idaho’s freedom from PCN. Approximately 49,000 of the processed samples came from seed acreage. No additional PCN infestations have been detected to date beyond the current 1,100 acres.



The adjacent map depicts the infested field sites with the current record of PCN treatment(s) per field. Information on average PCN viability decline per treated field is also indicated. Research is ongoing at the University of Idaho, Plant Soils and Entomological Sciences Department, to determine the efficacy of selected fumigation treatments used in the PCN eradication effort. Bio-secure greenhouse studies will help elucidate the relative performance of the treatments. Preliminary results of these experiments and the continued post treatment sampling data from regulated fields give cautious optimism for the eventual eradication of PCN from Idaho.

KARNAL BUNT (KB) (*Tilletia indica*) – ISDA collected 39 wheat samples from 17 counties in Idaho for the 2009 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 2009 survey.

COUNTY	Number of KB Samples	COUNTY	Number of KB Samples
Ada	1	Idaho	5
Benewah	2	Jerome	2
Bingham	1	Kootenia	1
Bonneville	4	Latah	7
Butte	1	Minidoka	4
Caribou	2	Oneida	1
Clark	1	Payette	1
Franklin	1	Twin Falls	4
Gem	1		

DISEASES AND PESTS FOUND DURING 2009 FIELD INSPECTIONS FOR EXPORT CERTIFICATION

In 2009, 43 seed companies submitted a total of 3,532 fields representing 33 crops. Total acres submitted for inspection was 36,541, with the number of acres actually inspected being 72,184 acres, due to multiple inspections required for some crop diseases. This is a decrease in firms from the 50 participants in 2008, but a 6% increase in acreage from the 34,439 submitted in 2008.

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
2009	43	33	3,532	36,541	72,184

Alfalfa seed: A total of 995.4 acres were submitted for inspection in 49 fields during the 2009 growing season. There were 121 acres that tested positive for 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. alfalfa* were not observed during the 2009 field inspection season.

Allium (excluding Garlic): One hundred fifty nine fields totaling 801.97 acres of Chive and Onion were inspected. All fields inspected were found apparently free from *Peronospora destructor*, *Urocystis colchici*, *Alternaria porri*, *Puccinia asparagi*, *Colletotrichum circinans*, *Ditylenchus dipsaci* and *Sclerotium cepivorum*. *Botrytis aclada* was observed in 57 acres, and 6 acres of onions were found positive for *Sclerotinia spp.*

Arugula: One field of four acres was inspected in 2009. No symptoms of *Alternaria brassicae*, *Colletotrichum orbiculare*, *Fusarium oxysporum f. sp. conglutians*, *Plasmiodiophora brassica*, *Rhizoctonia solani*, or *Sclerotinia spp.* were found.

Beans, Dry: A total of 101 fields with 1,507.6 acres of Dry Beans were submitted for inspection in 2009. 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 4.5 acres were found to be infected with *Sclerotinia spp.* In addition, there were no reported observations of Bean common

mosaic potyvirus, *Colletotrichum truncatum*, Peanut stunt cucumovirus, or Tobacco streak virus in fields requested to be inspected for these diseases.

Beans, Garden: A total of 15,840.52 acres in 933 fields were submitted for inspection in 2009. 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. Five acres were found to be infected with Brown spot. 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 fields requested to be inspected for these diseases. One hundred thirty two acres were found to have *Sclerotinia* spp., and 65 acres were found positive for *Fusarium oxysporum* f. sp. *phaseoli*. An additional 130 acres was positive for Halo Blight.

Brassicas: A total of 5 fields and 51 acres of Collards, Cabbage, Mustard and Turnip were submitted and inspected in 2009. No fields were found positive for *Leptosphaeria maculans*, *Xanthomonas campestris* pv. *campestris* or *Pseudomonas syringae* pv. *maculicola*. Seventeen acres were found to have *Alternaria brassicae*.

Carrot: A total of 1,230.67 acres in 335 fields were inspected in 2009. *Alternaria radicina* was found in 62.5 acres. There were no observations of *Alternaria dauci*, *Pectobacterium carotovorum* pv. *carotovorum*, *Xanthomonas campestris* pv. *carotae*.

Coriander: One field of 12 acres was submitted for inspection.

Corn: In 2009, there were 13,768.8 acres in 766 fields individually inspected. High plains virus (HPV) was observed in 459.6 acres, and Wheat streak mosaic potyvirus (WSM) was observed in 64.3 acres. *Sporisorium holci-sorghii* was observed in 590.05 acres and *Ustilago zaeae* was reported in 5,135.81 acres. Maize dwarf mosaic potyvirus (MDMV) was not observed in 2009. Sugarcane mosaic potyvirus was observed in 4.5 acres. These statistics include 214 acres in 12 fields submitted for inspection and testing for export to Australia. Of these fields, 160 acres in 9 fields met the Australian guidelines. Two fields with 46 acres failed due to testing positive for Wheat streak mosaic virus. One field with eight acres failed due to testing positive for High plains virus.

Cress: Two fields with five acres were submitted for inspection in 2009.

Dill: Two fields with 41 acres were submitted for field inspection. There were no cases of *Cercospora carotae* or *Pythium* spp. during inspection.

Endive: There were two acres inspected in one field of Endive during the 2009 season. No Lettuce mosaic potyvirus (LMV), Tomato spotted wilt tospovirus, *Xanthomonas axonopodis* pv. *vitians* or *Septoria lactucae* was observed.

Eragrostis Tef: Two fields of 132 acres were submitted for inspection in 2009.

Garlic: Three fields totaling 1.5 acres were inspected and found free from any disease symptoms of quarantine significance, including *Sclerotium cepivorum* (Onion white rot).

Grain Seeds: A total of 249.99 acres in 620 fields of Barley, Grain Sorghum, Oats and Wheat were inspected.

Lettuce: There were 230 acres submitted in 30 fields of Lettuce in 2009. No Lettuce mosaic potyvirus (LMV) was observed.

Mint: Eleven fields totaling 59.2 acres were inspected and found apparently free from *Verticillium dahliae*, Mint root borer (*Fumibotys fumalis*), and Mint stem borer (*Pseudobaris nigrina*).

Peas: In 2009, there were 6,602.44 acres of peas submitted for individual inspection in 443 fields and 1,149.4 acres in 23 fields submitted for area inspection. In total there were 13,315.2 acres inspected due to multiple inspection requirements for certain diseases. *Pseudomonas syringae* pv. *pisi* was found in 145.5 acres, and *Fusarium oxysporum* f. sp. *pisi* was observed in 40.4 acres. *Ascochyta pisi*, and *Erwinia rhapontici* were not found in any fields inspected. In addition, no symptoms of Pea seedborne mosaic virus were observed during 2009 inspections.

Potato: There were no potato fields submitted for inspection in 2009.

Radish: There were 359 acres submitted for inspection in 2009 in 25 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 2009. Fifty-five 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: Two fields totaling 40 acres were inspected and found apparently free from *Plasmopora halstedii*.

Vine Crops: Twelve fields totaling 5.65 acres of Cantaloupe, Cucumber, Pumpkin, Squash, Watermelon and Zucchini were submitted and inspected in 2009. 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 2009 FIELD SEASON

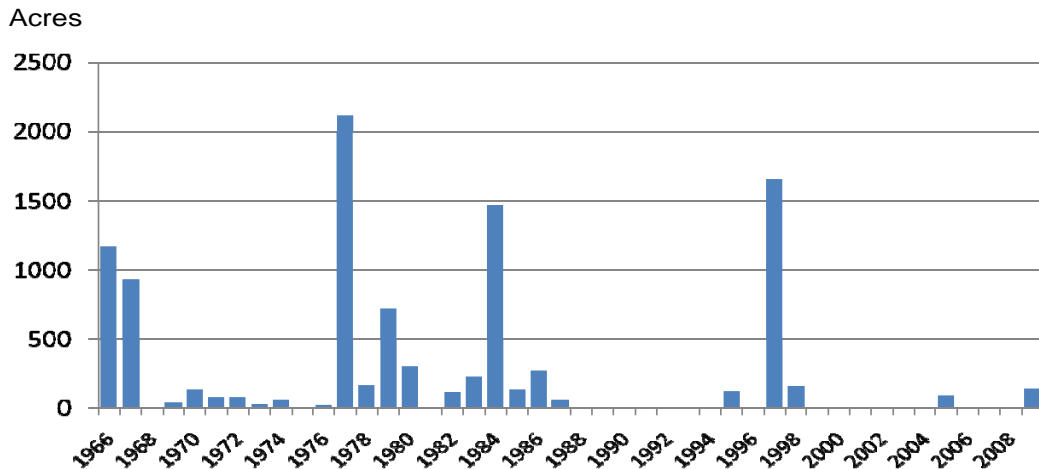
SPECIES	Number of Fields	SUBMITTED ACRES	INSPECTED ACRES
Alfalfa	49	995.40	995.40
Arugula	1	4.00	4.00
Barley	606	155.39	155.39
Beans, Dry	101	1,507.60	3,447.60
Beans, Garden	933	15,840.52	37,326.92
Cabbage	1	5.00	5.00
Cantaloupe	4	0.89	0.89
Carrot	335	1,230.67	1,221.67
Chive	1	8.00	8.00
Collards	1	1.00	1.00
Coriander	1	12.00	12.00
Corn	766	7,044.90	13,768.80
Corn, Area	5	121.00	0.00
Cress	2	5.00	5.00
Cucumber	1	0.14	0.14
Dill	2	41.00	41.00
Endive	1	2.00	2.00
Eragrostis TEF	2	132.00	132.00
Garlic	3	1.50	1.50
Grain Sorghum	9	85.60	85.60
Lettuce	30	230.00	230.00
Mint	11	59.20	118.40
Mustard	1	4.00	4.00
Oats	2	2.00	2.00
Onion	158	793.97	793.98
Peas	443	6,602.44	13,315.20
Peas, Area	23	1,149.40	0.00
Pumpkin	2	1.50	1.50
Radish	25	359.00	359.00
Red Clover	1	55.00	55.00
Squash	3	2.07	2.07
Sunflower	2	40.00	40.00
Turnip	2	41.00	41.00
Watermelon	1	1.00	1.00
Wheat	3	7.00	7.00

SPECIES	Number of Fields	SUBMITTED ACRES	INSPECTED ACRES
Zucchini	1	0.05	0.05
TOTALS	3,532	36,541.24	72,184.11

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

History of Blight Infected Bean Seed Fields in Idaho

ISDA Inspection Program to Comply with IDAPA 02.06.04



EXPORT CERTIFICATION FOR THE 2009 CALENDAR YEAR – The ISDA issued 4,610 Federal and 437 State Phytosanitary Certificates for 69 different types of commodities to 84 countries. The Division of Plant Industries certified over 283 million pounds of seed and other commodities for export. The ISDA operates this program under a Memorandum of Understanding with the USDA.

2009 PLANT PATHOLOGY LAB SUMMARY

In 2009 the ISDA Plant Pathology Lab received 1,106 samples of plants and plant materials. A total of 3,063 tests were completed on this material. This was an increase in the number of samples received compared with last year, but a decrease in the number of tests run. The average turnover time was similar to last year of 26 days per sample. Please find the specifics in the table below.

Of interest in this year's report was an outbreak of Halo Blight (*Pseudomonas savastanoi pv phaseolicola*) on beans in the Magic Valley. It was discovered during routine field inspections. Also, one field of beans was found infected with *Pseudomonas syringae pv syringae* (Brown Spot), during a windrow inspection.

Three lots of corn seed tested positive for *High Plains Virus (HPV)* using a grow-out test followed by an ELISA. This is an unusual incidence as the infection rate of HPV in seed is thought to be at one infected seed per 10,000. In the field, over 12% of the crops sampled were positive for HPV. This is the continuation of a trend noticed last year where over 16% of the corn crop samples were infected with HPV. There was also a significant amount of both Common Corn Smut (*Ustilago maydis*) and Head Smut (*Sporisorium reilianum*) in the corn crop this year.

There were two other diseases of note in this year's field inspections. The first was *Verticillium tricorpus* in Peppermint. This is not a pathogen of mint, but is believed to assist the crop in warding off infection by *Verticillium dahliae*, a true mint pathogen. *Alternaria brassicae* was also found in turnip, which has not been seen very often in Idaho.

Outside of the usual seed testing and field inspection work, the Plant Pathology Lab participated in two surveys. The first is our annual Karnal Bunt (*Tilletia indica*) survey. Thirty-nine samples were received from 17 counties. All samples were assessed for Karnal Bunt by the USDA, in Olney, TX. All samples were negative.

The second survey in which the Plant Pathology Lab participated was a Cooperative Agricultural Pest Survey (CAPS) for grape pathogens and insects. For more details of this survey please see pg. 14 of this year's report.

CROP		# SAMPLES	# TESTS		POSITIVES (Organism)	TURNOVER TIME (DAYS/SAMPLE)
Bean						
	seed	235	1185			29.43
	field	187	348		9 (<i>Fusarium oxysporum</i>)	24.50
					5 (<i>Sclerotinia sclerotiorum</i>)	
					1 (Beet Curly Top)	
					1 (<i>Pseudomonas savastanoi pv. phaseolicola</i>)	
					1 (<i>Pseudomonas syringae pv. syringae</i>)	
Misc Seed						22.35
	alfalfa	17	38			
	barley	1	1			
	broccoli	1	2			
	chickpea	4	4			
	clover	2	2			
	corn	19	25		3 (<i>High Plains Virus</i>)	
	onion	3	5			
	radish	4	8			
	wheat	4	6			
Potato	"Year Out"	15	60		Potato Virus A (avg = %3.25)	
					Potato Virus Y (avg = %13.34)	
					Potato Leaf Roll Virus (avg = %0.7)	
Sudden Oak Death						
	traceforward	8	8			
	nursery survey	4	4			
Karnal Bunt Survey		39	39			
Misc Field						26.00
	Alfalfa	28	41		4 (<i>Alfalfa Mosaic Virus</i>)	
					3 (<i>Peronospora trifoliorum</i>)	
					3 (<i>Phoma medicaginis</i>)	
	Barley	3	5		1 (<i>Helminthosporium sativum</i>)	
	Blue Spruce	3	3		2 (<i>Rhizosphaeria</i> needle cast)	
	Carrot	38	43		6 (<i>Alternaria radicina</i>)	
					1 (<i>Pythium</i> sp)	
					1 (<i>Rhizoctonia</i> sp.)	

CROP		# SAMPLES	# TESTS		POSITIVES (Organism)		TURNOVER TIME (DAYS/SAMPLE)
					2 (<i>Sclerotinia sclerotiorum</i>)		
	Corn	325	1017		41 (<i>High Plains Virus</i>)		
					2 (<i>Puccinia sorghi</i>)		
					29 (<i>Sporisorium reilianum</i>)		
					17 (<i>Ustilago maydis</i>)		
					2 (<i>Wheat Streak Mosaic Virus</i>)		
	Cress	1	1				
	Cucumber	1	4				
CROP		# SAMPLES	# TESTS		POSITIVES (Organism)		TURNOVER TIME (DAYS/SAMPLE)
	Endive	1	1				
	Geranium	2	2		1 (<i>Botrytis</i> sp)		
	Lavatera	1	2				
	Lettuce	4	4		1 (<i>Lettuce Mosaic Virus</i>)		
					1 (<i>Sclerotinia sclerotiorum</i>)		
	Mandevilla	1	1		1 (<i>Botrytis</i> sp)		
	Mountain Ash	1	2				
	Onion	32	38		6 (<i>Botrytis allii</i>)		
	Pea	93	125		5 (<i>Pseudomonas syringae</i> pv. <i>pis</i>)		
					6 (<i>Phoma medicaginis</i>)		
					1 (<i>Fusarium oxysporum</i>)		
	Pear	1	2				
	Peppermint	8	8		1 (<i>Verticillium tricorpus</i>)		
	Physocarpus	1	2				
	Pine	1	1		1 (<i>Dothiostroma</i> or <i>Lecanosticta</i>)		
	Primrose	1	1		1 (<i>Botrytis</i> sp)		
	Radish	4	4		1 (<i>Albugo candida</i>)		
	Safflower	1	2				
	Sorghum (grain)	4	7				
	Spearmint	5	5				
	Sunflower	1	2				
	Tomato	1	4				
	Turnip	1	1		1 (<i>Alternaria brassicae</i>)		
TOTAL		1106	3063				26.00

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 potential infected suppliers. Trace forward samples are indicated in red in the summary table below. Also, during the course of regularly scheduled nursery inspection symptomatic plant sample were submitted (indicated in black). All samples run for *P. ramorum* blight diagnostic were negative. Idaho still remains *P. ramorum* free.



Inspection Date	Establishment	Location	County	Diagnostic Results
April 30, 2009	Jacky Flowers	Blackfoot	Bingham	1 sample
May 8, 2009	Far West Landscape	Boise	Ada	2 samples
June 5, 2009	Szabo/Bali	Haily/Ketchum	Blaine	1 sample
June 4, 2009	Molly Hess – residence	Boise	Ada	3 samples
June 5, 2009	Benjamin Long – residence	Caldwell	Canyon	2 samples
July 7 2009	Lowe's	Boise	Ada	1 sample
July 13, 2009	John Deere Landscapes	Meridian	Ada	1 sample
July 23	Laura Moore Cunningham Park	Boise	Ada	1 sample

SEED LAB SUMMARY



The Idaho State Seed Laboratory received 3,139 service samples in fiscal year 2009 and completed 5,370 tests. Top crops for services were grains, peas, beans, alfalfa, sagebrush, wheatgrass, saltbush, onion, corn and penstemon. Two-hundred thirty-two regulatory enforcement samples were tested for purity, germination, licensing and labeling requirements, with 177 total violations; 48 resulting in enforcement actions.

CULL ONION INSPECTIONS AND ACTIONS

The 2009 season in the Idaho's southwest counties for detection of cull onions disposal sites started by monitoring these counties by vehicle and air to try to identify the areas of concern before violations occurred. Some of the areas of concern are listed below and were monitored by vehicle afterwards and no formal action was taken. There was one dairy in Fruitland that had complaints about odor and cull onions. This dairy mixes cull onions in with its feed on a daily basis so all the culls that were brought in were disposed of daily by feeding. A regulatory visit was done with no formal action taken. Six onion sheds were monitored and were in compliance with no formal action taken. One of the sheds named Cry Baby Produce in Weiser had complaints of cull onions and cull onion skins being dumped in piles behind their shed on concrete. Several visits were made to Cry Baby Produce and the situation was brought into compliance without formal action. Two sheep ranches were monitored. One was located in Roswell and one in Weiser. These were in compliance. No formal action was taken. One fruit ranch on Sunnyslope Rd. in Caldwell was monitored and was in compliance with no formal action taken. In early December, an inspection was conducted at the former Matthews feedlot on Sunnyside Rd. in Weiser because of a complaint of cull onions supposedly dumped there. After monitoring the entire site no evidence of cull onions was found.

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 6,984 inspections and took action against various pest threats and other violations. In the 2009 calendar year, there were over 1,926 licensed nurseries, and of those, 1,349 were inspected for compliance with the Idaho Nursery and Florists Law 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	123	1	0	2
Onion White Rot	259	4	2	12
European Corn Borer	331	0	0	0

Quarantine/Pests	NO. OF INSPECTIONS	Incidents	Corrective Action	Stop Sales
Japanese Beetle	668	0	0	3
Mint Quarantine	113	0	0	0
Crop Management Zone	44	0	0	0
Grape Quarantine	166	3	2	4
Peach Tree Quarantine	71	0	0	0
Sudden Oak Death	420	3	3	3
Pine Shoot Beetle	419	0	0	0
Gypsy Moth	644	0	0	0
Red Imported Fire Ants	483	0	0	0
Noxious Weeds	829	38	8	3
Idaho Seed Law	295	5	2	97
Nematodes	1	0	0	0
Aphids	943	22	5	0
Late Blight	316	0	0	0
Hops	12	0	0	0
Retail Potatoes	62	0	0	0
General Pests	77	59	20	22
Snails	708	6	5	8
Day Lily Rust	0	0	0	0
Total Inspections	6,984	141	47	154



ISDA NOXIOUS WEED PROGRAM SUMMARY

In the battle against noxious weeds, 2009 was another productive year. 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. Two additional CWMA's were formed and began the collective battle against noxious weeds in Idaho this year. CWMAs in Idaho continue to excel at bringing people together across agency and administrative boundaries to fight the spread of noxious weeds.

Their efforts helped to protect wild land habitat, ecosystem diversity, recreational opportunities and agriculture in Idaho. A total of \$2.3 million was distributed in 2008 from cost share grants to CWMAs for on-the-ground integrated weed management.

Program applicants provided over \$7.2 million in matching contributions, which resulted in a total of over 190,000 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 four million



contacts were made state-wide for noxious weed education and awareness. Final numbers for the 2009 Noxious Weed Cost Share Program were still being compiled at the time of 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 (NWF) to prevent the introduction and spread of noxious weeds. ISDA administers this program to facilitate compliance for equine users and re-vegetation managers. In 2009, ISDA conducted NWFFS Inspector training throughout the state. Over 8,500 acres forage and straw was inspected and certified NWF by trained CWMA's and county cooperators for a value of over \$3.3 million.

NWF products, such as hay bales, forage cubes, twice-compressed forage bales, straw bales and pellets are increasingly more accessible and available to horse and mule recreationalists. Education continues to be a focus of the NWFFS program. About 14,000 NWFFS brochures were produced and distributed to every U.S. Forest Service office, Idaho Fish and Game office, Backcountry Horsemen chapter in Idaho and County Weed Superintendent office. These offices and chapters will distribute the brochures to the public. The NWFFS program plays an important role in protecting Idaho's wild places from noxious weed introductions.



An example of NWFFS education/outreach booth at an Idaho equine event, 276 riders participated.



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, which can make boating and fishing impossible. Dense plant growth degrades water quality in 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 experienced its fourth year of treatment and prevention efforts in 2009, and continue throughout Idaho. Over 11,000 acres of EWM have been treated in Idaho since 2006 using herbicides, diver-assisted suction dredging, and benthic barriers. Approximately \$930,000 was distributed in 2009 for treatment, education, survey and prevention projects throughout the state. Surveys performed have illustrated a significant reduction in EWM populations in treated waterbodies and eradication appears to have been achieved in a number of lakes. The surveys have also illustrated that native plant abundance and diversity has increased following the EWM treatments, providing improved habitat for invertebrates, fish and waterfowl.

To date, EWM has not been found in Eastern Idaho. 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 no invasive aquatic species have been detected in the lake to date. Fremont County,

along with local residents and nonprofit groups, received funding through the Milfoil Program for boat wash stations and education 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 has been 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 has been identified in Boise along 400 meters of a geothermally-influenced ditch. This population was treated by hand removal several times in 2008 and 2009 and periodic inspection will continue in 2010. 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. No Brazilian elodea was identified following survey of treated ponds in 2009. Continued survey for this aggressive invader is ongoing.



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. It also establishes the **Idaho Invasive Species Fund (IISF)**.

A new **Invasive Species Prevention Sticker Law** was passed in 2009. It requires motorized and non-motorized boats to have an Invasive Species Sticker to launch and operate in Idaho. The sticker program is administered by the Idaho Department of Parks and Recreation. Revenue generated by this program is deposited in the IISF. The IISF is administered by the Idaho State Department of Agriculture. While the sticker program and the invasive species programs are linked through the IISF, the programs are independent in nature.

Through revenue generated by the Invasive Species Prevention Sticker Law, (and deposited in the IISF), ISDA has developed a comprehensive statewide program designed to educate the public about aquatic invasive species, monitor Idaho water bodies for possible introduction of those species, and inspect and decontaminate watercraft that travel to and through Idaho.

More than 18,500 inspections were conducted at 17 Idaho inspection stations during the 2009 boating season. Below is a summary of 2009 operations:

Summary of Operations:

- **Highway Signage** – Signage to warn incoming vessel owners about the threat, penalties, and contact information for obtaining free inspections were made by Idaho Correctional Industries, and installed by the Idaho Transportation Department. The 37 highway signs were erected at the state line.
- **Boat Launch Signage** – All public boat launches (370) were posted with signs advising the public to “Clean, Drain and Dry” their watercraft.
- **Billboards** - Ten billboards were posted at or near the state line throughout the boating season.
- **Outreach activities** - Live read radio and spot radio began running in the Boise, Idaho Falls, Pocatello, Twin Falls, Spokane and Logan markets. Utility staffers, posters, brochures and other outreach materials were distributed statewide on a continual basis.
- **Inspection and Decontamination services** - Idaho-based private businesses were used to provide inspection and decontamination services from 7-7, 7 days a week at the following 10 locations:
 - Old Town Roving Weigh Station Highway 2; Milepost 2
 - Farragut State Park East RV Dump
 - Heutter Rest Area I-90; Milepost 8.5
 - Post Falls Cabela's
 - Lewiston US 12; Milepost 12.5
 - Weiser Roving Weigh Station US 95; Milepost 85
 - Marsing (Old Port Site) ID 55/US 95 Junction
 - Rodgerson US 93; Milepost 9.5
 - Juniper Rest Area I-84; Milepost 269
 - Malad Rest Area I-15; Milepost 7Public-private partnerships provided inspection and decontamination services at the following 7 locations:
 - Cocolalla Lake Public Boat Ramp
 - Red Fish Lake Information Center
 - Bear Lake US 89/North Shore Road
 - Montpelier Downtown
 - Henry's Lake Wildrose RV Park
 - Henry's Lake County Boat Dock
 - Henry's Lake Henry's Lake State Park
- **Monitoring** - Early detection will be key to the potential for eradication in Idaho. Idaho's waterbodies have been prioritized based on calcium levels and use by recreational boaters. Ninety “Critical” and “Very High” risk waterbodies have been identified and will be sampled

throughout the season as veliger (the microscopic immature stage of the mussels) densities fluctuate significantly, and can be easily missed.

***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. Forty-three percent, or 21.8 million acres in Idaho, are classified for use 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 2009 with damage to crop production, gardens and landscapes observed throughout these regions. The southeast and southwest infestations were a mixture of *Melanoplus sanguinipes*, *M. femurrubrum*, *Aulocara ellioti* and *Camnula pellucida* grasshopper species. The infestations found further north in Kootenai and Bonner Counties were dominated by the *Camnula pellucida* grasshopper. The activity in northern Idaho is troubling since the degree and areas of infestation have continued to increase in the past two years. No environmental factors occurred that would significantly reduce the grasshopper numbers from laying eggs this fall for next year. It is reasonable to expect significant grasshopper outbreaks to occur in several areas of the state during the 2010 season.

Summary of Mormon Cricket Survey Results

The Mormon cricket, *Anabrus simplex*, outbreak increased in 2009 compared to 2008. Particularly heavy infestations occurred in Owyhee and Washington Counties. The Owyhee County infestation was primarily along the western slopes and concentrated south of Highway 95 towards the Oregon border. The Washington County infestation was concentrated along the eastern and southern slopes in the Sturgill Mountain drainages of Adams, Keithly, Mann and Monroe Creeks. Infestations declined in the southeastern region of the state based on fewer calls to ISDA concerning the Mormon cricket. Control activities significantly increased in 2009 compared to 2008 due to the infestations in Owyhee and Washington Counties.

The long-legged cricket, *Anabrus longipes*, was found for the second year and further north in Kootenai County. In the Rathrum Prairie of northwestern Kootenai County an unusual outbreak of the shield backed katydid in the genus *Stieroxys* occurred this season. The probable species was *Stieroxys borealis*, or the boreal grass katydid. Collections and baiting were done in July for this species. A rare find was made in 2009 of populations of the Coulee Cricket, *Peranabrus scabricollis*. These outbreaks were centered on the Joseph Plains near Canfield and Whiterbird in Idaho County. Collections of *P. scabricollis* were made June 30, 2009. A single specimen of the Notable Shield bearer, *Apote notabilis*, was found in July within populations of grasshoppers and Mormon crickets in Washington County.

Summary of ISDA Program

In 2009, ISDA continued to suppress outbreaks of grasshopper and Mormon crickets statewide. Over 530 landowners in twenty-six counties received assistance in the form of bait or cost-share spray projects. A total of 428,000 lbs. of bait was distributed to private landowners, an increase of 180,162

lbs. from the bait distributed in 2008. One cost-share project was conducted to protect 14,955 acres from a grasshopper infestation in Oneida County with ISDA assistance of \$11,515.35 to cover 1/2 of the treatment costs. The remaining \$11,515.35 of the cost was paid by the private landowners. In addition, ISDA protected 1,446 acres on impacted state lands and county road rights-of-way in Idaho, Owyhee and Washington Counties.

2009 – ISDA APPLICATION COST SHARE PROJECTS FOR PRIVATE LAND OWNERS FOR GRASSHOPPER SUPPRESSION

Project / Location	Acres Treated	Total Protected Acres*	Insecticide	Cost to ISDA (1/2)	Cost to Private Landowner (1/2)	Total Project Cost	Cost Per Acre Protected
Oneida County	7,478	14,955	Dimilin	\$11,515.35	\$11,515.35	\$23,030.70	\$1.54

ISDA 2009 CARBARYL GROUND BAITING TREATMENTS ON COUNTY ROAD RIGHTS-OF-WAY AND STATE LANDS

Idaho	150 lbs.	15 Acres
Owyhee	20,150 lbs.	1,353 Acres
Washington	900 lbs.	78 Acres
Total	21,200 lbs.	1,446 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
2009	21,200	1,446

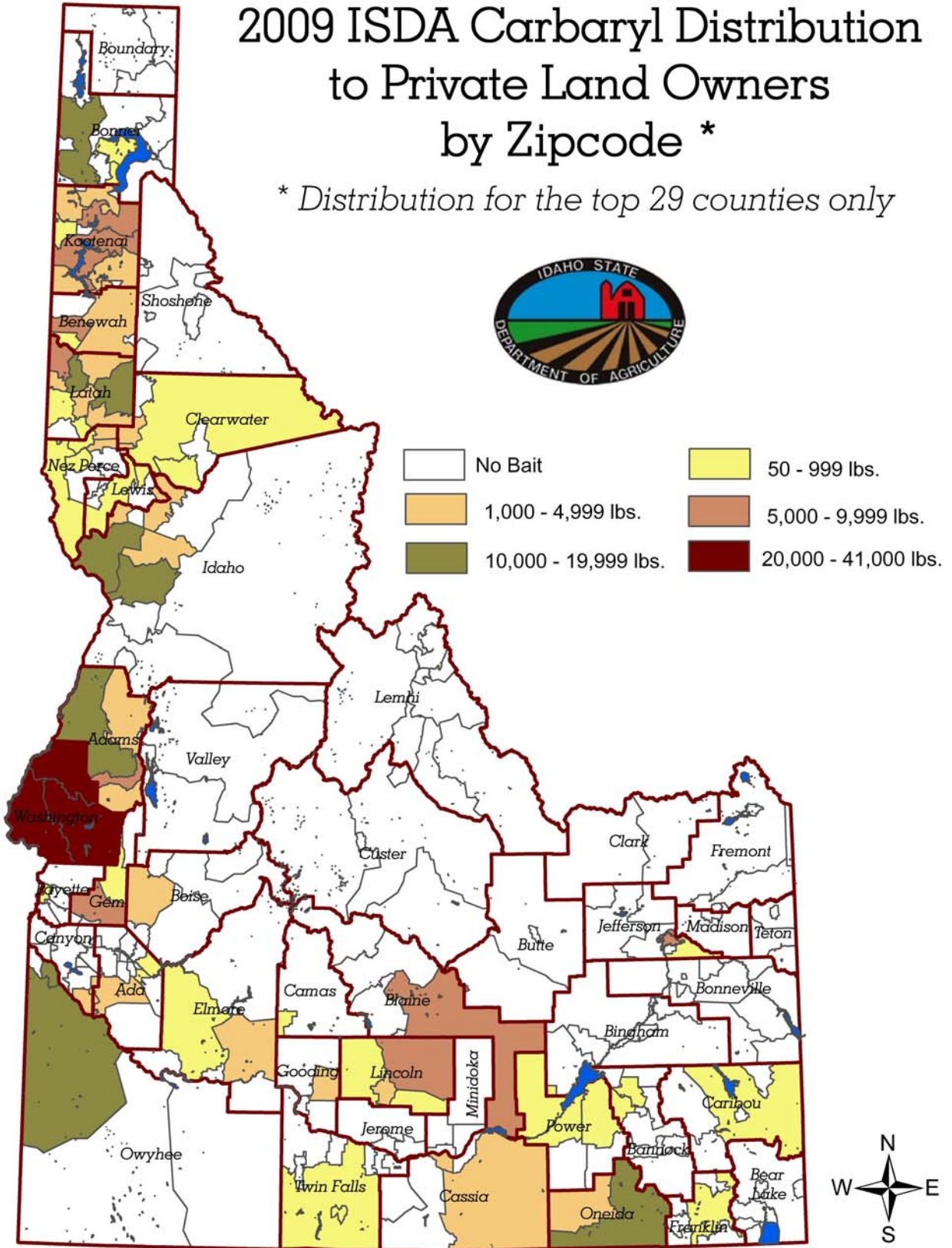
2009 - ISDA BAIT DISTRIBUTIONS TO PRIVATE LANDOWNERS FOR MORMON CRICKET AND GRASSHOPPER SUPPRESSION

Rank	County	Carbaryl Bait Distributed (lbs)	Number of Distributions
1	Washington	115,650	100

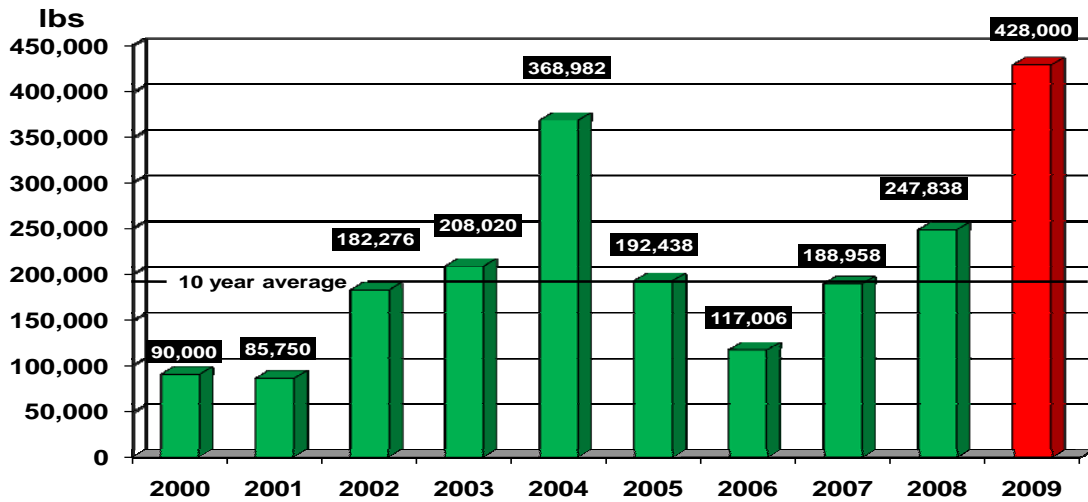
Rank	County	Carbaryl Bait Distributed (lbs)	Number of Distributions
2	Latah	52,700	87
3	Kootenai	50,200	68
4	Idaho	45,050	29
5	Owyhee	39,250	31
6	Adams	26,150	61
7	Bonner	13,650	9
8	Oneida	13,500	38
9	Lincoln	10,950	17
10	Benewah	9,800	12
11	Blaine	9,600	7
12	Boise	6,950	29
13	Elmore	6,600	7
14	Ada	6,250	7
15	Clearwater	4,900	9
16	Gem	4,500	2
17	Cassia	4,150	3
18	Lewis	2,750	2
19	Nez Perce	1,700	6
20	Gooding	1,000	1
21	6 Other Counties	2,700	13
Totals	26 Counties	428,000	538

2009 ISDA Carbaryl Distribution to Private Land Owners by Zipcode *

* Distribution for the top 29 counties only



ISDA, Division of Plant Industries Carbaryl Bait Distribution to Private Land Owners for Grasshopper and Mormon Cricket Suppression



ISDA GRASSHOPPER/MORMON CRICKET PROGRAM - MAJOR COOPERATORS

During the 2009 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, Elmore County
- University of Idaho, Extension Service, Franklin County
- University of Idaho, Extension Service, Jefferson County
- University of Idaho, Extension Service, Latah County
- University of Idaho, Extension Service, Lincoln 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.
- Midvale Phone Company, Midvale, ID.
- Primeland Cooperative – Grangeville, ID.
- Primeland Cooperative – Lewiston, ID.
- Primeland Cooperative – Moscow, ID.
- Wilbur Ellis Company – Potlatch, ID
- Owyhee County Sheriff Office – Murphy, ID
- Pineview Garden Center – Hayden, ID

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***2009 PUBLIC OUTREACH AND EDUCATIONAL PRESENTATIONS ON INVASIVE SPECIES, PEST SURVEY AND DETECTION AND GRASSHOPPER MANAGEMENT PROGRAMS**

Date	ISDA Staff	Event	Target Audience
January 21	Simko	Idaho Nursery and Landscape Association Conference	Nursery growers and allied industry representatives
February 19	Simko	Idaho Wine and Grape Commission	Commodity leaders
February 21	Simko	Snake River Valley Table Grape Growers Association	Table grape growers
February 25	Simko	ID Wine Industry Meeting	Wine and grape producers and allied industry representatives
April 14	Simko	BSU Horticulture Pest Management Class	Undergraduate students
May 20	Simko	Ada County Master Gardener Training Seminar	Local master gardeners
May 21	Simko	KTVB Channel 7 Interview Meridian Gypsy Moth Survey	Treasure Valley viewers
June 1	Simko	Lewiston Area Grape Growers	Grape producers
June 2	Simko/Lawson	ISDA Grasshopper Management Program Update	Local farmers and ranchers
June 16	Simko	Meridian Chamber of Commerce Lunch Meeting Gypsy Moth Survey	Area business leaders
June 21	Simko	Idaho Invasive Species Council	ID department al officials
August 19	Simko/Vavricka	Idaho Wine and Grape Commission	Commodity leaders
August 22	Simko	Idaho Botanical Garden Bug Day	Ada county youth
September 25	Simko	KTVB Channel 7 Interview Meridian Gypsy Moth Survey	Treasure Valley viewers
October 5	Simko	Idaho Invasive Species Council	ID departmental officials
November 18	Simko	PI Investigator Training	PI Investigator Staff
November 23	Simko	ID Horticulture Society Annual Conference	Fruit growers, allied industry and government reps
December 9	Simko	Lewiston Area Wine Grape Growers	Grape producers
December 14	Simko/Lawson	Grasshopper Program Update Gem County PAT	Local growers and ranchers

Date	ISDA Staff	Event	Target Audience
1/10/09	Ferriter	ISDA Legislative Breakfast – Invasive Species Program	Idaho state legislators and other policy makers
1/15/09	Ferriter	Idaho Nursery and Landscape Association	Industry
1/30/09	Ferriter	Idaho Weed Conference	Weed superintendents and weed control professionals
01/21/09	Ferriter	Idaho Water Users Annual Meeting – presentation	
02/11/09	Ferriter	Idaho legislative Common Sense Task Force - presentation	Legislators, policymakers
3/13/09	Ferriter	Western Regional Panel – presentation	Western Aquatic Nuisance Species managers
03/17/09	Ferriter	Environmental Forum – presentation	Members of Idaho's environmental community
3/19/09	Ferriter	Southwest Weed Control Superintendents	Weed Superintendents
3/25/09	Ferriter	Weed Supervisors Meeting	Idaho Weed Supervisors
3/23/09	Ferriter	Columbia River Basin Aquatic Nuisance Species	WA, OR, MT, ID Aquatic Nuisance Species managers
06/13/09	Ferriter	Idaho Aquaculture Association - Presentation	Idaho Aquaculture Association members
06/22/09	Ferriter	Western Boating Law Administrators Annual Meeting - presentation	Boating Law Administrators from all western states
06/24/09	Ferriter	Oregon Invasive Species council - presentation	Members of the Oregon Invasive Species Council
06/25/09	Ferriter	Idaho Conservation League Public Forum - Presentation	Members of the conservation community
07/08/09	Ferriter	Coeur D'Alene Public Meeting - presentation	Members of the public, elected officials
07/08/09	Ferriter	Bonner County ANS Task Force - presentation	Members of the Task Force, elected officials, members of the public.
08/24/09	Ferriter	ITD Dive Team ANS Training	ITD Dive Team
09/09/09	Ferriter	Western Regional Panel Annual Meeting – Presentation	17 Western States
09/10/09	Ferriter	Washington Invasive Species Council presentation about IISC.	Washington Invasive Species Council members
09/24/09	Ferriter	California Department of Food and Agriculture – Presentation	California Invasive Species Council Members
10/10/09	Ferriter	Coast Guard Annual Meeting – Presentation	Coast Guard Members – Idaho
10/13/09	Ferriter	Sierra Club – Idaho – Presentation	Sierra Club members
10/28/09	Ferriter	Greater Yellowstone Area Conference – Presentation	Neighboring states and partners in Greater Yellowstone Area
11/06/09	Ferriter	Sheriff Marine Law Enforcement Academy – Training/Presentation	Sheriff Office Marine Deputies
11/18/09	Ferriter	Southwest Weed Control Association – Presentation	Weed community, canal companies, ditch riders
12/01/09	Ferriter	Idaho Outfitters and Guides – presentation	Recreationalists and Guides
12/09/09	Ferriter	Pacific Northwest Power and Planning Council - presentation	NWPPC Members

1/10/09	Ferriter	ISDA Legislative Breakfast – Invasive Species Program	Idaho state legislators and other policy makers
1/15/09	Ferriter	Idaho Nursery and Landscape Association	Industry
Date	ISDA Staff	Event	Target Audience
1-29-09	Safford	Caldwell Ag Show, Noxious Weed	Pesticide Applicators
5-13-09	Safford	Valley County Recertification Seminar, Noxious Weeds	Pesticide Applicators
5-27-09	Safford	Lions Club, Boise, Overview of Noxious Weed Program	Lions Club members
11-12-09	Safford	Grain Elevators Operators Meeting, Pocatello, Invasive Species	Pesticide Applicators
11-12-09	Safford	Grain Elevators Operators Meeting, Pocatello, Noxious Weeds	Pesticide Applicators
12-1-09	Safford	Environmental Care Association of Idaho, Boise, Invasive Species	Pesticide Applicators
12-3-09	Safford	Environmental Care Association of Idaho, Twin Falls, Invasive Species	Pesticide Applicators
12-6-09	Safford	Payette CWMA recertification seminar, Invasive Species	Pesticide Applicators

Date	ISDA Staff	Event	Target Audience
January 26, 2009	Woolf	Idaho Association of Weed Superintendants Annual meeting	Invasive plant managers
January 28, 2009	Woolf	Idaho Weed Conference	Invasive plant managers
February 12, 2009	Woolf	Idaho Rare Plants Conference	Interested public
March 10, 2009	Woolf	Desert Divers of Idaho SCUBA club	Interested public
March 26, 2009	Woolf	Eastern Owyhee CWMA Meeting	Interested weed managers and irrigators
May 7, 2009	Woolf	Invasive Species Workshop, U of I Extension, Twin Falls	Irrigators, County employees, interested public
June 1, 2009	Woolf	Invasive Species Workshop, USGS, Boise	Field aquatic biologists
June 11, 2009	Woolf	Invasive Species Identification & Watercraft Inspection Training. IDFG, Pocatello	IDFG employees, ISDA watercraft inspectors
June 15, 2009	Woolf	Invasive Species Identification, Prevention, and Survey Methods. Montpelier.	County, USFS, and nonprofit groups.
June 16, 2009	Woolf	Bonneville County Weed Warrior Workshop, Idaho Falls	Invasive plant managers, irrigators
July 9, 2009	Woolf	Marsing Garden Club meeting	Interested public
July 16, 2009	Woolf	Hayden Lake Assn Annual Meeting, Hayden	Interested lakeshore home owners.
July 28, 2009	Woolf	Invasive Species Workshop, Henrys Lake	Weed managers, irrigators, and interested public
July 29, 2009	Woolf	Invasive Species Workshop, Mud Lake	Weed managers, irrigators, and interested public
July 30, 2009	Woolf	Invasive Species Workshop, Gem Lake, Idaho Falls	Weed managers, irrigators, and interested public

August 11, 2009	Woolf	Priest Lake Invasive Species Workshop and Survey	Interested lake shore home owners and the public.
September 10, 2009	Woolf	Weed Management Workshop, Ronan, MT	Invasive plant managers and irrigators.
September 10, 2009	Woolf	Idaho BASS Federation Nation Meeting	Interested anglers
September 22, 2009	Woolf	Washington Lakes Conference, Spokane, WA	Lake managers and interested public.
October 6, 2009	Woolf	Mt. Home Irrigation District Meeting	Irrigators
October 27, 2009	Woolf	Invasive Species Workshop, Sandpoint	Interested Federal and State agencies, non-profit groups and the interested public.
November 18, 2009	Woolf	Southwest Weed Control Association. Caldwell	Invasive plant managers and irrigators
December 8, 2009	Woolf	Pest Management, University of Idaho, Burley	Invasive plant managers and irrigators
December 10, 2009	Woolf	Issues in Forest Health, U of I Extension, Orofino	Invasive plant and forestry managers
December 11, 2009	Woolf	Issues in Forest Health, U of I Extension, Coeur d'Alene	Invasive plant and forestry managers
December 16, 2009	Woolf	Pesticide Recertification Training, U of I Extension. Mt. Home	Invasive plant managers and irrigators

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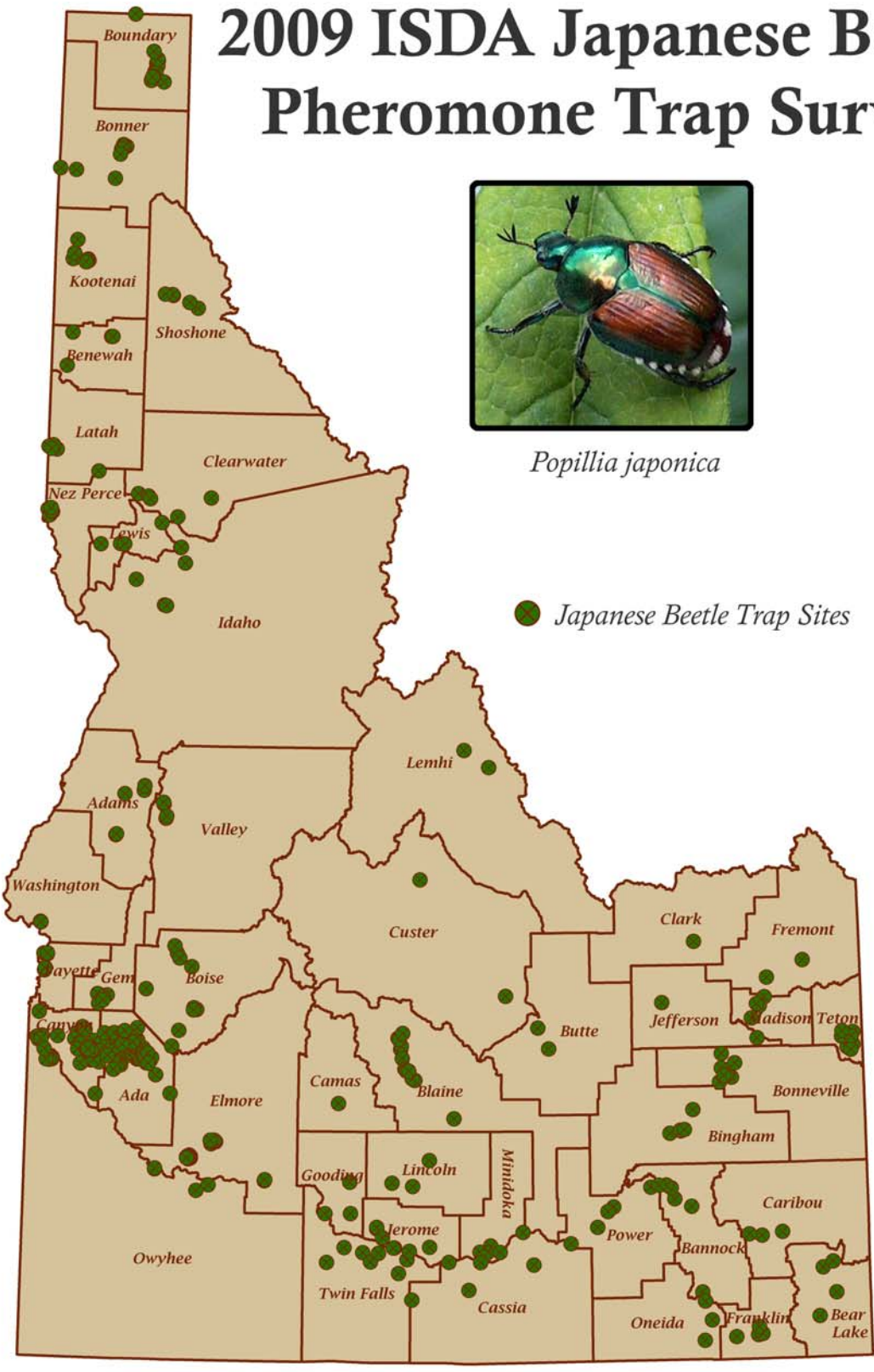
ISDA Website: www.agri.idaho.gov This report as well as past year's summary reports are available at the ISDA Website:

<http://www.agri.idaho.gov/Categories/PlantsInsects/RegulatedAndInvasiveInsects/Insectsformreports.php>

2009 ISDA Japanese Beetle Pheromone Trap Survey



Popillia japonica

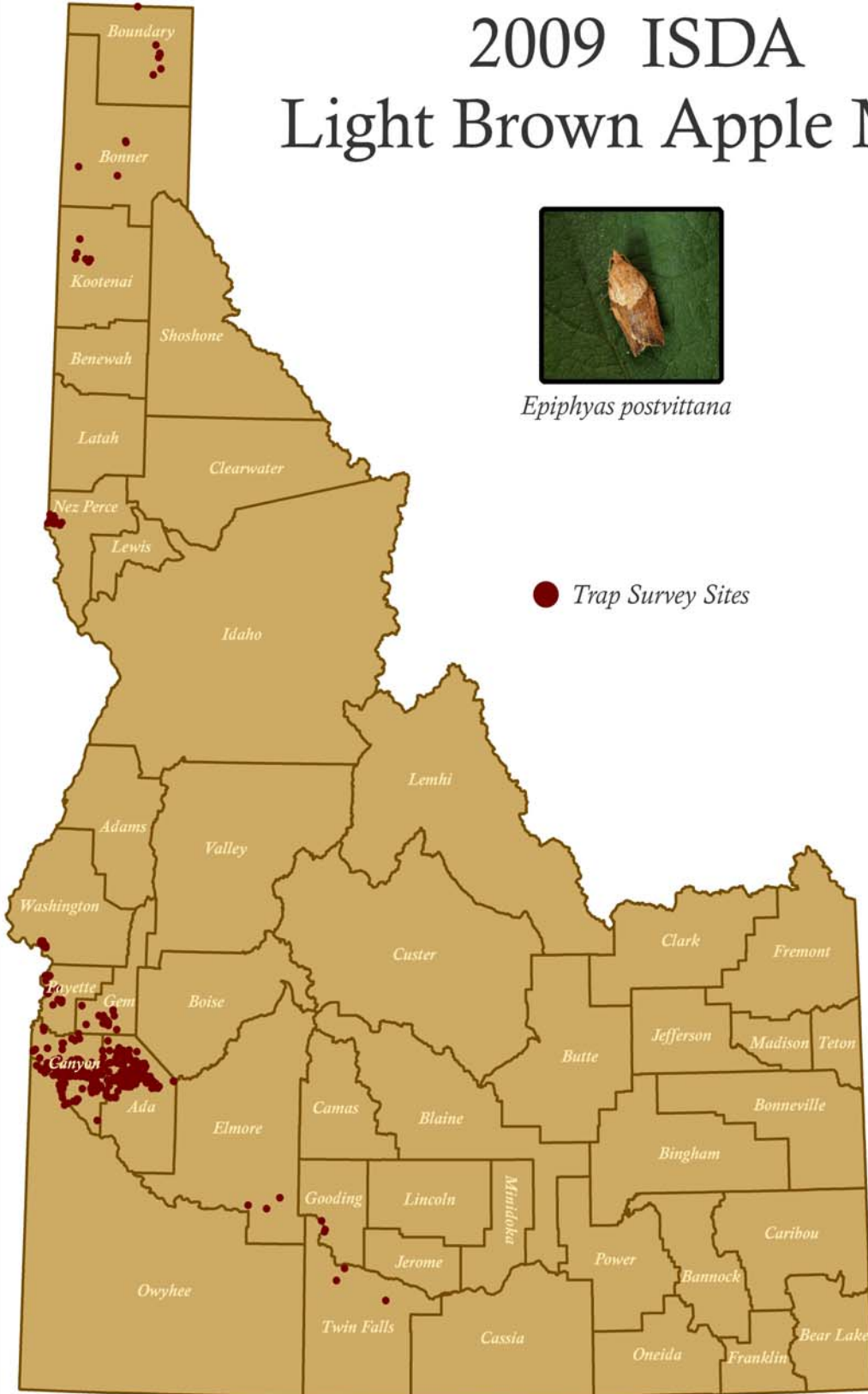


2009 ISDA Light Brown Apple Moth



Epiphyas postvittana

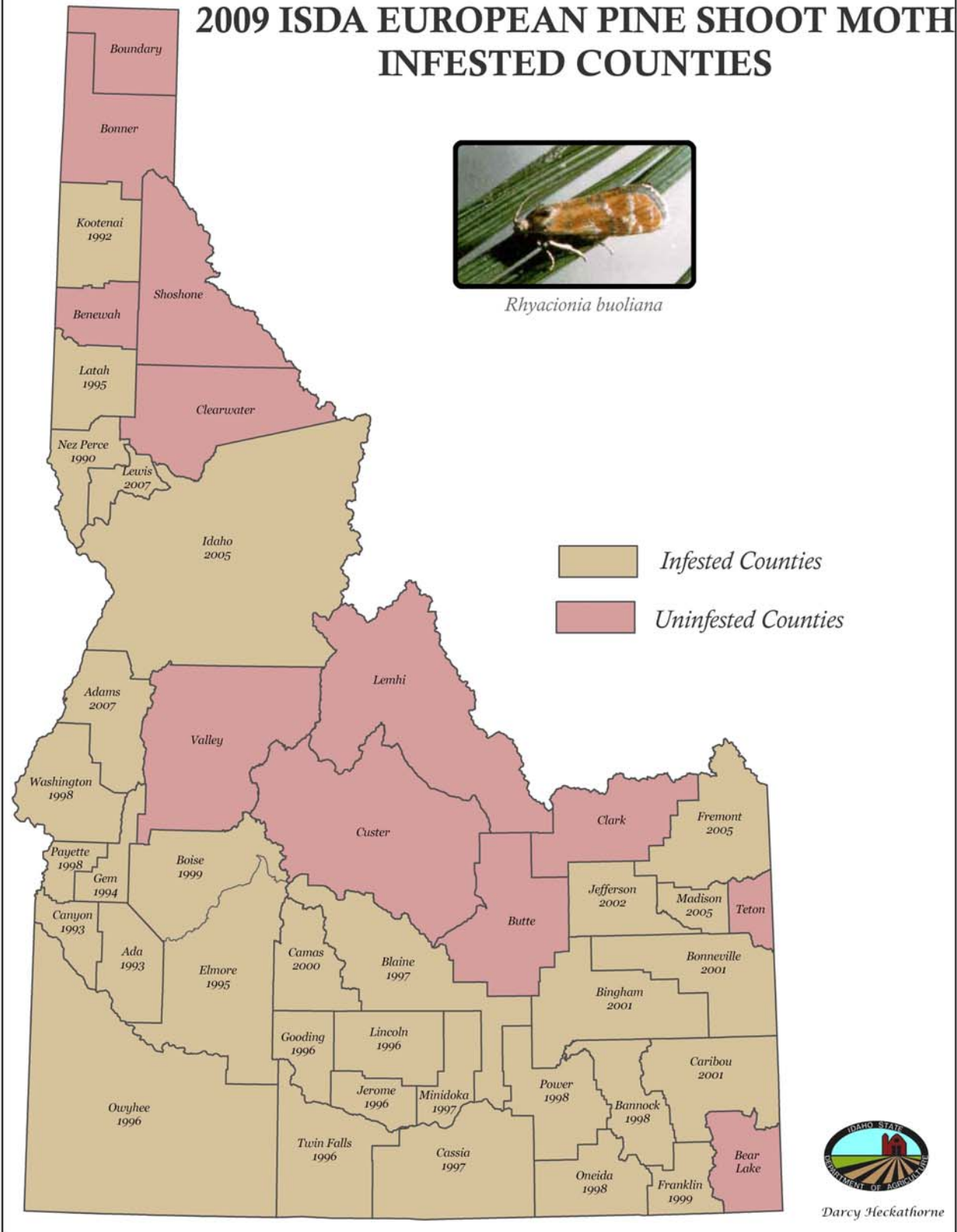
● Trap Survey Sites



2009 ISDA EUROPEAN PINE SHOOT MOTH INFESTED COUNTIES



Rhyacionia buoliana



Darcy Heckathorne

2009 ISDA MEALYBUG SURVEY

Grape Mealybug

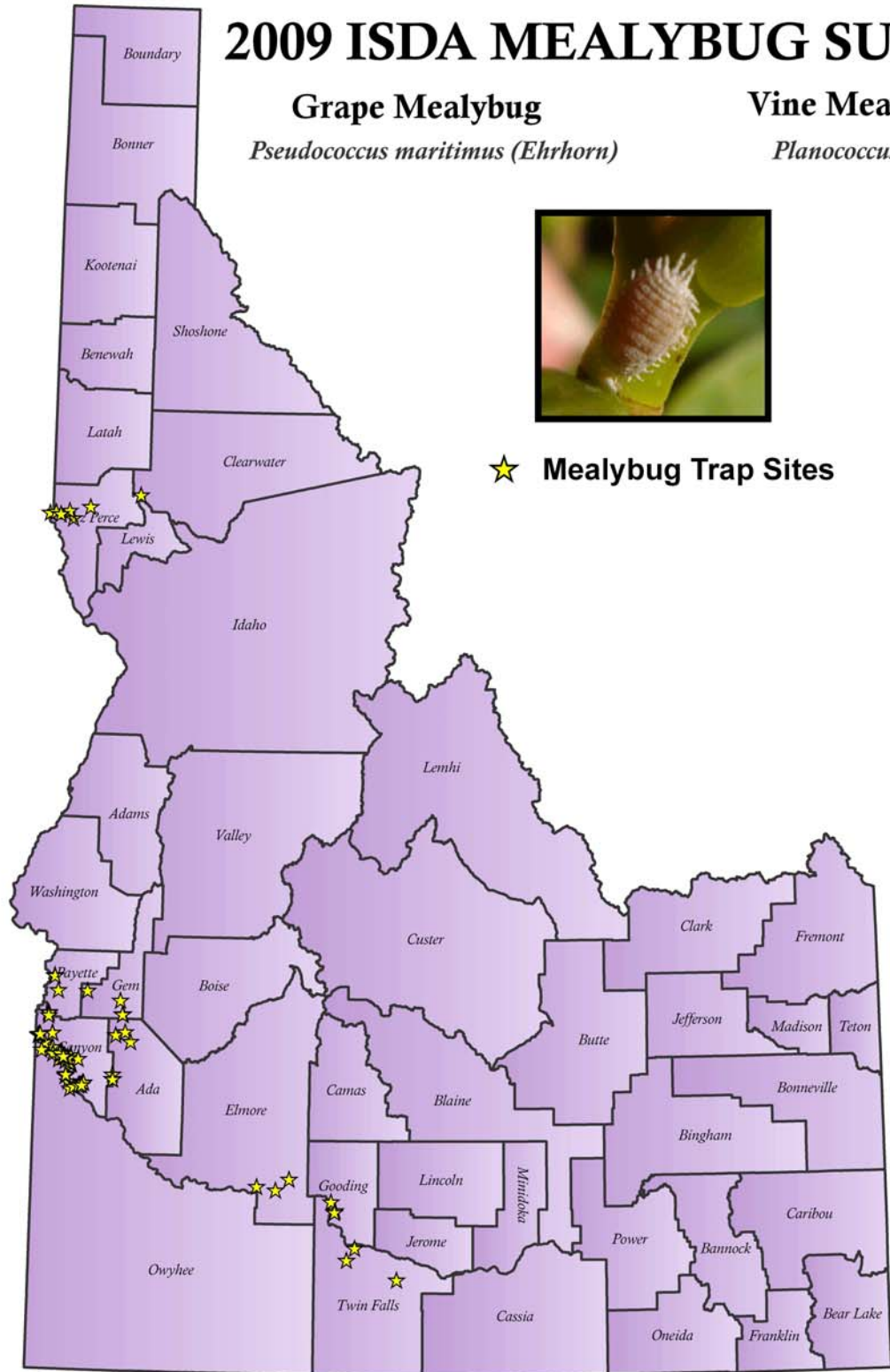
Pseudococcus maritimus (Ehrhorn)

Vine Mealybug

Planococcus ficus



★ Mealybug Trap Sites



Idaho Apple Maggot Control Area

*Areas not crosshatched are quarantined
As authorized by IDAPA 02.06.23
Idaho State Department of Agriculture*

