

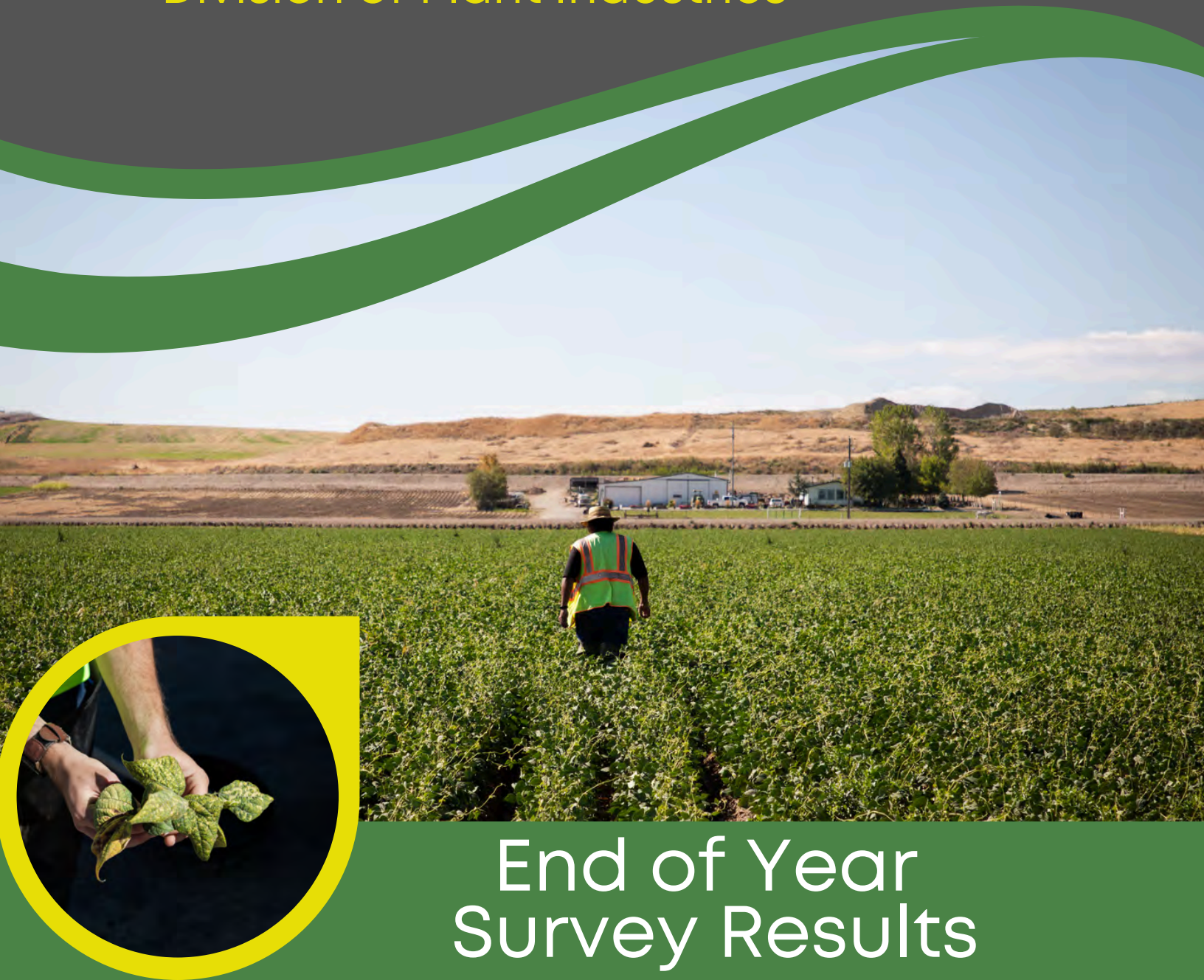
2024

ANNUAL

Idaho State

Department of
Agriculture

Division of Plant Industries



End of Year Survey Results



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Introduction

ISDA's Division of Plant Industries derives its statutory authority from multiple sections of Idaho Code, Title 22, which includes:

- the Plant Pest Act
- the Noxious Weed Law
- the Nursery and Florist Law
- the Invasive Species Act

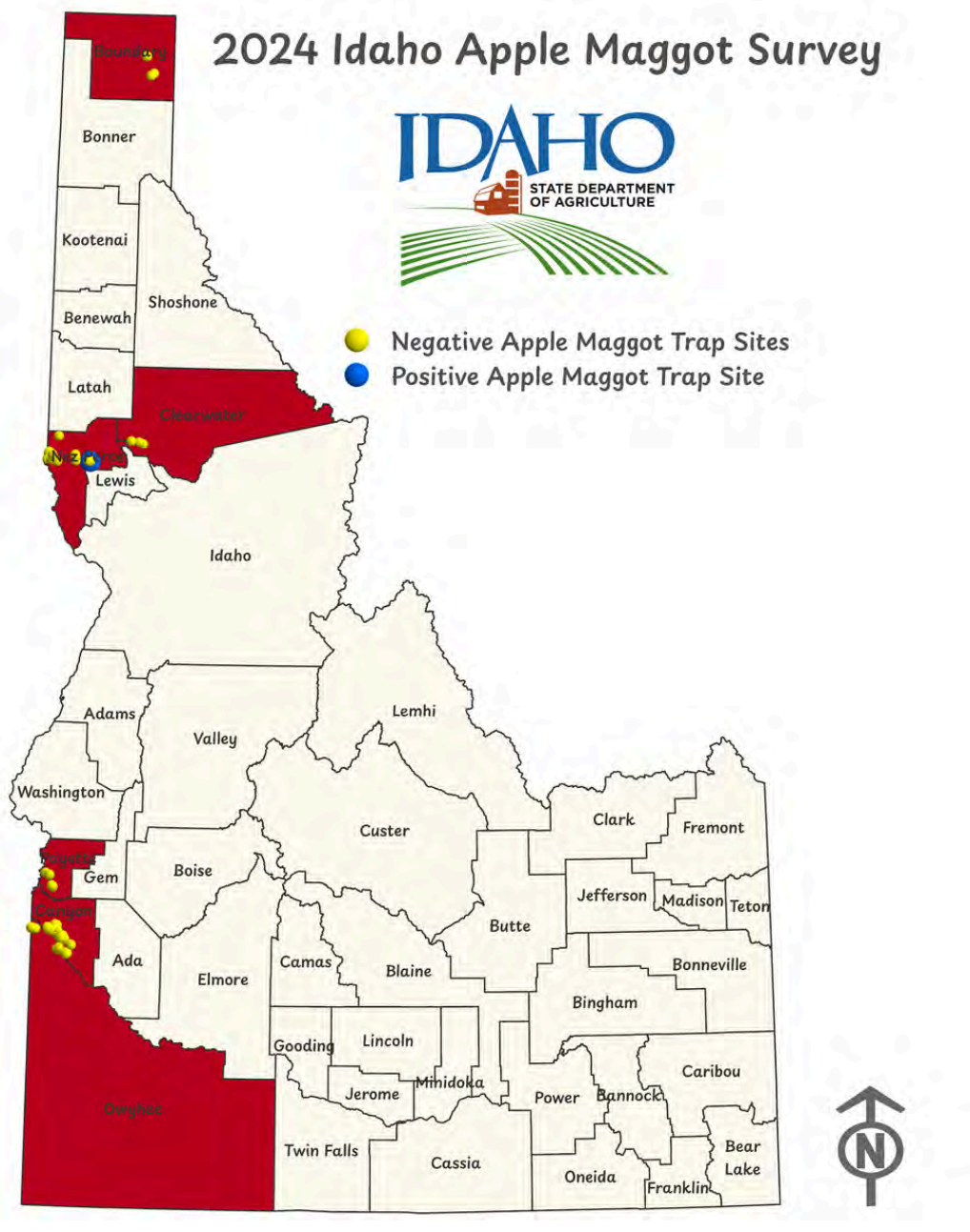
These laws give the Division of Plant Industries clear directives to conduct pest surveys, manage plant pests, and invasive species for the purpose of protecting Idaho's agricultural industries. These industries are valued at over \$4 billion dollars; which include crops, nurseries, and ranching.

The Division of Plant Industries works in cooperation with other agencies including:

- Idaho Department of Lands (IDL)
- University of Idaho (UI)
- United States Forest Service (USFS)
- United States Department of Agriculture (USDA), Animal and Plant Health Inspection Services (APHIS), Plant Protection and Quarantine (PPQ)
- County governmental agencies
- Cooperative Weed Management Areas (CWMA)
- Industry groups and other stakeholders to protect Idaho's landscapes and environments from invasive species

The Division of Plant Industries aid in accomplishing the ISDA's broader mission 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 2024 to enforce Idaho statutes and fulfill the mission of the ISDA.





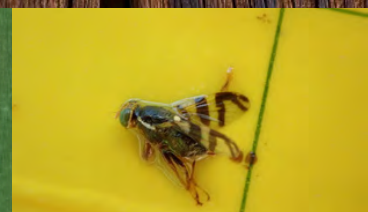
Apple Maggot Survey (AM)

During the 2024 Apple Maggot (AM) trapping season ISDA placed 181 traps at sites located in Boundary, Canyon, Clearwater, Nez Perce, Owyhee, and Payette counties. The target locations that were chosen to place traps were areas in or near commercial apple orchards and plant nurseries.

For 2024 ISDA had one positive site in Nez Perce county which caught one AM. During the 2025 trapping season, ISDA will continue to conduct these detection surveys in Boundary, Canyon, Clearwater, Owyhee, Payette, and Nez Perce counties; and we plan to concentrate on areas containing commercial orchards and plant nurseries

Western Cherry Fruit Fly (WCFF)

ISDA continues to carry out an annual trapping program to detect first emergence of Western Cherry Fruit Fly in the state. During the 2024 WCFF survey, adults were first observed in ISDA sentinel traps in Canyon Co. & Gem Co. on June 5th.



The agency also monitors and reports degree day accumulation calculations as required by the California Department of Food and Agriculture (CDFA) to comply with their WCFF quarantine, which is aimed at states wishing to export fresh sweet cherries into or through California.

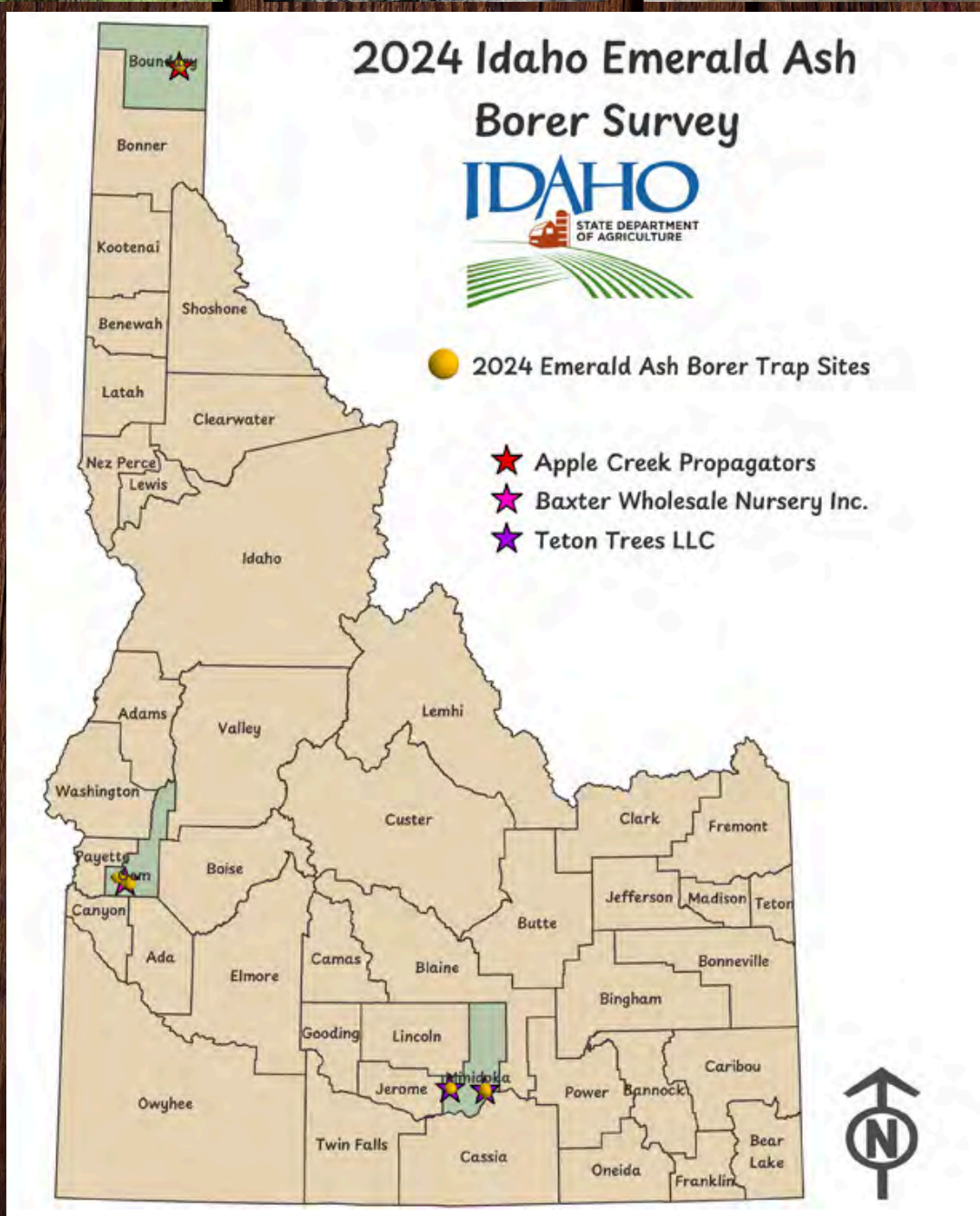
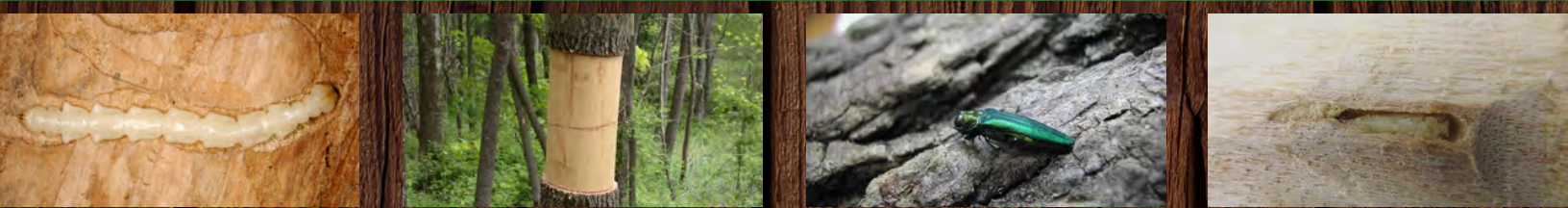
Emerald Ash Borer (EAB)

The emerald ash borer known as EAB is an invasive insect from Asia that is killing ash trees in North America. EAB was first found in the United States in southeast Michigan in 2002. USDA estimates that EAB had been here since the 1990s based on the size of the infestation. It probably arrived hidden in wood packing material used to ship consumer goods.

The Idaho Emerald Ash Borer survey was conducted to collect data to comply with Canada and Utah quarantines for moving ash tree nursery stock into their country or state.

In 2024 ISDA staff placed 21 EAB traps in three Idaho nurseries known to grow ash trees and in areas adjacent to those nurseries containing ash trees throughout three Idaho counties. ISDA plans to conduct this survey again in 2025.

All traps for 2024 were negative for EAB.

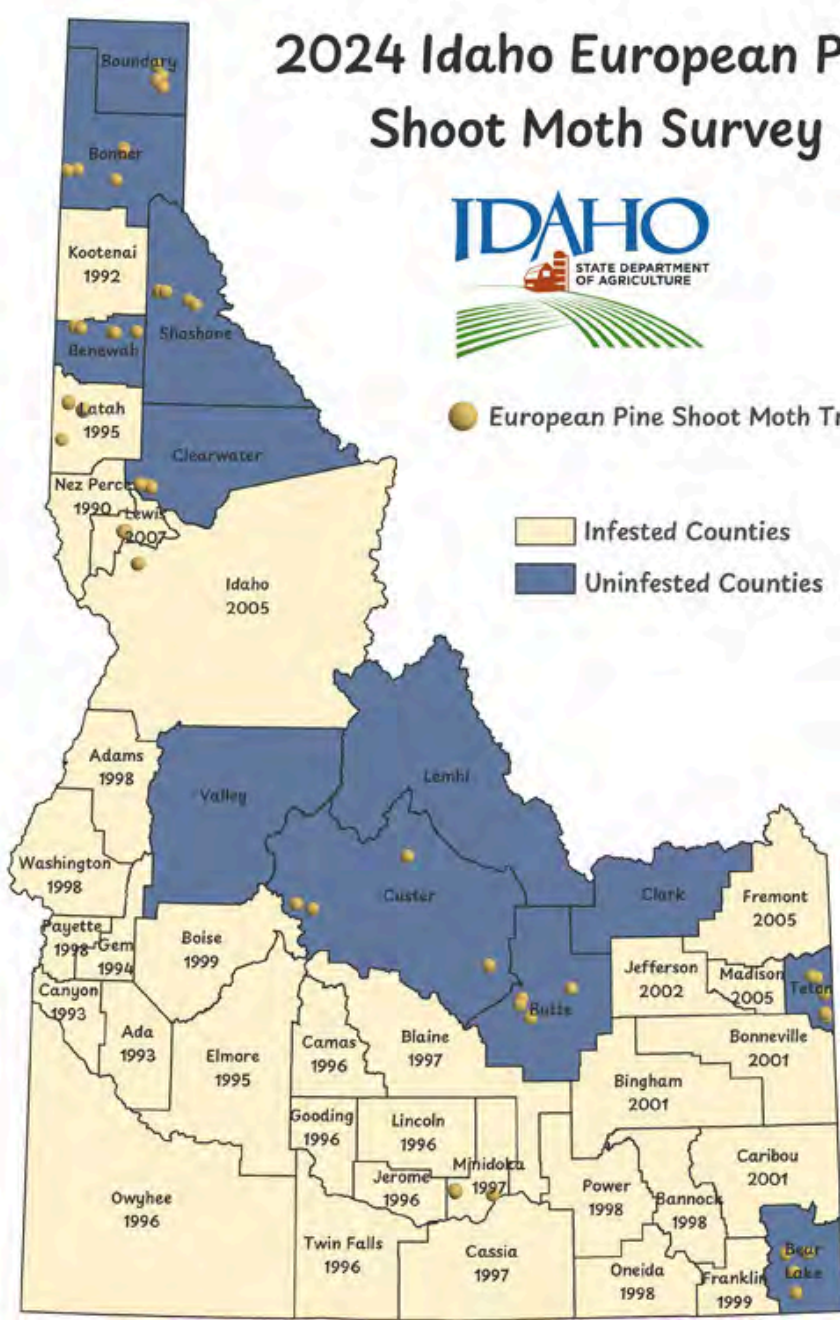


2024 Idaho European Pine Shoot Moth Survey



● European Pine Shoot Moth Trap Sites

Infested Counties
Uninfested Counties



European Pine Shoot Moth Survey (EPSM)

Idaho conducts a European Pine Shoot Moth survey annually to collect data that is used to comply with California and Montana quarantines on pine nursery stock moving into their states.

In 2024, ISDA staff placed 45 EPSM traps in pine trees that were in parks, cemeteries, golf courses, nurseries and pine tree plantations throughout nine Idaho counties where EPSM have never been collected to date (currently considered "un-infested"). In addition, 35 traps were placed at the request of nurseries seeking phytosanitary certifications to allow export of nursery stock from three counties where EPSM have been captured in the past.

No new infestations were reported in 2024, and the nurseries that are located in infested counties that requested surveying, showed no evidence of an EPSM presence this year.

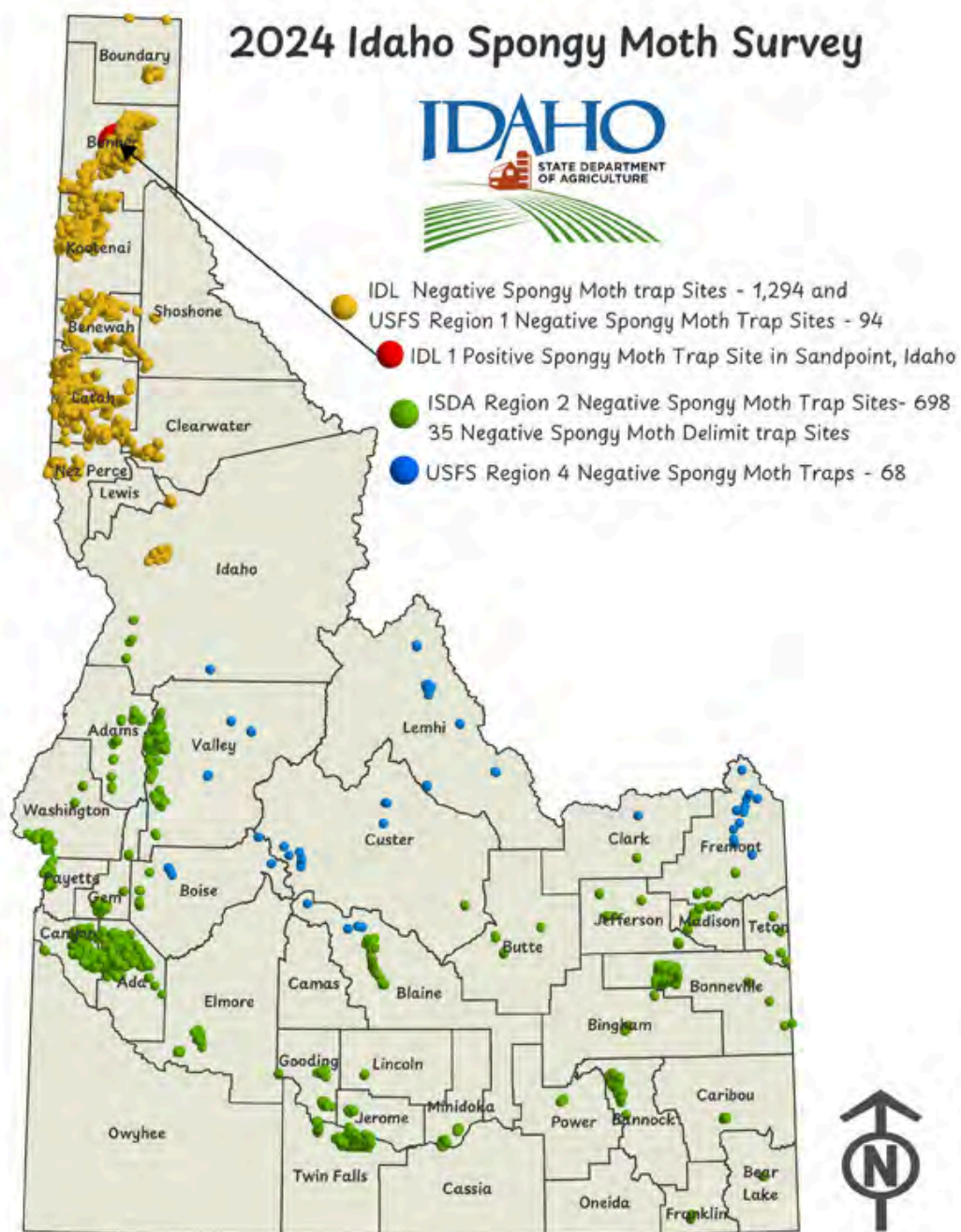
Spongy Moth (SM)

During 2024 2,195 pheromone-baited SM traps were deployed throughout Idaho by the following agencies:

- Idaho Department of Lands (IDL): 1,280 detection traps
- Idaho State Department of Agriculture (ISDA): 698 detection traps and 35 delimitation traps
- United States Forest Service R-1 (USFS): 114 detection traps
- United States Forest Service R-3 (USFS): 68 detection traps

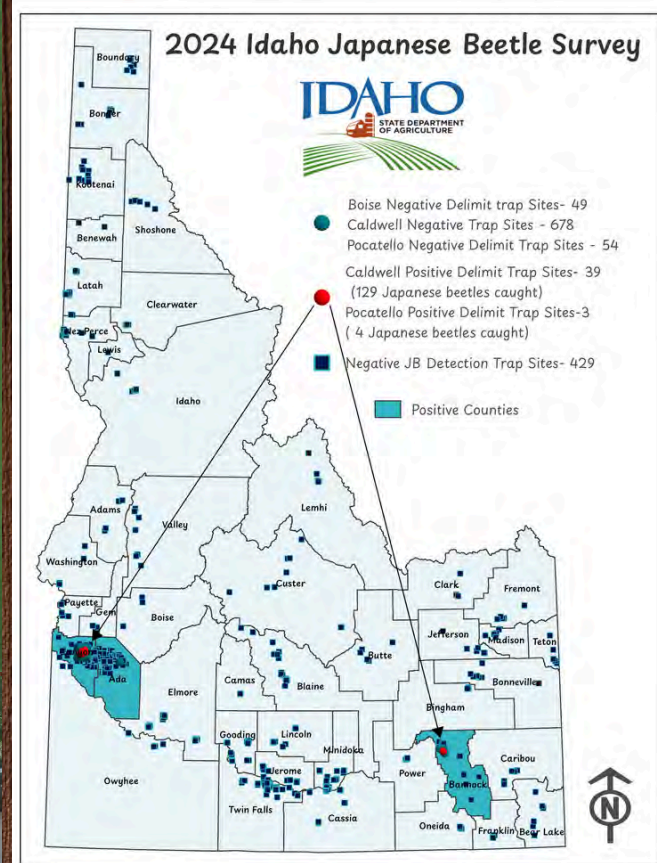
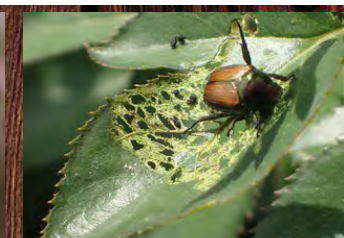
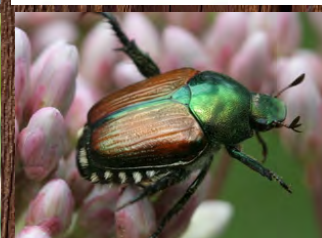
Between May 2, 2024 and October 24, 2024 staff from each participating agency completed the placement and subsequent retrieval of traps. ISDA caught one SM in a trap off Hwy 93 in Twin Falls County in 2023. ISDA conducted a delimit survey of 35 traps around the positive location in Twin Falls County and all traps were negative in 2024. IDL caught a single SM in a trap in Sandpoint, Idaho. IDL is planning a delimitation grid of 144 traps in Sandpoint, Idaho for 2025.

The complete report on the 2024 SM Survey Program in Idaho may be viewed on the following IDL website: <https://www.idl.idaho.gov/forestry/insects-and-disease/>



Statewide Japanese Beetle Monitoring using Pheromone-Baited Traps and Results of the JB Eradication Program in Boise and Pocatello 2012-2024

Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
# Detection Traps	365	840	430	297	289	306	295	392	377	375	401	459	428
# Beetles Caught in Boise	56	3,058	1,283	365	128	19	4	0	0	0	0	1	0
# Acres Treated in Boise	N/A	250	400	550	340	60	40	0	0	0	0	0	0
# Beetles Caught in Caldwell	0	0	0	0	0	0	0	0	0	1	77	260	132
# Traps in Caldwell Delimit	0	0	0	0	0	0	0	0	0	1	82	399	823
# Acres Treated in Caldwell	0	0	0	0	0	0	0	0	0	0	0	232	477
# Beetles Caught in Pocatello	1	0	0	0	0	0	1	4	7	11	8	4	4
# Traps in Pocatello Delimit	0	0	0	0	0	0	11	29	104	104	49	52	62
# Acres Treated in Pocatello	0	0	0	0	0	0	0	0	0	45	45	49	75
# Beetles Caught in Post Falls	4	0	0	0	0	0	0	0	0	0	0	0	0



Japanese Beetle Survey (JB)

In 1990 the Idaho State Department of Agriculture (ISDA) began to monitor the state for Japanese beetle (JB), a major invasive insect pest in the eastern US, using pheromone-baited traps. Each summer between 200-430 traps have been routinely set out around high-risk sites like plant nurseries, box stores, and airports. On rare occasions (1992, 1997 and 2011) ISDA trapped single specimens at nurseries, most likely hitchhikers, on nursery stock obtained from an infested state.

In 2012, ISDA had their first JB infestation in downtown Boise, where 56 beetles were caught. The following summer, with trap numbers increased to determine the true extent of beetle establishment, 3,058 were captured. By that time, a JB eradication program had been put into place. Turf in the infested area received a pesticide treatment from 2012-2018 and was considered a success after 2 successive years of zero catches. This effort was the largest, successful eradication of Japanese Beetle ever recorded in the United States."

During 2012 a single JB was collected in one of the five traps set up in the city of Pocatello. Follow-up trapping uncovered no JB in Pocatello until 2018 when, again, a single individual was captured at a Pocatello Park. ISDA has run a treatment and delimit survey since 2021 and in 2024 there were 57 delimit traps in Pocatello and 4 beetles caught. For 2025, ISDA will expand treatment plans and increase delimit traps around the area with a more aggressive approach towards eradication."

During the 2021 field season one beetle was captured in Caldwell which led to 82 delimit monitoring traps to be placed in 2022. Unfortunately, 77 JB were collected, indicating an established infestation in Caldwell. With the help of the community, industry partners, and local and state leadership, the ISDA was able to perform a 2023 treatment of the effected neighborhood, parks, and community areas. Detection trap numbers increased to over 300, which brought our beetle count to 263. In 2024 ISDA set out 823 delimit traps and treated 477 acres. For 2024 ISDA caught 132 beetles. In the 2025 season monitoring and treatment will continue towards the goal of eradication as we continue to see similar successful results as the Boise infestation."

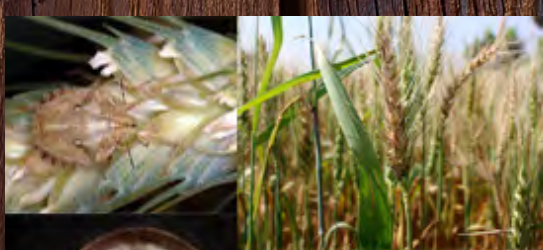
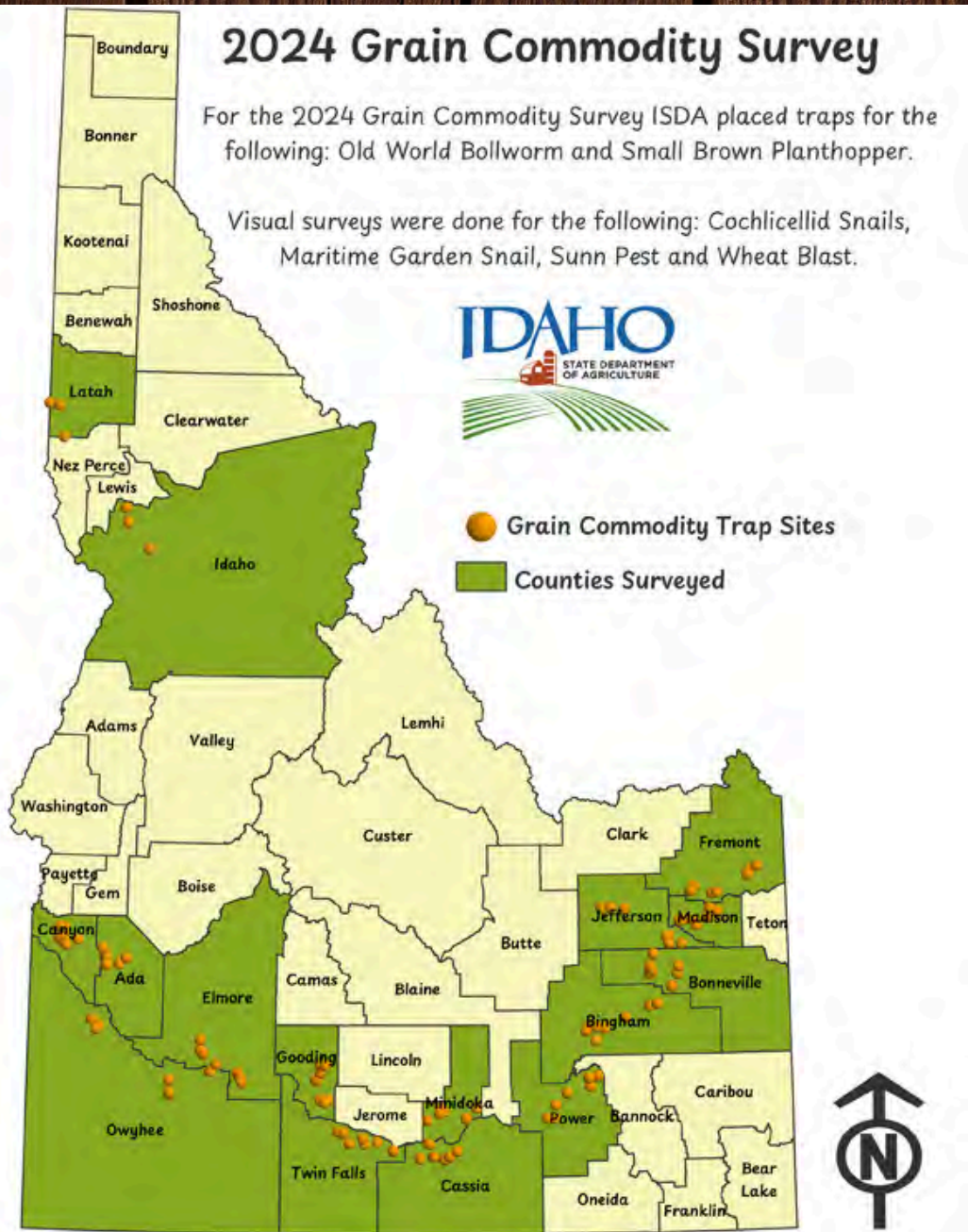
Small Grain Commodity Survey

Wheat, which is grown in 42 of Idaho's 44 counties, is the No. 2 crop in Idaho in terms of total farm-gate revenue with its largest production areas in the eastern part of the state and the north central Palouse region. Nationally Idaho ranks ninth for wheat and wheat product exports. In 2022, Idaho farmers harvested approximately 1.1 million acres of wheat, which produced 81 million bushels of spring wheat and 90 million bushels of winter wheat with a combined production value of \$759 million.

In 2024 ISDA conduct a trapping survey in the following 16 counties: Ada, Bingham, Bonneville, Canyon, Cassia, Elmore, Fremont, Gooding, Idaho, Jefferson, Madison, Minidoka, Owyhee, Power, and Twin Falls. The pests of concern were: Old World Bollworm and Small Brown Planthopper. Traps were set out in May and serviced by ISDA field staff every two weeks.

ISDA will also conduct two visual surveys, for Cochlicellid Snail, Maritime Garden Snail, Sunn Pest and Wheat Blast. The first visual survey will occur in June and the final one in July. This survey will run for approximately three months.

2024 Results from both the visuals and trap surveys were all negative.





2024 Idaho Soybean Commodity Survey

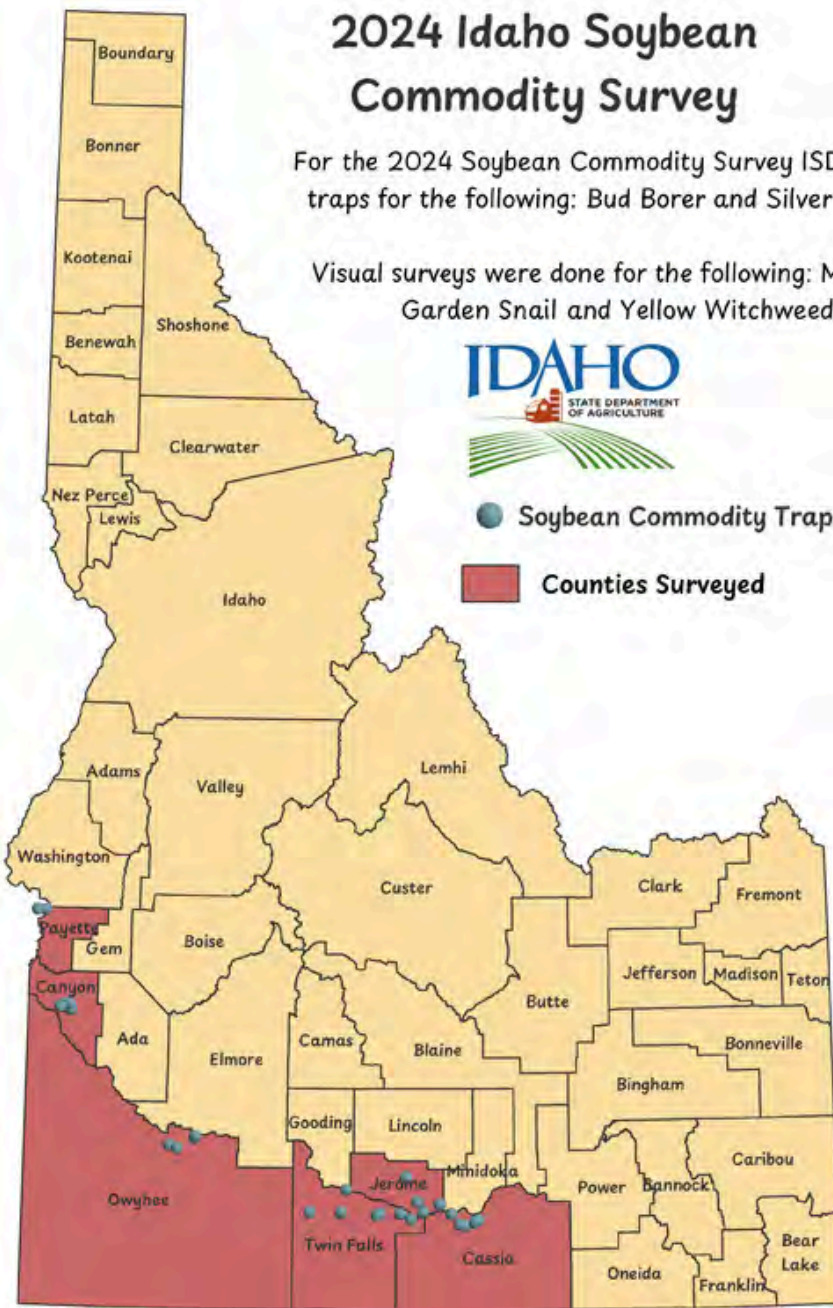
For the 2024 Soybean Commodity Survey ISDA placed traps for the following: Bud Borer and Silver Y Moth.

Visual surveys were done for the following: Maritime Garden Snail and Yellow Witchweed.



● Soybean Commodity Trap Sites

■ Counties Surveyed



Soybean Commodity Survey

In Idaho, soybeans are an emerging crop that falls under the umbrella of dry bean farming. Approximately 70 percent of the state's 50,000 acres of dry beans are grown for seed and Idaho is the nation's leader in dry bean seed production because of strict guidelines that require imported seed to be serology tested and certified as disease-free before it can be planted.

Since 2018, when Idaho's bean rule permitted growing of soybean in Idaho, approximately 22 acres of soybeans have been grown in the bean seed production areas, specifically within the Treasure Valley and Magic Valley regions of the state.

In 2024 ISDA conducted a trapping survey in the following 5 counties: Canyon, Cassia, Jerome, Owyhee and Twin Falls. The pests of concern are Bud Borer and Silver Y Moth. Traps were set out in mid-June and checked by ISDA field staff every two weeks.

ISDA will also conduct two visual surveys, for Maritime Garden Snail, and Yellow Witchweed. The first visual survey will occur in mid-July and the final one in August. This survey will run for approximately three months.

2024 Results from both the visuals and trap surveys were all negative.

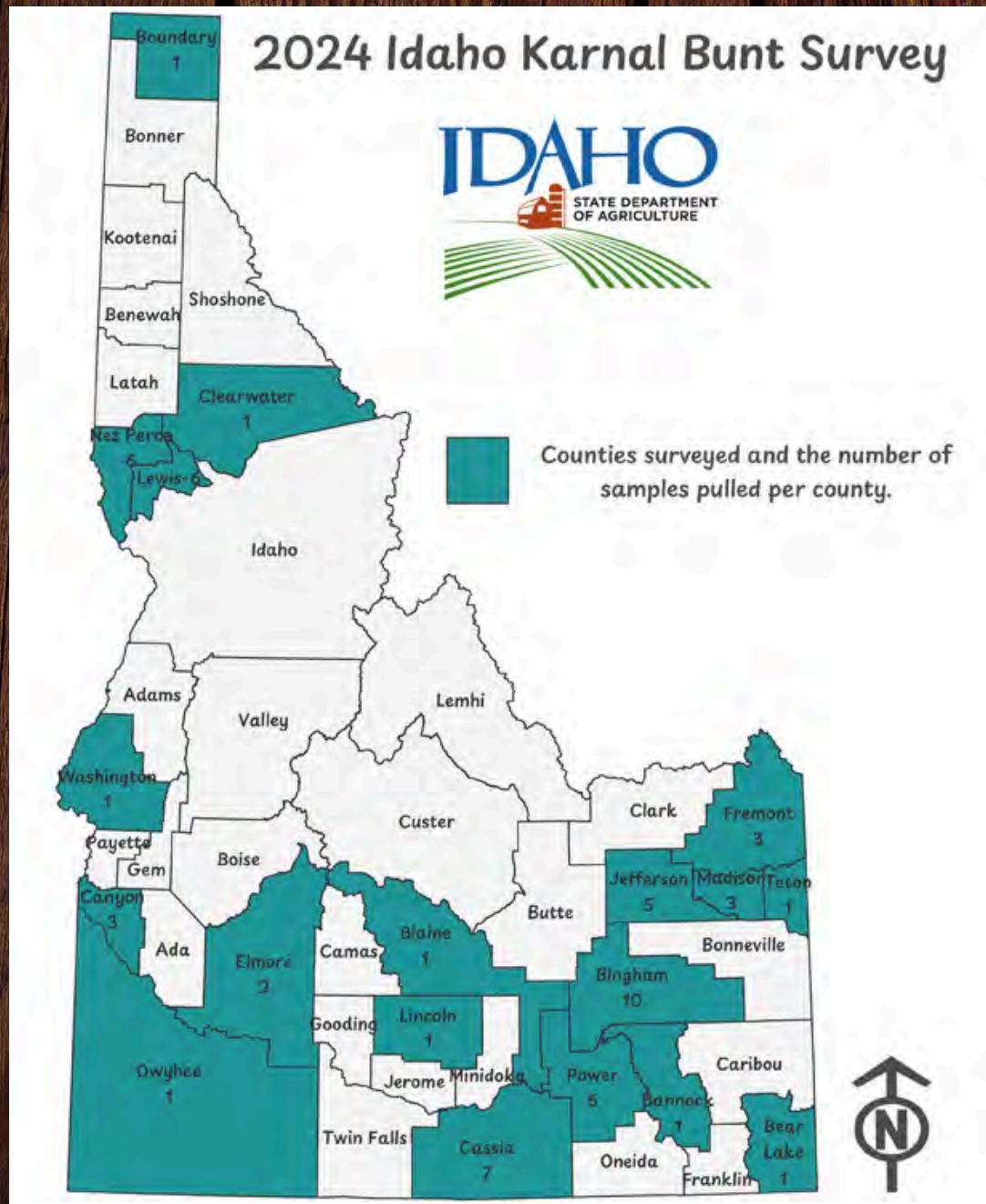
Karnal Bunt Survey (KB)

Karnal Bunt (KB) is a disease of wheat caused by the fungus *Tilletia indica*. *T. indica* was found in the United States in 1996. It has not been found in Idaho. The US Department of Agriculture has attempted to eradicate the fungus via continuing surveys and quarantines.

ISDA has conducted surveys in Idaho for KB since 1996.

During 2024, ISDA collected 60 wheat samples from 19 counties in Idaho and sent them to a USDA APHIS PPQ lab to be tested for the pathogen. Results from this year's survey were all negative.

To date, KB has never been detected in Idaho!



2024 Idaho National Honeybee Health Survey



■ Apiaries sampled twice in 2024 (Longitudinal Surveys)

● Apiaries sampled once in 2024 (Regular Survey)

■ Counties where surveys were conducted



Idaho Apiary Registration and National Honey Bee Health Survey

Idaho registered 118 beekeepers and 151,089 honey bee colonies during 2024. As in years past, Idaho was one of 40 states and territories who participated in the USDA APHIS/University of Maryland National Honeybee Health Survey.

This survey is an ongoing attempt to collect baseline data on the health of the US honeybee industry. The project has several parts and is primarily geared towards establishing the absence within the US of several exotic bee pests including, but not limited to, the parasitic mite *Tropilaelaps*, the Asian honeybee (*Apis cerana*), and Slow Bee Paralysis Virus. To maximize information gained from the survey effort, samples were also analyzed for other diseases and parasites known to be present in the US such as *Nosema* sp., *Varroa* mites and a number of viral diseases. Additionally, wax or bee bread samples were collected from select hives to test for the presence of various pesticides of concern.

In 2024 ISDA started collecting samples of bees from eight hives of 19 apiaries located throughout the state. Fourteen of those apiaries were sampled once during 2024. The remaining five were sampled once in the spring before honey flow and then again in the fall after honey was pulled. This is termed the "longitudinal survey". The 19 surveys carried out in 2024 were completed by Sept. 30th. ISDA is expecting diagnostic reports with data analysis, to be supplied by ARS/U of Maryland, from the 2024 survey.

Idaho-California Apiary Pre-Inspection Program

ISDA in conjunction with California Department of Agriculture (CDFA) are working together to schedule and perform pre-shipment inspections on honeybees that are heading to California for crop pollination services. These pre-shipment inspections if successfully passed are certified to allow expedited entry into California, bypassing time-consuming inspections at the California border stations.

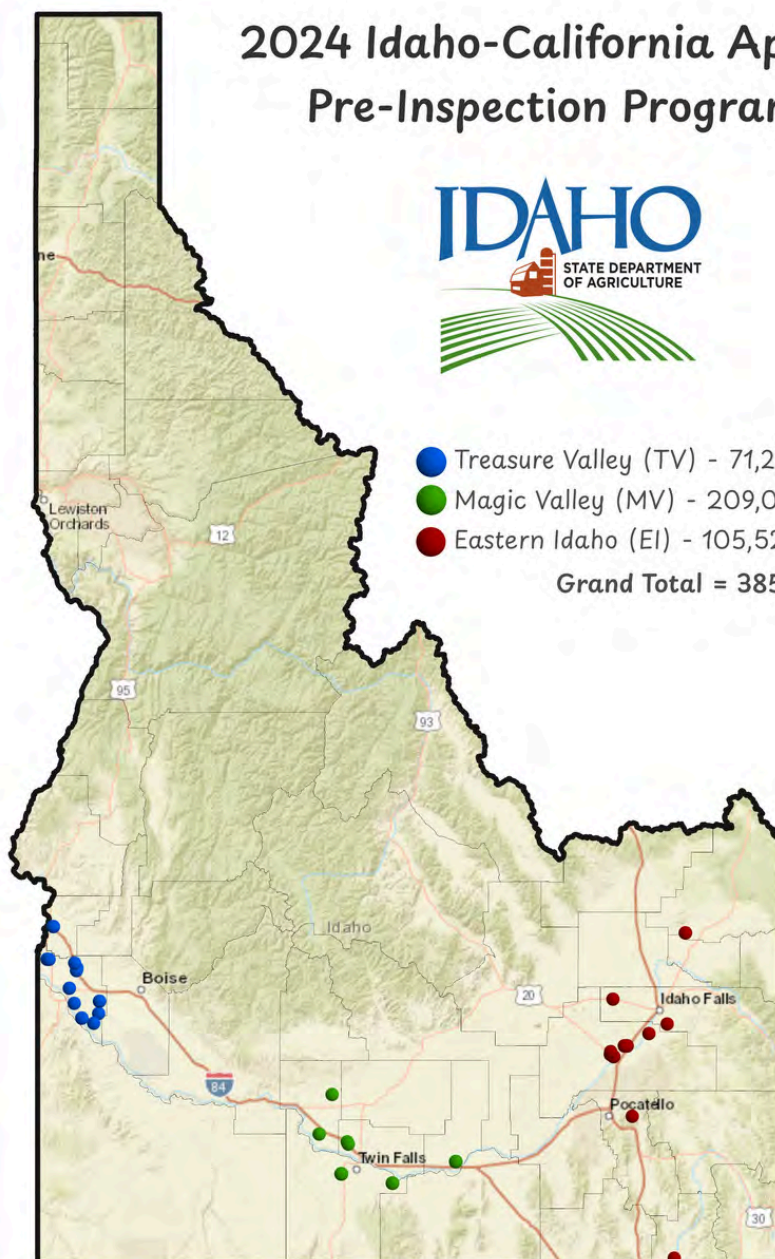
In 2024 ISDA certified 63 registered warehouses/beekeepers in the program and over 386,555 certified colonies. Most of the inspections were conducted between December 2nd - 10th.



2024 Idaho-California Apiary Pre-Inspection Program



- Treasure Valley (TV) - 71,272 Colonies
 - Magic Valley (MV) - 209,027 Colonies
 - Eastern Idaho (EI) - 105,525 Colonies
- Grand Total = 385,824



Grasshopper/Mormon Cricket Program

Introduction

Although grasshoppers and Mormon crickets are a natural part of Idaho's ecosystem, under the right conditions, their population densities can reach levels that result in negative economic and environmental impacts. These impacts have labeled grasshoppers and Mormon crickets as some of the worst agricultural pests in Idaho. Due to the significant historical losses caused by these pests, the Idaho State Department of Agriculture (ISDA) implemented the Grasshopper and Mormon Cricket Control Program (GHMC) in 2004 to provide qualifying ag. producers with mitigation assistance on private range and cropland throughout the state.

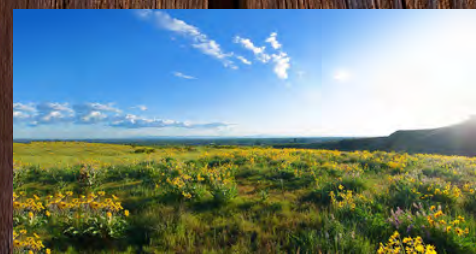
Background

The Grasshopper and Mormon Cricket Control Program provides assistance to ag. producers on a case-by-case basis. Ag. producers actively experiencing grasshopper or Mormon cricket infestations on qualified agricultural-use lands may request assistance from the ISDA. The program offers two forms of assistance: 5% Carbaryl insecticide bait or a pre-approved reimbursement for insecticides purchased and applied by the ag. producer. Reimbursement is for situations where Carbaryl bait is not the most effective control method. Management and timely control of grasshopper and Mormon cricket populations are key to the success of the program. According to annual surveys conducted by The U.S. Department of Agriculture Animal and Plant Health Service (USDA-APHIS), Idaho has experienced severe pest outbreaks in years past. 2023 was one such year; however, 2024 showed a significant decline in requests and total acreage. This year, the program received 224 ag. producers assistance requests spanning 28 Idaho counties. It provided assistance by way of 5% Carbaryl bait or insecticide reimbursements to treat approximately 75,164.12 acres* of agricultural land in Idaho.

*5% Carbaryl bait treatment acreages are calculated using the recommended rate of 10lbs./acre using the Reduced Agent and Area Treatment (RAAT) method.

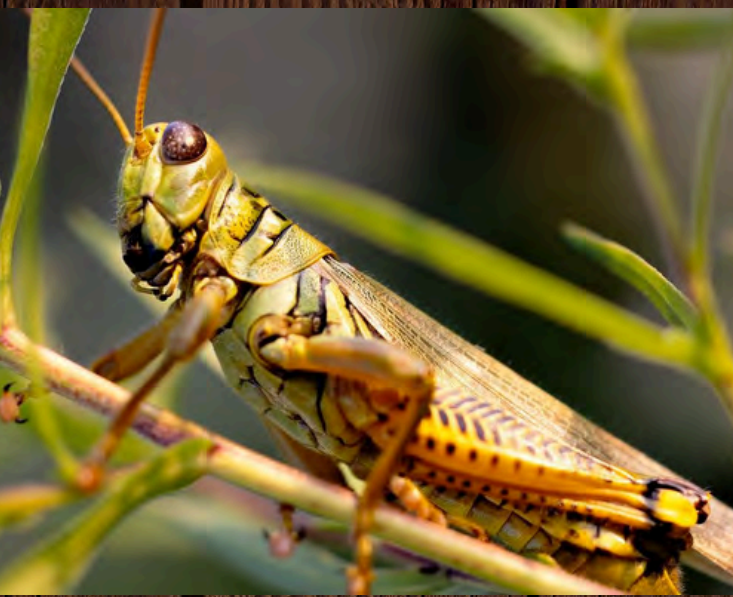
Program Updates

There were some significant changes in the GHMC program in 2024. Jason Ansay (the one with the beard) started as the new Program Specialist/GHMC Program Coordinator at the end of June. It was a bumpy start during the peak of the season with a statewide bait shortage, but it served as GHMC boot camp. Jason started with the Department 3 years ago as an Agriculture Investigator Sr. with Field Services. His primary duties were as an Authorized Certification Official (ACO) issuing phytosanitary certificates for international export of seed, seed sampling, and field inspections for export purposes. He also conducted feed and fertilizer sampling, nursery inspections, insect survey trapping, and was the coordinator for Southwest Idaho's bean trials as part of the bean rule. He raises a few beef cattle and some hay in his spare time.

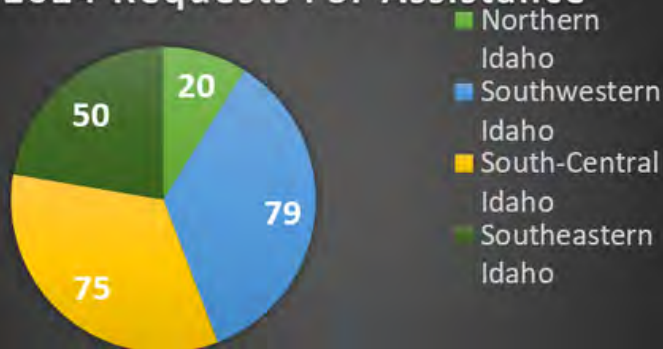


Program Accomplishments

In the 2024 season, the program received 224 ag. producers assistance requests, resulting in 201,640 pounds (lbs.) of bait and \$547,622.86 of reimbursements distributed in 28 counties. In comparison, the 2023 season saw more ag. producers assistance requests (385), resulting in 186,080 pounds of bait and \$823,848.15 in reimbursements. Comparing 2023 to 2024 shows an overall reduction in requests, in fewer counties, with less total acreage treated.

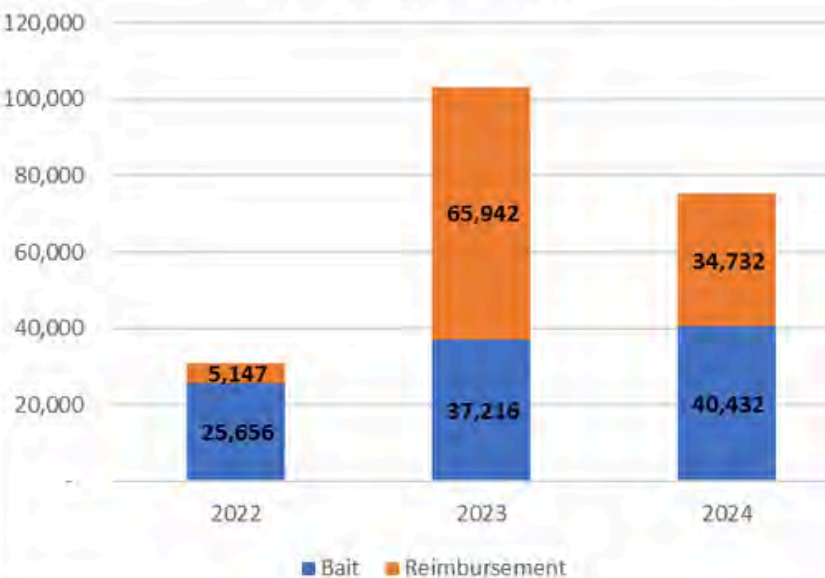


2024 Requests For Assistance



In 2024 requests came from 28 counties, the majority originating from the Southwest and South-Central parts of the state.

Total Acreage Treated

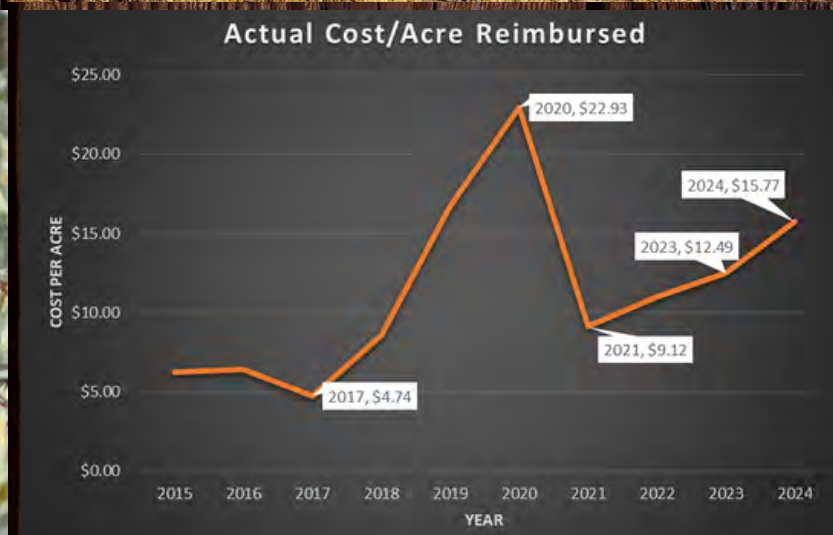
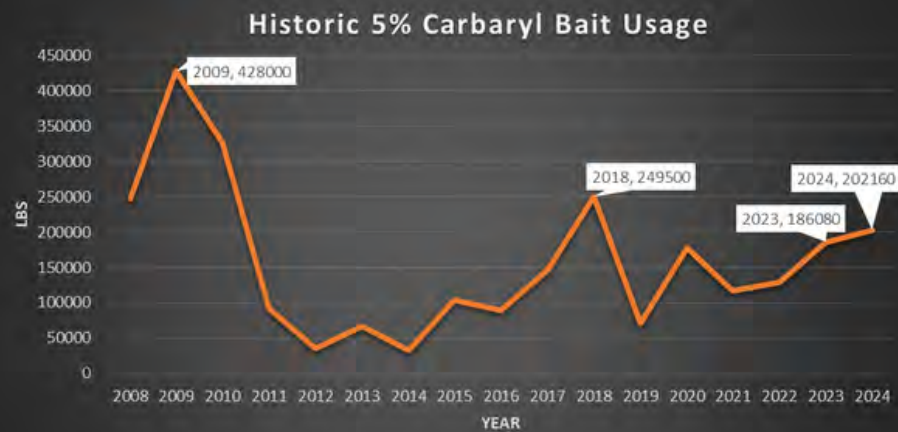


*5% Carbaryl bait treatment acreages are calculated using the recommended rate of 10lbs./acre using the Reduced Agent and Area Treatment (RAAT) method.



Program staff were able to scout 523 sites statewide and conduct surveys for grasshoppers and Mormon crickets simultaneously. Public reports and survey data indicated the need to perform a right-of-way treatment on five miles of Highway 20 in Elmore County.

In summary, the overall cost of insecticides to assist landowners and mitigate roadway hazards statewide decreased from \$1,060,169.75 in 2023 to \$804,366.06 in 2024.



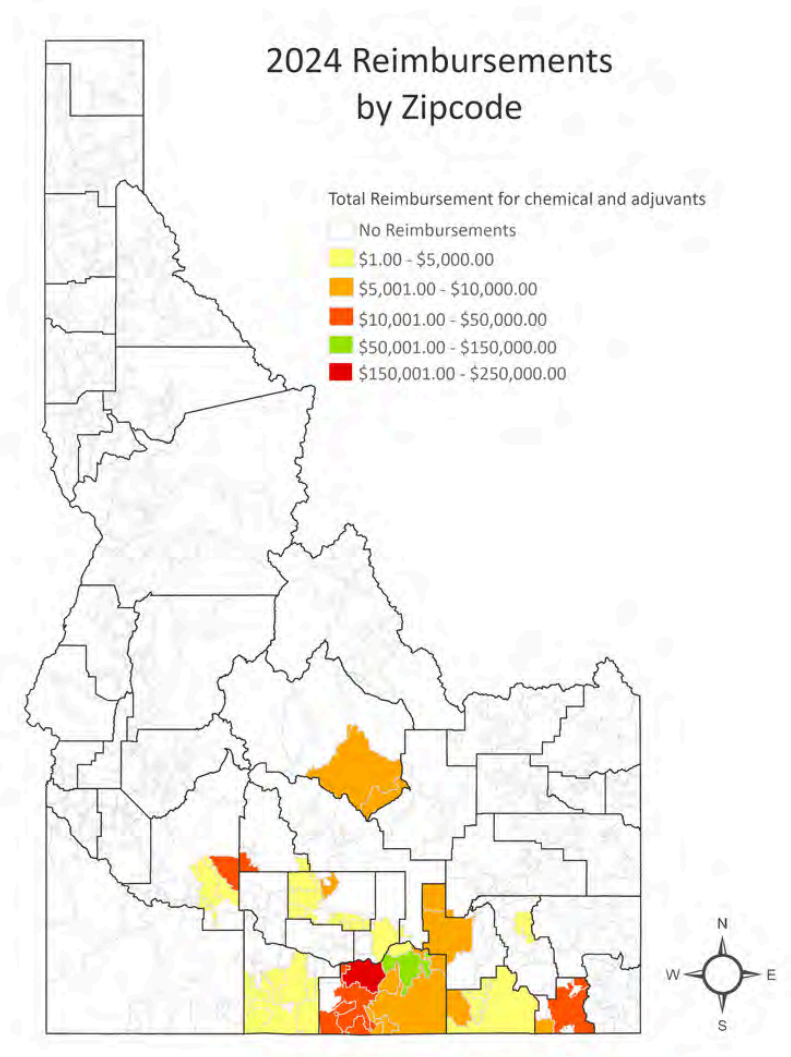
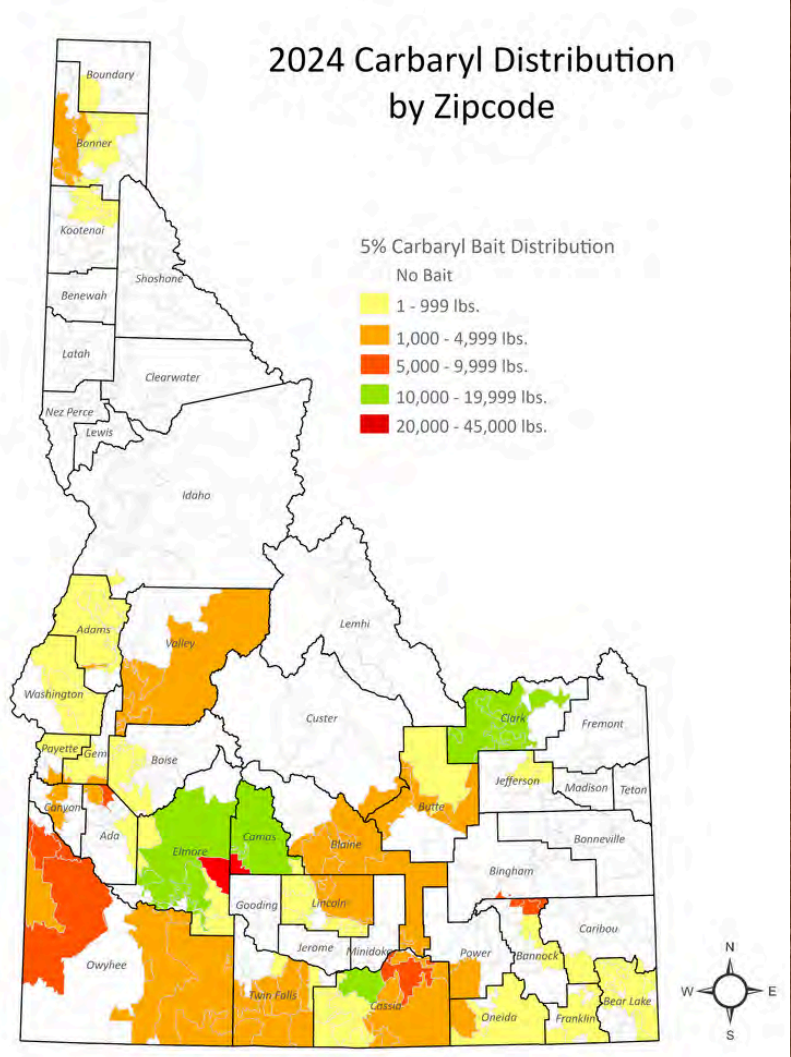
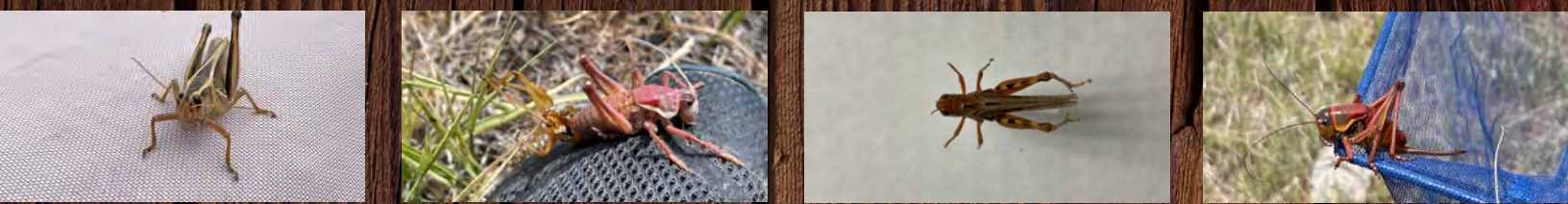
Summary of Insecticide Treatments Statewide

Method of Application	Lbs. (\$1.27/lb)	Value
5% Carbaryl bait, ag. producer application, Total Private	201,640	\$256,082.80
5% Carbaryl bait, ISDA State/ROW application, Mormon cricket control	520	\$660.40
Total 5% Carbaryl bait distributed	202,160	\$256,743.20
Landowner reimbursement, Grasshopper & Mormon cricket control	34,732.12 (acres treated)	\$547,622.86
Total cost of all treatments		\$804,366.06



Outbreak Areas

When severe grasshopper or Mormon cricket outbreaks occur, it is crucial to respond in a timely manner to prevent total loss of pasture/range and cropland. In these situations the ISDA may declare specific geographic areas as outbreak areas allowing for a swifter response. In 2024 the ISDA declared outbreaks in Cassia, Elmore, Franklin, and Owyhee counties. Cassia and Franklin counties experienced larger-than-normal hatches of grasshoppers, which resulted in a higher volume of requests for assistance and increased reimbursements to handle the infestations. Owyhee and Elmore County experienced a larger-than-normal hatch of Mormon crickets, resulting in a higher volume of requests for assistance and bait distributed.



Cull Onion Inspections and Actions

The deadline for disposal each year is March 15. Once the deadline was reached, visits were conducted and cull onion piles were then disposed of, resulting in compliance being reached.

In 2024, monitoring of cull onion sites began on March 15th in Ada, Canyon, Gem, Owyhee, Payette, and Washington counties. A total of 54 inspections were conducted between March and June, most for repeated monitoring, and no formal actions were required. Monitoring and inspection of these sites was conducted to identify and keep areas of high concern in compliance with IDAPA 02.06.05 Subchapter F – Disposal of Cull Onions and Potatoes.

Export Certification for 2024 Calendar Year

During 2024, the Division of Plant Industries issued 3709 Federal and 107 State Phytosanitary Certificates for 185 commodities to 79 countries.

The Division of Plant Industries certified over 315,861,920 pounds of seed, grain, hay, lumber, plants and other commodities for export. The ISDA operates this program under memorandum of understanding with the USDA.

Other Regulatory Inspections and Actions

ISDA, under the authority of Title 22, Chapters, 4, 5, 23 and 24 of the Idaho Code, and IDAPA defined pest quarantines, conducts inspections and consequently takes action against various pest threats and other violations.

In 2024, there were 2,327 licensed nurseries in the state; of those, 306 were inspected for compliance under statutes of the Idaho Nursery and Florists Law, and they were examined for the presence of plant pests as well as noxious weeds.

Seed Lab Summary

In fiscal year 2024 the Idaho State Seed Lab (ISSL) received 5,996 samples and performed 10,939 tests. The lab celebrated the success of two employees receiving their Certified Seed Analysts (CSA) certifications in Germination, and another three analysts are preparing for CSA exams in Purity and Germination in spring of 2025.

A time-saving wireless temperature tracking system was installed into all the lab's germinators for 24-hour temperature monitoring. This new system will ensure precise temperatures are always maintained during seed testing.

The top crops submitted to the lab were beans, grains, and peas, closely followed by natives/rangeland/revegetation species, and vegetables/flowers/herbs.

The seed dealer's licensing system was successfully updated to allow a more efficient, web-based interface and 748 companies were issued licenses.

There were 57 regulatory enforcement samples collected and analyzed.



Diseases and Pests Found During 2024 Field Inspections for Export Certification

In 2024, 70 seed companies submitted field inspection requests representing 45 crop types. The total acres submitted for inspection were 29,455 with 57,634 acres inspected due to multiple inspections required for some crop diseases. This represents 7 less firms than participated in 2023, with a 21.9% decrease in submitted acreage from the 35,897 acres submitted in 2023.

Year	Number Participating Firms	Number of Crops	Submitted Acres	Inspected Acres
2004	44	27	46,282	79,671
2005	43	28	42,961	74,905
2006	47	30	37,859	70,692
2007	48	32	30,938	58,218
2008	50	32	34,439	66,114
2009	43	33	36,541	72,184
2010	46	35	32495	62,608
2011	41	30	25,193	51,404
2012	50	30	24,102	50,045
2013	57	32	23,785	50,157
2014	62	36	26,620	55,846
2015	62	36	28,678	64,077
2016	62	38	31,093	67,930
2017	60	34	32,485	68,040
2018	66	37	30,757	65,639
2019	68	35	33,233	68,950
2020	72	34	29,667	60,421
2021	82	49	33,237	69,383
2022	79	52	29,911	59,307
2023	77	49	35,897	63,369
2024	70	45	29,455	57,634

Alfalfa Seed: A total of 548.25 acres were submitted for inspection during the 2024 growing season. All fields inspected were found apparently free from Alfalfa mosaic alfamovirus – AMV, Bacterial leaf spot (*Xanthomonas alfalfae*), Bacterial wilt of alfalfa (*Clavibacter michiganensis* subsp. *insidiosus*), Dodder (*Cuscuta* spp.), Leafy spurge (*Euphorbia esula*), Stem and bulb nematode (*Ditylenchus dipsaci*), Summer blackspot (*Cercospora medicaginis*), Verticillium wilt (*Verticillium alfalfae*), and Verticillium wilt of mint (*Verticillium dahliae*).

Allium, Garlic: A total of 12.84 acres were submitted for inspection during the 2024 growing season. All fields inspected were found apparently free from Botrytis rot of onion (*Botrytis allii*), Botrytis stalk rot (*Botrytis aclada*), Downy mildew of onion (*Peronospora destructor*), Onion smudge (*Colletotrichum circinans*), Purple blotch (*Alternaria porri*), Sclerotinia rot (*Sclerotinia* spp.), Onion smut (*Urocystis* sp.), Stem and bulb nematode (*Ditylenchus dipsaci*), Onion yellow dwarf potyvirus, Allium Leafminer (*Phytomyza Gymnostoma*) and White rot of onion (*Sclerotium cepivorum*).



Allium, Onions: A total of 467.84 acres were submitted for inspection during the 2024 growing season. In total, there were 716.24 acres inspected due to multiple inspection requirements for certain diseases. All fields inspected were found apparently free from Downy mildew of onion (*Peronospora destructor*), Onion smudge (*Colletotrichum circinans*), Onion yellow dwarf potyvirus, Purple blotch (*Alternaria porri*), Sclerotinia rot (*Sclerotinia* spp.), Onion smut (*Urocystis* sp.), Stem and bulb nematode (*Ditylenchus dipsaci*), Allium Leafminer (*Phytomyza Gymnostoma*) and White rot of onion (*Sclerotium cepivorum*).

- **Botrytis rot of onion (*Botrytis allii*) was confirmed in 42 acres; the remaining acres inspected were found apparently free from Botrytis rot of onion.**
- **Botrytis stalk rot (*Botrytis aclada*) was confirmed in 42 acres; the remaining acres inspected were found apparently free from Botrytis stalk rot.**

Allium: Ornamental: A total of 8.00 acres were submitted for inspection during the 2024 growing season. All fields inspected were found apparently free from Botrytis rot of onion (*Botrytis allii*), Botrytis stalk rot (*Botrytis aclada*), Downy mildew of onion (*Peronospora destructor*), Onion smudge (*Colletotrichum circinans*), Onion yellow dwarf potyvirus, Purple blotch (*Alternaria porri*), Sclerotinia rot (*Sclerotinia* spp.), Onion smut (*Urocystis* sp.), Stem and bulb nematode (*Ditylenchus dipsaci*), Allium Leafminer (*Phytomyza Gymnostoma*) and White rot of onion (*Sclerotium cepivorum*).

Allium, Shallot: A total of 0.12 acres were submitted for inspection during the 2024 growing season. All fields inspected were found apparently free from Botrytis rot of onion (*Botrytis allii*), Botrytis stalk rot (*Botrytis aclada*), Downy mildew of onion (*Peronospora destructor*), Onion smudge (*Colletotrichum circinans*), Onion yellow dwarf potyvirus, Purple blotch (*Alternaria porri*), Sclerotinia rot (*Sclerotinia* spp.), Onion smut (*Urocystis* sp.), Stem and bulb nematode (*Ditylenchus dipsaci*), Allium Leafminer (*Phytomyza Gymnostoma*) and White rot of onion (*Sclerotium cepivorum*).

Allium, Welsh Onion: A total of 7.00 acres were submitted for inspection during the 2024 growing season. All fields inspected were found apparently free from Botrytis rot of onion (*Botrytis allii*), Botrytis stalk rot (*Botrytis aclada*), Downy mildew of onion (*Peronospora destructor*), Onion smudge (*Colletotrichum circinans*), Onion yellow dwarf potyvirus, Purple blotch (*Alternaria porri*), Sclerotinia rot (*Sclerotinia* spp.), Onion smut (*Urocystis* sp.), Stem and bulb nematode (*Ditylenchus dipsaci*), Allium Leafminer (*Phytomyza Gymnostoma*) and White rot of onion (*Sclerotium cepivorum*).

Beans, Dry: A total of 1,515.65 acres were submitted for inspection during the 2024 growing season. In total, there were 3,582.94 acres inspected due to multiple inspection requirements for certain diseases. To meet requirements of IDAPA 02.06.06, Rules Governing the Planting of Beans, all fields inspected were found apparently free from Anthracnose (*Colletotrichum lindemuthianum*), Bean bacterial wilt (*Curtobacterium flaccumfaciens* pv. *flaccumfaciens*), Common blight (*Xanthomonas axonopodis* pv. *phaseoli*), Fuscus blight (*Xanthomonas fuscans* pv. *fuscans*), and Halo blight (*Pseudomonas savastanoi* pv. *phaseolicola*).

- **Brown spot (*Pseudomonas syringae* pv. *syringae*) was confirmed in 90 acres, the remaining acres inspected were found apparently free from Brown spot.**





Beans, Garden: A total of 9,092.01 acres were submitted for inspection during the 2024 growing season. In total, there were 23,711.52 acres inspected due to multiple inspection requirements for certain diseases. To meet requirements of IDAPA 02.06.06, Rules Governing the Planting of Beans, all fields inspected were found apparently free from Anthracnose (*Colletotrichum lindemuthianum*), Bean bacterial wilt (*Curtobacterium flaccumfaciens* pv. *flaccumfaciens*), Common blight (*Xanthomonas axonopodis* pv. *phaseoli*), Fuscus blight (*Xanthomonas fuscans* pv. *fuscans*) and Halo blight (*Pseudomonas savastanoi* pv. *phaseolicola*).

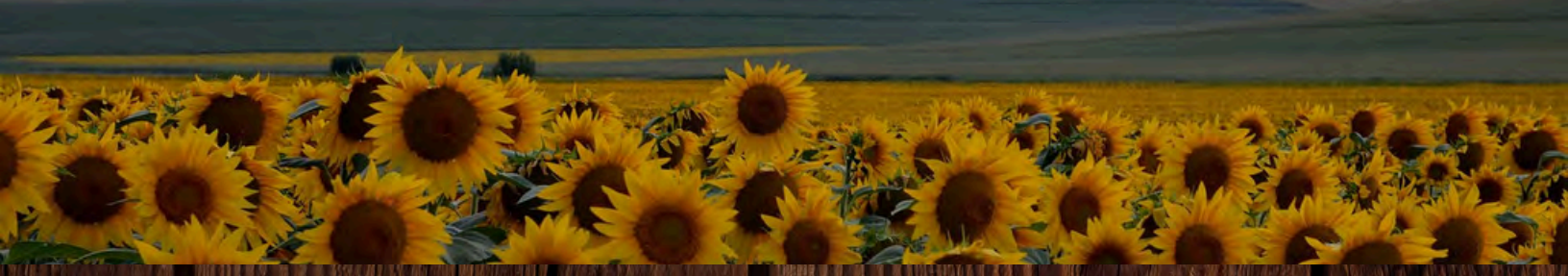
- **Brown spot (*Pseudomonas syringae* pv. *syringae*) was confirmed in 46 acres, the remaining acres inspected were found apparently free from Brown spot.**
- **Bean common mosaic potyvirus was confirmed in 43.23 acres.**
- **Beet curly top curtovirus was confirmed in 49.50 acres.**

Beans, Non-Phaseolus, (Soybean): A total of 39.0 acres were submitted for inspection during the 2024 growing season. In total, there were 0.00 acre inspected. To meet requirements of IDAPA 02.06.06, Rules Governing the Planting of Beans, all fields inspected were found apparently free from Anthracnose (*Colletotrichum lindemuthianum*), Asian soybean rust (*Phakopsora pachyrhizi*), Bean bacterial wilt (*Curtobacterium flaccumfaciens* pv. *flaccumfaciens*), Brown spot (*Pseudomonas syringae* pv. *syringae*), Common blight (*Xanthomonas axonopodis* pv. *phaseoli*), Fuscus blight (*Xanthomonas fuscans* pv. *fuscans*), and Halo blight (*Pseudomonas savastanoi* pv. *phaseolicola*).

Beans, Trial Ground – Phaseolus sp.: A total of 285.08 acres were submitted for inspection during the 2024 growing season. In total, there were 1,424.90 acres inspected due to multiple inspection requirements for certain diseases. To meet requirements of IDAPA 02.06.06, Rules Governing the Planting of Beans, all fields inspected were found apparently free from Anthracnose (*Colletotrichum lindemuthianum*), Bean bacterial wilt (*Curtobacterium flaccumfaciens* pv. *flaccumfaciens*), Brown spot (*Pseudomonas syringae* pv. *syringae*), Common blight (*Xanthomonas axonopodis* pv. *phaseoli*), Fuscus blight (*Xanthomonas fuscans* pv. *fuscans*), and Halo blight (*Pseudomonas savastanoi* pv. *phaseolicola*).

Beans, Trial Ground – Non-Phaseolus sp. (Azuki): A total of 0.24 acres were submitted for inspection during the 2024 growing season. In total, there were 1.20 acres inspected due to multiple inspection requirements for certain diseases. To meet requirements of IDAPA 02.06.06, Rules Governing the Planting of Beans, all fields inspected were found apparently free from Anthracnose (*Colletotrichum lindemuthianum*), Asian soybean rust (*Phakopsora pachyrhizi*), Bean bacterial wilt (*Curtobacterium flaccumfaciens* pv. *flaccumfaciens*), Brown spot (*Pseudomonas syringae* pv. *syringae*), Common blight (*Xanthomonas axonopodis* pv. *phaseoli*), Fuscus blight (*Xanthomonas fuscans* pv. *fuscans*), and Halo blight (*Pseudomonas savastanoi* pv. *phaseolicola*).

Beans, Trial Ground – Non-Phaseolus sp. (Cowpea): A total of 2.19 acres were submitted for inspection during the 2024 growing season. In total, there were 10.95 acres inspected due to multiple inspection requirements for certain diseases. To meet requirements of IDAPA 02.06.06, Rules Governing the Planting of Beans, all fields inspected were found apparently free from Anthracnose (*Colletotrichum lindemuthianum*), Asian soybean rust (*Phakopsora pachyrhizi*), Bean bacterial wilt (*Curtobacterium flaccumfaciens* pv. *flaccumfaciens*), Brown spot (*Pseudomonas syringae* pv. *syringae*), Common blight (*Xanthomonas axonopodis* pv. *phaseoli*), Fuscus blight (*Xanthomonas fuscans* pv. *fuscans*), and Halo blight (*Pseudomonas savastanoi* pv. *phaseolicola*).



Beans, Trial Ground – Non-Phaseolus sp. (Faba/Fava): A total of 0.27 acres were submitted for inspection during the 2024 growing season. In total, there were 1.35 acres inspected due to multiple inspection requirements for certain diseases. To meet requirements of IDAPA 02.06.06, Rules Governing the Planting of Beans, all fields inspected were found apparently free from Anthracnose (*Colletotrichum lindemuthianum*), Asian soybean rust (*Phakopsora pachyrhizi*), Bean bacterial wilt (*Curtobacterium flaccumfaciens* pv. *flaccumfaciens*), Brown spot (*Pseudomonas syringae* pv. *syringae*), Common blight (*Xanthomonas axonopodis* pv. *phaseoli*), Fuscus blight (*Xanthomonas fuscans* pv. *fuscans*), and Halo blight (*Pseudomonas savastanoi* pv. *phaseolicola*).

Beans, Trial Ground – Non-Phaseolus sp. (Soybeans): A total of 0.05 acres were submitted for inspection during the 2024 growing season. In total, there were 0.25 acres inspected due to multiple inspection requirements for certain diseases. To meet requirements of IDAPA 02.06.06, Rules Governing the Planting of Beans, all fields inspected were found apparently free from Anthracnose (*Colletotrichum lindemuthianum*), Asian soybean rust (*Phakopsora pachyrhizi*), Bean bacterial wilt (*Curtobacterium flaccumfaciens* pv. *flaccumfaciens*), Brown spot (*Pseudomonas syringae* pv. *syringae*), Common blight (*Xanthomonas axonopodis* pv. *phaseoli*), Fuscus blight (*Xanthomonas fuscans* pv. *fuscans*), and Halo blight (*Pseudomonas savastanoi* pv. *phaseolicola*).

Beet: A total of 0.24 acres were submitted for inspection during the 2024 growing season. In total there were 0.48 acres inspected due to multiple inspections. All fields were inspected and found apparently free from Root rot of beet (*Aphanomyces cochlioides*), Beet necrotic yellow vein virus (Beet necrotic yellow vein Benyvirus), and Downey mildew (*Peronospora farinosa*).

Brassica, Broccoli: A total of .01 acres were submitted for inspection during the 2024 growing season. All fields inspected were found apparently free from Black leg/Stem canker (*Leptosphaeria biglobosa*), Black leg (*Leptosphaeria maculans*), Club root (*Plasmodiophora brassicae*), Crucifer bacterial leaf spot (*Pseudomonas syringae* pv. *maculicola*) and Black rot of crucifers (*Xanthomonas campestris* pv. *campestris*).

Brassica, Cauliflower: A total of .005 acres were submitted for inspection during the 2024 growing season. All fields inspected were found apparently free from Black leg (*Leptosphaeria maculans*), Club root (*Plasmodiophora brassicae*), and Black rot of crucifers (*Xanthomonas campestris* pv. *campestris*).

Brassica, Collards: A total of 7.30 acres were submitted for inspection during the 2024 growing season. All fields inspected were found apparently free from Blackleg (*Leptosphaeria maculans*), Black leg/Stem canker (*Leptosphaeria biglobosa*), Black rot of crucifers (*Xanthomonas campestris* pv. *campestris*), Club root (*Plasmodiophora brassicae*), and Crucifer bacterial leaf spot (*Pseudomonas syringae* pv. *maculicola*).

Brassica, Kale: A total of 21.0 acres were submitted for inspection during the 2024 growing season. All fields inspected were found apparently free from Black leg (*Leptosphaeria maculans*), Black leg/Stem canker (*Leptosphaeria biglobosa*), Black rot of crucifers (*Xanthomonas campestris* pv. *campestris*), Club root (*Plasmodiophora brassicae*), and Crucifer bacterial leaf spot (*Pseudomonas syringae* pv. *maculicola*).

Brassica, Spinach: A total of 2.84 acres were submitted for inspection during the 2024 growing season. All fields inspected were found apparently free from Bacterial blight of crucifers (*Pseudomonas cannabina* pv. *alisalensis*), Black leg (*Leptosphaeria maculans*), Black leg/Stem canker (*Leptosphaeria biglobosa*), Black rot of crucifers (*Xanthomonas campestris* pv. *campestris*), and Downy Mildew (*Peronospora farinosa*).

Brassica, Turnip: A total of 70.0 acres were submitted for inspection during the 2024 growing season. All fields inspected were found apparently free from Black leg (*Leptosphaeria maculans*), Black leg/Stem canker (*Leptosphaeria biglobosa*), Black rot of crucifers (*Xanthomonas campestris* pv. *campestris*), Club root (*Plasmodiophora brassicae*), and Crucifer bacterial leaf spot (*Pseudomonas syringae* pv. *maculicola*).



Carrot: A total of 3,545.13 acres were submitted for inspection during the 2024 growing season. In total there were 3,505.40 acres inspected. All fields inspected were found apparently free from Alternaria leaf blight (*Alternaria dauci*), and Black rot of carrot (*Alternaria radicina*).

- Alfalfa Mosaic Virus (Alfalfa Mosaic Alfamovirus – AMV) was confirmed in 18 acres.
- Bacterial blight of carrot (*Xanthomonas hortorum* pv. *carotae*) was confirmed in 54 acres.

Corn: A total of 4,922.44 acres were submitted for inspection during the 2024 growing season. In total, there were 9,823.71 acres inspected due to multiple inspection requirements for certain diseases. All fields inspected were found apparently free from Brown spot (*Physoderma maydis*), Brown stripe downy mildew (*Sclerophthora rayssiae* var. *zeae*), Crazy top of corn (*Sclerophthora macrospora*), Eyespot (*Aureobasidium zeae*), Goss's bacterial wilt (*Clavibacter michiganensis* subsp. *nebraskensis*), Green ear downy mildew (*Sclerospora graminicola*), Head smut (*Sporisorium reilianum*), Java downy mildew (*Peronosclerospora maydis*), Late wilt (*Harpophora maydis*), Northern corn leaf spot (*Cochliobolus carbonum*), Philippine downy mildew (*Peronosclerospora philippinensis*), Sorghum downy mildew (*Peronosclerospora sorghi*), Southern corn leaf blight (*Cochliobolus heterostrophus*), Spontaneum downy mildew (*Peronosclerospora spontanea*), Stewart's wilt (*Pantoea stewartii*), Sugarcane downy mildew (*Peronosclerospora sacchari*), and Yellow leaf blight (*Mycosphaella zeae-maydis*).

- Common smut (*Ustilago maydis*) was confirmed in 244.55 acres.
- High plains virus was confirmed in 1,079.15 acres.
- Wheat streak mosaic tritimovirus was confirmed in 41.9 acres.

Corn, to Australia: Corn, to Australia: A total of 379.88 acres were submitted for inspection during the 2024 growing season. In total, there were 759.76 acres inspected due to multiple inspection requirements for certain diseases. All fields inspected were found apparently free from Brown spot (*Physoderma maydis*), Brown stripe downy mildew (*Sclerophthora rayssiae* var. *zeae*), Crazy top of corn (*Sclerophthora macrospora*), Eyespot (*Aureobasidium zeae*), Goss's bacterial wilt (*Clavibacter michiganensis* subsp. *nebraskensis*), Green ear downy mildew (*Sclerospora graminicola*), Head smut (*Sporisorium reilianum*), Java downy mildew (*Peronosclerospora maydis*), Late wilt (*Harpophora maydis*), Maize dwarf mosaic potyvirus, Northern corn leaf spot (*Cochliobolus carbonum*), Philippine downy mildew (*Peronosclerospora philippinensis*), Sorghum downy mildew (*Peronosclerospora sorghi*), Southern corn leaf blight (*Cochliobolus heterostrophus*), Spontaneum downy mildew (*Peronosclerospora spontanea*), Stewart's wilt (*Pantoea stewartii*), Sugarcane downy mildew (*Peronosclerospora sacchari*), and Yellow leaf blight (*Mycosphaella zeae-maydis*).

- High plains virus was confirmed in 97.41 acres.
- Common smut (*Ustilago maydis*) was confirmed in 133.80 acres.
- Wheat streak mosaic tritimovirus was confirmed in 19.0 acres.

Corn, to Japan: A total of 770.05 acres were submitted for inspection during the 2024 growing season. In total, there were 1,540.10 acres inspected due to multiple inspection requirements for certain diseases. All fields inspected were found apparently free from Brown spot (*Physoderma maydis*), Brown stripe downy mildew (*Sclerophthora rayssiae* var. *zeae*), Crazy top of corn (*Sclerophthora macrospora*), Eyespot (*Aureobasidium zeae*), Goss's bacterial wilt (*Clavibacter michiganensis* subsp. *nebraskensis*), Green ear downy mildew (*Sclerospora graminicola*), Head smut (*Sporisorium reilianum*), Japan maize chlorotic mottle, Java downy mildew (*Peronosclerospora maydis*), Late wilt (*Harpophora maydis*), Northern corn leaf spot (*Cochliobolus carbonum*), Philippine downy mildew (*Peronosclerospora philippinensis*), Sorghum downy mildew (*Peronosclerospora sorghi*), Southern corn leaf blight (*Cochliobolus heterostrophus*), Spontaneum downy mildew (*Peronosclerospora spontanea*), Stewart's wilt (*Pantoea stewartii*), Sugarcane downy mildew (*Peronosclerospora sacchari*), Japan maize Chlorotic Mottle and Yellow leaf blight (*Mycosphaella zeae-maydis*).

- Common smut (*Ustilago maydis*) was confirmed in 170.96 acres.
- High plains virus was confirmed in 0.24 acres.



Garbanzo Beans/Chickpeas Trial Ground: A total of 6.77 acres were submitted for inspection during the 2024 growing season. In total, there were 13.54 acres inspected due to multiple inspection requirements for certain diseases. All fields inspected were found apparently free from Anthracnose of Lentil (*Colletotrichum truncatum*) and Ascochyta blight of Chickpeas (*Ascochyta rabiei*).

Garden Orache: A total of 0.37 acres were submitted for inspection during the 2024 growing season. All fields inspected were found apparently free from Black leg (*Leptosphaeria maculans*) and Bacterial blight (*Pseudomonas syringae*).

Grain, Barley: A total of 14.40 acres of barley were submitted for inspection during the 2024 growing season. In total, there were 25.20 acres inspected due to multiple inspection requirements for certain diseases. All fields inspected were found apparently free from Smut (*Urocystis* sp.)

- Bacterial leaf streak (*Xanthomonas translucens*) was confirmed in 1.31 acres, the remaining acres inspected were found apparently free from Bacterial leaf streak.
- Bacterial blight (*Xanthomonas* spp.) was confirmed in 1.31 acres.

Grain, Amaranth: A total of .35 acres were submitted for inspection during the 2024 growing season. All fields inspected were found apparently free from Bitter rot/Anthracnose (*Glomerella cingulata*) and Downy mildew of spinach (*Peronospora farinosa*).

Grain, Buckwheat: A total of 2.70 acres were submitted for inspection during the 2024 growing season. All fields inspected were found apparently free from Aster yellows (*Phytoplasma asteris*; Aster yellow phytoplasma group) and Sugarbeet downy mildew (*Erysiphe polygoni*).

Grain, False Flax: A total of 3.00 acres were submitted for inspection during the 2024 growing season. All fields inspected were found apparently free from Club root (*Plasmodiophora brassicae*)

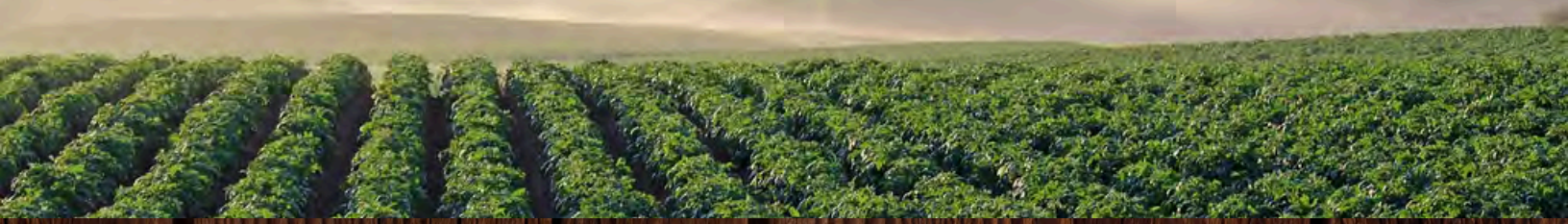
Grain, Oat: A total of 10.07 acres were submitted for inspection during the 2024 growing season. In total there were 11.40 acres inspected due to multiple inspections. All fields inspected were found apparently free from Bacterial leaf streak (*Xanthomonas translucens*) and Smut (*Urocystis* sp.).

Grain, Wheat: A total of 18.35 acres were submitted for inspection during the 2024 growing season. In total there were 36.35 acres inspected due to multiple inspections requirements for certain diseases. All fields inspected were found apparently free from Bacterial leaf streak (*Xanthomonas translucens*) and Smut (*Urocystis* sp.).

- Wheat streak mosaic tritimovirus was confirmed in 13.0 acres.

Herb, Coriander: A total of 60.0 acres were submitted for inspection during the 2024 growing season. All fields inspected were found apparently free from Bacterial blight (*Pseudomonas syringae*), Bacterial blight of carrot (*Xanthomonas hortorum* pv. *carotae*), and Stem gall of Coriander (*Protomyces macrosporus*).

Lentil: A total of 1.01 acres were submitted for inspection during the 2024 growing season. In total there were 0.01 acres inspected. All fields inspected were found apparently free from Anthracnose (*Colletotrichum lindemuthianum*) and Anthracnose of lentil (*Colletotrichum truncatum*).



Lettuce: A total of 139.44 acres were submitted for inspection during the 2024 growing season. All fields inspected were found apparently free from Lettuce Mosaic Potyvirus -LMV-, Impatiens Necrotic Spot Tospovirus and Bacterial Blight of Endive (*Pseudomonas Cichorii*)

Mint, Peppermint: A total of 127.50 acres were submitted for inspection during the 2024 growing season. In total, there were 255.00 acres inspected due to multiple inspection requirements for certain diseases and pests. All fields inspected were found apparently free from Mint root borer (*Fumibotys fumalis*), Mint stem borer (*Pseudobaris nigrina*), Verticillium wilt (*Verticillium non-alfalfae*), and Verticillium wilt of mint (*Verticillium dahliae*).

Peas: A total of 3,955.15 acres were submitted for inspection during the 2024 growing season. In total, there were 7,911.80 acres inspected due to multiple inspection requirements for certain diseases. All fields inspected were found apparently free from Anthracnose of lentil (*Colletotrichum truncatum*) and Bacterial blight of peas (*Pseudomonas syringae* pv. *pisi*).

- **Sclerotinia spp. was confirmed in 30.08 acres**
- **Root and stem wilt/Root and stem rot (*Fusarium* spp.) was confirmed in 21.21 acres**
- ***Fusarium* wilt of pea (*Fusarium oxysporum*) was confirmed in 36 acres.**

Pepper, Bell: A total of 0.01 acres were submitted for inspection during the 2024 growing season. In total, there were 0.02 acres inspected due to multiple inspection requirements for certain diseases. All fields inspected were found apparently free from Angular leaf spot (*Pseudomonas amygdali* pv. *lachrymans*), Anthracnose (*Colletotrichum* spp.), Bacterial canker (*Clavibacter michiganensis* pv. *michiganensis*), Bacterial spot (*Xanthomonas vesicatoria*), Cucumber mosaic cucumovirus -CMV-, and Phytophthora blight (*Phytophthora capsici*).

Potato: A total of 3,127.62 acres were submitted for inspection during the 2024 growing season. In total there were 3,127.62 acres inspected. All fields inspected were found apparently free from Late blight (*Phytophthora infestans*).

Radish: A total of 243.0 acres were submitted for inspection during the 2024 growing season. All fields inspected were found apparently free from Bacterial blight of radish (*Xanthomonas campestris* pv. *raphani*), Black leg (*Leptosphaeria maculans*), Black leg/Stem Canker (*Leptosphaeria biglobosa*). Black rot of crucifers (*Xanthomonas campestris* pv. *campestris*), and Turnip/radish anthracnose (*Colletotrichum higginsianum*).

Vine, Cucumber: A total of 0.01 acres were submitted for inspection during the 2024 growing season. All fields inspected were found apparently free from Angular leaf spot (*Pseudomonas amygdali* pv. *lachrymans*), Anthracnose (*Colletotrichum orbiculare*), Bacterial fruit blotch of Watermelon (*Acidovorax citrulli*), Bacterial leaf spot of cucurbits (*Xanthomonas cucurbitae*), and Cucumber mosaic cucumovirus - CMV-.

Vine, Summer Squash: A total of 0.06 acres were submitted for inspection during the 2024 growing season. All fields inspected were found apparently free from Angular leaf spot (*Pseudomonas amygdali* pv. *lachrymans*), Anthracnose (*Colletotrichum orbiculare*), Bacterial fruit blotch of Watermelon (*Acidovorax citrulli*), Bacterial leaf spot of cucurbits (*Xanthomonas cucurbitae*), and Cucumber mosaic cucumovirus -CMV-.

Safflower: A total of 48.0 acres were submitted for inspection during the 2024 growing season. All fields inspected were found apparently free from Alternaria blight (*Alternaria carthami*), Safflower rust (*Puccinia calcitrapae* var. *centaureae*), and Sclerotinia rot (*Sclerotinia* spp.).

Tomato: A total of 0.07 acres were submitted for inspection during the 2024 growing season. All fields inspected were found apparently free from Bacterial speck (*Pseudomonas syringae* pv. *tomato*).



2024 Phytosanity Field Inspection Acreage

2024 Inspection Acres Report (compiled 02/28/2024)

Crop	Number of Applications	Acres Submitted for Inspection	Number of Inspections Based on Diseases Requested	Actual Acres Inspected
Alfalfa Total	15	548.25	1	548.25
Amaranth Total	1	0.35	1	0.35
Barley	1	3.60	1	3.60
	40	10.80	2	21.60
Barley Total	41	14.40		25.20
Beans, Dry Phaseolus	62	968.65	2	1933.74
	18	542.90	3	1628.70
	2	4.10	5	20.5
Beans, Dry Phaseolus Total	82	1515.65		3582.94
Beans, Garden Phaseolus	338	3563.513	2	7126.02
	117	5528.50	3	16585.50
Beans, Garden Phaseolus Total	455	9,092.01		23711.52
Beans, Soybeans Non Phaseolus Total	1	39.00	2	0.00
Beans, Trail Ground Azuki Non-Phaseolus Total	2	0.24	5	1.20
Beans, Trial Ground Cowpea Non Phaselus Total	2	2.19	5	10.95
Beans, Trail Grounds Faba/ Fava Non Phaseolus Total	2	0.27	5	1.35
Beans Trial Ground -Phaseolus	84	285.08	5	1424.90
Beans Trial Ground Soybeans Non-Phaseolus Total	1	0.05	5	0.25
Beet, Total	1	0.24	2	0.48
Broccoli, Total	1	0.01	1	0.01
Buckwheat, Total	2	2.70	1	2.70
Carrot, Total	465	3545.13	1	3505.40
Cauliflower, Total	1	0.05	1	0.05
Collards, Total	3	7.30	1	7.30
Coriander, Total	5	60.00	1	60.00
Corn	3	11.17	1	11.17
	503	4911.27	2	9812.54
Corn Total	506	4922.44		9823.71
Corn To Australia, Total	36	379.88	2	759.76
Corn To Japan, Total	61	770.05	2	1540.10
Cucumber, Total	1	0.01	1	0.01
False Flax, Total	3	3.0	1	3.0
Garbanzo Bean/Chickpea, Trial Ground, Total	3	6.77	2	13.54
Garden Orache, Total,	2	0.37	1	0.37



Crop	Number of Applications	Acres Submitted for Inspection	Number of Inspections Based on Diseases Requested	Actual Acres Inspected
Garlic, Total	11	12.84	1	12.84
Kale, Total	1	21.0	1	21.0
Lentil, Total	2	1.01	1	.01
Lettuce, Total	25	139.44	1	139.44
Oats	2	8.74	1	8.74
	1	1.33	2	2.66
Oats, Total	3	10.07		11.40
Onion	97	219.44	1	219.44
	15	248.40	2	496.80
Onion, Total	112	467.84		716.24
Ornamental Allium, Total	2	8.00	1	8.00
Peas, Total	268	3955.15	2	7911.80
Pepper Bell, Total	1	0.01	2	0.02
Peppermint, Total	9	127.50	2	255.0
Potato, Total	22	3127.62	1	3127.62
Radish, Total	16	243.0	1	243.0
Safflower, Total	1	48.0	1	48.0
Shallot, Total	1	0.12	1	0.12
Spinach, Total	1	2.84	1	2.84
Squash Summer, Total	1	0.06	1	0.06
Tomato, Total	1	0.07	1	0.07
Turnip, Total	5	70.00	1	70.0
Welsh Onion, Total	1	7.0	1	7.0
Wheat	1	.35	1.0	.35
	3	18.0	2	36.0
Wheat, Total	4	18.35		36.35
Totals	2,333	29,455.36		57,768.19





Plant Pathology Summary Report

The Idaho State Department of Agriculture Plant Pathology Lab (ISDA-PPL) received 9,966 samples (field, seed, regulatory, and nursery). From these samples we ran a total of 8,939 tests.

Included in the totals above, ISDA-PPL examined 215 lots of beans or non-Phaseolus bean seeds for planting in Idaho and / or export. From these lots we ran 1,012 different tests. We found four lots positive for regulated bacteria. These were as follows: three lots were contaminated with *Curtobacterium flaccumfaciens* pv. *flaccumfaciens* and one lot with *Pseudomonas syringae* pv. *syringae*. *Macrophomina phaseolina* was found in two lots of out of State beans.

ISDA-PPL received 29 seed samples and ran 1,835 different tests on these samples. We tested five different crops for nine different diseases. 10 samples were bean lots for Bean common mosaic virus grow out of 1,100 plants.

ISDA-PPL received 18 samples taken from nursery stock across the state. Thirty-six tests were run with no pathogens of regulatory concern found.

9,704 samples from the field inspection program were tested in the ISDA-PPL lab. We ran approximately 6,056 tests on these samples. Many of these tests were visual assessments performed by the pathologist and samples did not show signs of default and / or requested diseases, so no further testing was necessary. Samples came from 32 different crop species.

The table below shows the number of fields that were positive for organisms of concern during the 2024 field season.



Positive Field Sample Results

Crop	Number of Positive Fields	Disease
Barley	2	Xanthomonas translucens
Beans	3	Bean common mosaic virus
	4	Beet curly top virus
	3	Pseudomonas syringae pv. syringae
Carrot	1	Alfalfa mosaic virus
	2	Xanthomonas hortorum pv. carotae
Corn	81	High plains virus
	42	Ustilago maydis
	8	Wheat streak mosaic
Onion	2	Botrytis allii/aclada
Pea	1	Fusarium spp.
	1	Sclerotinia spp.



COMMERICAL FEED, FERTILIZER AND AMENMENT PROGRAM

The Commercial Feed, Fertilizer & Amendment Program ensures a level playing field for industry through registration and label review and ensures Idaho consumers are protected in the marketplace through sampling and regulation enforcement.

	Feed	Fertilizer	Soil & Plant Amendments
Number of Labels Submitted for Registration Year	25,839	7,810	2,301
Number of Labels Reviewed/% of Registered	6,425 (24.8%)	1,132 (14.4%)	386 (16.7%)
Number of Enforcement Samples Submitted	998	483	0
Number of Enforcement Violations Submitted	106	88	0
Number of Enforcement Actions	96	43	0





Program Highlights

Invasive species present a significant threat to the economy and environment of Idaho. The Idaho State Department of Agriculture (ISDA) administers the Invasive Species Program for the state, managing program activities that include watercraft inspection, invasive species surveys, invasive species education, and management of the state's Noxious Weed program.

- 156,798 watercraft inspections were conducted in 2024.
- 1,329,579 watercraft inspections have been conducted in Idaho since the program began in 2009.
- 21 zebra/quagga mussel fouled vessels were intercepted in 2024 with 15 of them destined to Idaho.
- 467 zebra/quagga mussel fouled vessels have been intercepted in Idaho since the program began in 2009.
- Increased level of watercraft inspection station operations on numerous levels including:
 - 2 New Inspection Stations Boundary and Centennial.
 - 24-hour operation at the I-84 West Cotterell Watercraft Inspection Station.
 - 18-hour operations at the Cedars I-90 West, Malad I-15 North, and Jackpot Hwy 93 North Watercraft Inspection Stations.
 - Inspection Stations increase season by a month or longer (Bruneau, Marsing, Cotterell, Malad, Franklin, Albeni Falls, Samuels, Clark Fork and Hwy 93).
 - Stations extend daily operations hours (Island Park open 16 hours instead of 12).
 - Cooperative agreement with the Bear Lake Regional Commission to support two Utah Watercraft Inspection Stations.
 - Law enforcement support at every Idaho inspection station.
- 1,857 veliger samples for zebra/quagga mussel early detection monitoring were collected from over 80 waterbodies throughout the state in 2024.

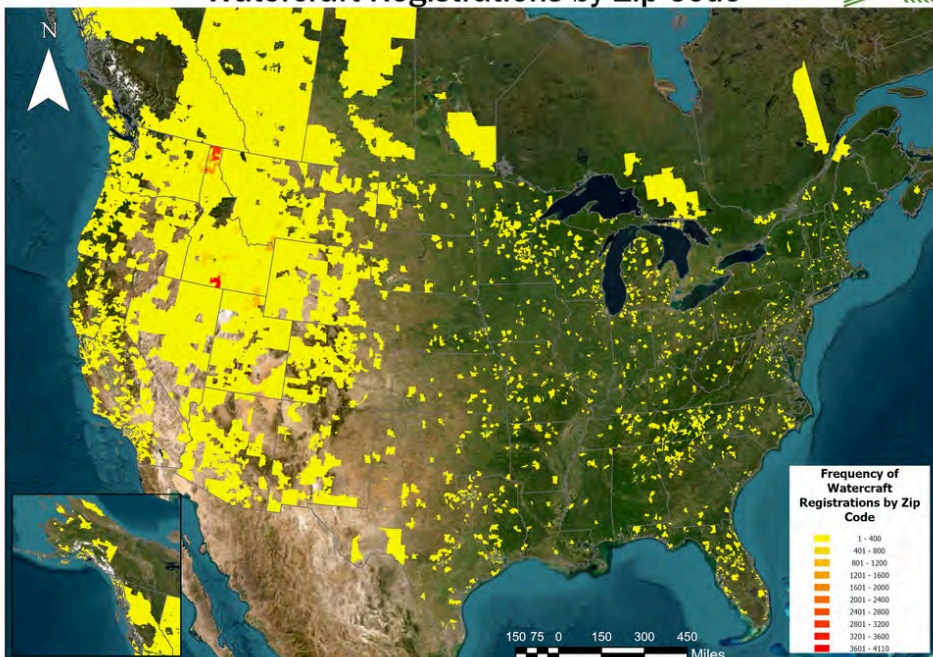




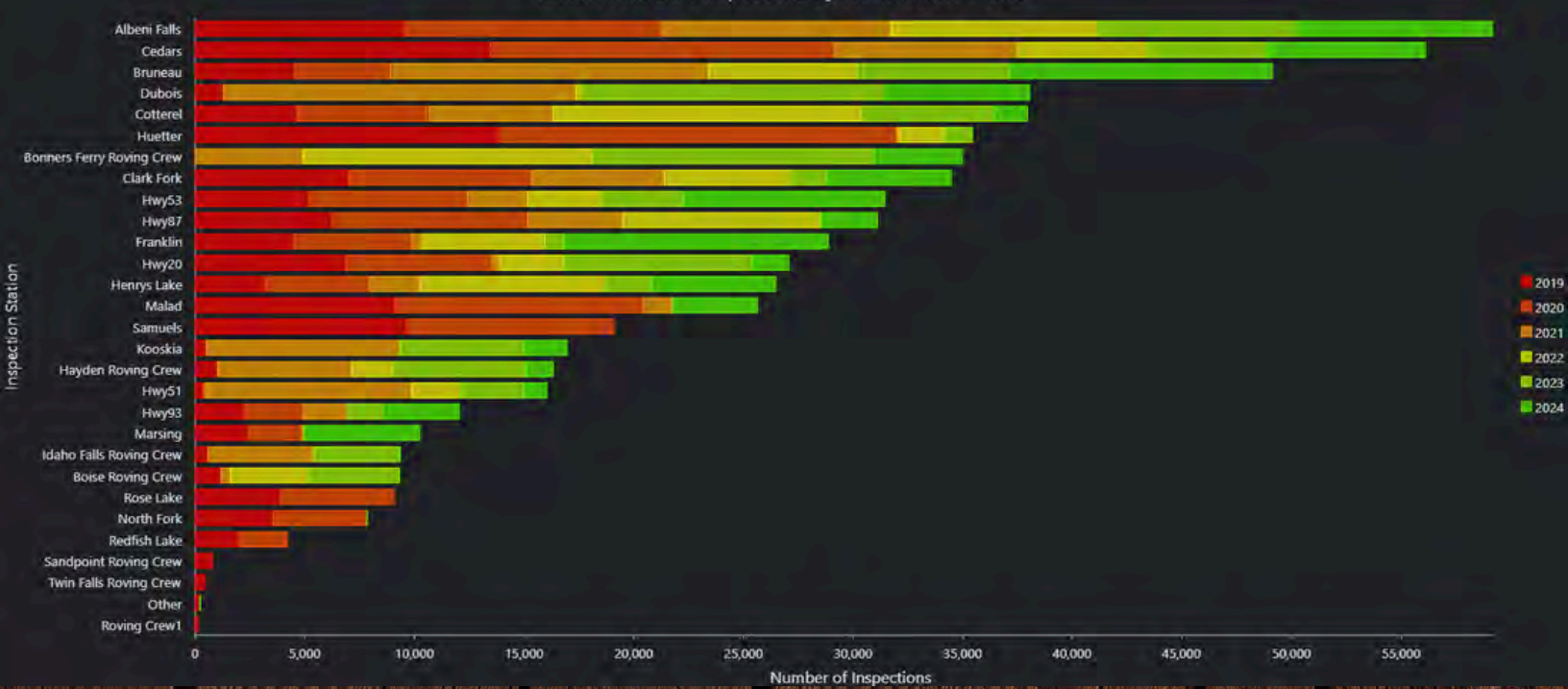
Watercraft Inspection

Prevention of aquatic invasive species (AIS) is a significant component of the Invasive Species program. The 2024 season was the 16th year of the watercraft inspection program. In 2024 two new stations were added Boundary and Centennial to make a total of 22 active inspection stations operating statewide. For this year watercraft stations inspected 156,798 watercraft. The continued high level of watercraft inspections was due, in part, to several factors including, 50% of inspection stations increased their season by a month or longer, extending station operation to cover daylight hours, 24-hour operation at I-84 West Cotterell, 18-hour operations at the Cedars I-90 West, Malad I-15 North, and Jackpot Hwy 93 North Watercraft Inspection Stations, lighted message boards, increased signage, operating additional inspection stations and contracting with law enforcement to assist with station compliance.

2024 Idaho Watercraft Inspection Stations:
Watercraft Registrations by Zip Code



Idaho Watercraft Inspections by Station: 2019 - 2024



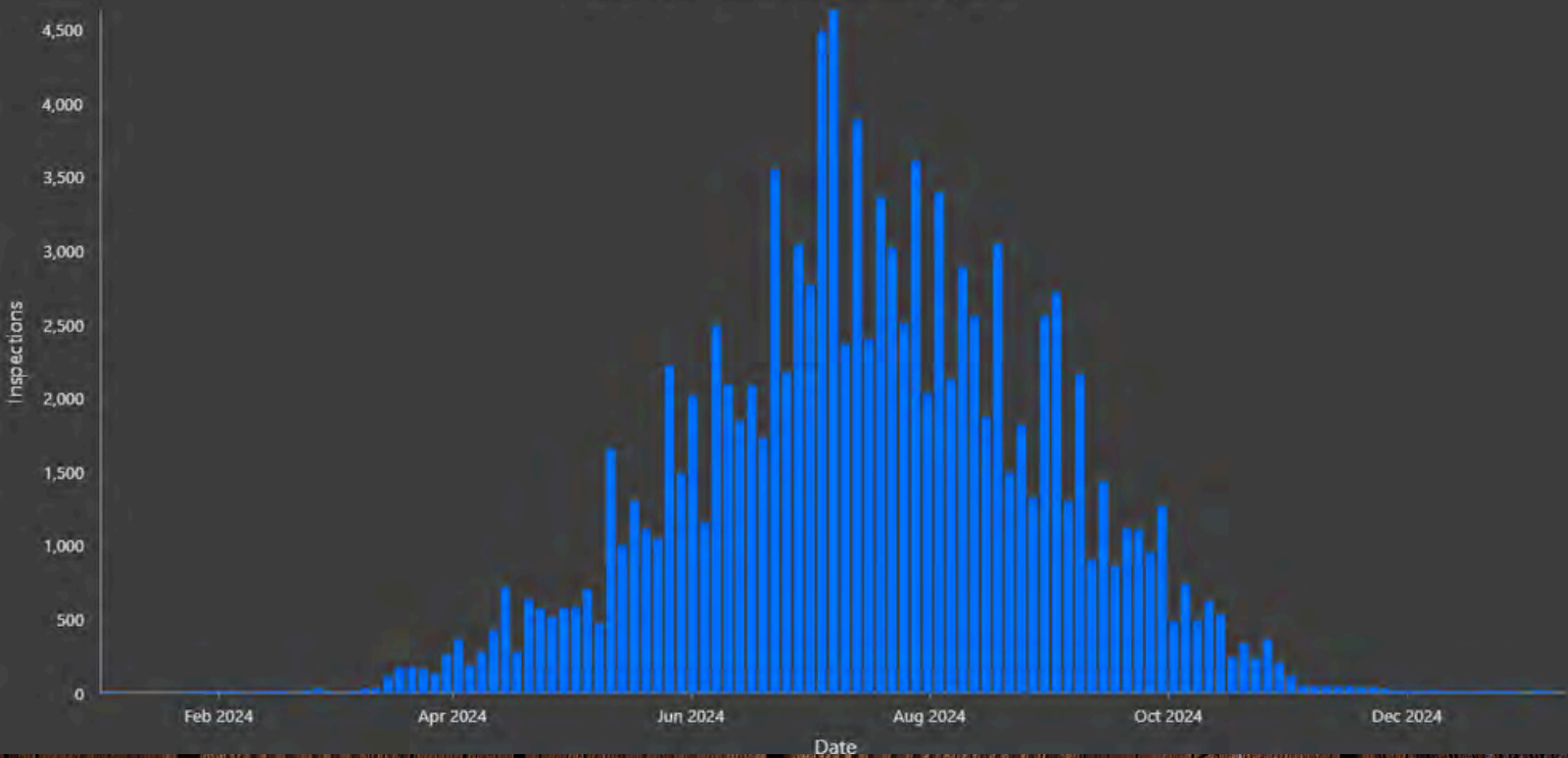
High Risk Inspections: 6,134 watercraft visited high-risk water bodies with known zebra/quagga mussel infestations within the previous 30 days. Watercraft traveling from these areas represent the highest risk for transporting live zebra/quagga mussels into the state. Watercraft inspections at mussel-impacted waters are the most efficient and effective way to prevent the introduction of mussels into Idaho. Vessels that were found to have recently been in mussel-impacted waters received a thorough high-risk inspection and hot wash to ensure that they were free of AIS. Following inspection, over half of these boats traveled to destinations in Idaho, with the remainder destined to locations throughout the western region. Watercraft inspection information is available online at: <http://invasivespecies.idaho.gov/watercraft-inspection-stations>.

Mussel-Fouled Watercraft: Twenty-four watercraft were intercepted transporting zebra or quagga mussels in 2024. These vessels originated from mussel-impacted waters in the Southwest, as well as from the Mid-West and over to the Great Lakes region. Seventeen of these vessels were destined for Idaho, with the others heading to waters in the neighboring states. Vessels that were destined for Idaho were thoroughly decontaminated by ISDA staff and remained out of the water for a minimum of 30 days. A total of 446 mussel-fouled vessels have been intercepted in Idaho since the program began in 2009. Additional watercraft inspection data from the 2023 season is displayed on the ISDA Invasive Species Program website at: <http://invasivespecies.idaho.gov/watercraftinspection-stations/>.



CLEAN•DRAIN•DRY

2024 Watercraft Inspections by Date

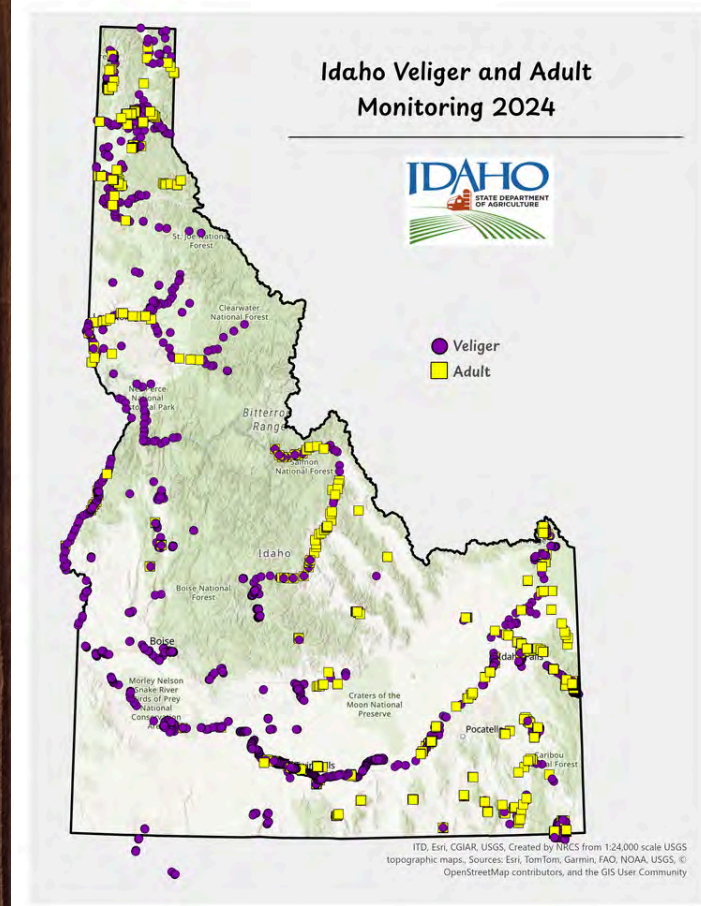


Idaho Watercraft Inspection Numbers by Station in 2024

Inspection Station	Inspections	Hotwash	Infested Water	Fouled	Weeds	Law Enforcement
Albeni Falls	10,431	23	4	0	3	49
Boise Roving Crew	4	0	0	0	0	0
Boundary	4,786	5	6	0	7	9
Bruneau	4,692	30	25	0	13	32
Cedars	15,961	148	274	10	158	290
Centennial Park	11,900	7,030	3,911	0	35	16
Clark Fork	9,302	9	10	0	13	14
Cotterell	9,133	300	378	1	3	343
Dubios	1,963	10	12	0	3	3
Franklin	9,833	117	91	0	10	7
Huetter	14,338	17	18	0	38	66
Hwy 20/87	14,078	35	75	0	11	7
Hwy 53	6,808	3	3	0	34	29
Hwy 51	1,631	4	13	0	2	1
Hwy 93	2,236	87	265	0	5	36
ISDA Staff	61	5	6	2	3	0
Kooskia	1,386	2	8	2	0	0
Malad	13,167	748	861	6	20	165
Marsing	3,475	20	51	1	14	139
North Fork	5,745	19	61	0	9	9
Other	26	3	1	0	0	0
Pocatello Roving Crew	1,800	21	16	2	1	0
Post Falls Roving Crew	108	0	0	0	0	0
Redfish Lake	2,568	2	29	0	2	0
Rose Lake	4,645	3	6	0	43	11
Samuels	6,730	9	10	0	5	26
Sandpoint Roving Crew	4	0	0	0	0	0
Shoshone Falls	3	0	0	0	0	0
Twin Falls Roving Crew	42	1	1	0	2	0
Total	156,856	8,651	6,135	24	434	1,252



STATEWIDE VELIGER MONITORING



Invasive Species Early Detection Monitoring

ISDA announced on September 24, 2024 the detection of a small number of quagga mussels in the Snake River near the city of Twin Falls. Current monitoring results showed a decrease of quagga mussel presence in the affected stretch of river since the pre-treatment surveys of 2023. The recent positive locations include Shoshone Falls pool, Pillar Falls, and the Twin Falls Reservoir behind the Twin Falls hydroelectric facility. Both the 2023 and 2024 treatments were a multi-agency coordinated effort of federal, state, local and private industry stakeholders through various collaboratives. ISDA will continue to deploy containment efforts including closures or mandatory decontamination for exiting watercraft along the Mid-Snake River within the restricted area. ISDA will also continue extensive monitoring within the treatment area to further evaluate treatment efficacy.

Education

Education is a major component of the ISDA invasive species prevention program. Watercraft inspection stations play an important role in education through one-on-one interaction with the public and reinforcing the "Clean, Drain, Dry" message. Inspectors also provided a variety of invasive species-related educational materials to the public.

ISDA staff participated in a number of events this season which helped educate user groups and the boating public on invasive species issues and the importance of "Clean, Drain, Dry." Staff provided 20 watercraft inspection trainings, educating over 100 individuals on the threats of invasive species and watercraft inspection protocols. Staff also presented on invasive species issues to noxious weed professionals, counties, tribes, master naturalists, angling groups, marine deputies, ITD Port of Entry staff, DEQ staff, IDFG staff, lake associations, and student groups.

ISDA also unveiled a new Invasive Species of Idaho website with the help of the marketing expertise of Drake Cooper. Two additional campaign messages were created, "Knock it Off" and "Know What You Grow," to add to established messages already in use, "Clean-Drain-Dry", "Don't Let It Loose", and "Buy It Where You Buy It." An Invasive Species of Idaho Facebook page was also created and is being utilized to promote important campaign messages, form collaborative relationships, share ideas and articles, and drive internet traffic to the website for more detailed information. Other platforms utilized to drive traffic to the website included: radio spots, banner ads, and Pandora radio commercials.



Idaho Invasive Species Council

The Idaho Invasive Species Council (IISC) was created in 2001 by Executive Order, as a forum for coordinating invasive species related efforts and initiatives in the state. Executive Order 2017-05 replaces Executive Order 2010-14, to continue this coordinated effort. The IISC holds biannual meetings for discussions and project updates. An updated copy of the IISC Strategic Plan is available online at: <https://invasivespecies.idaho.gov/idahoinvasive-species-council/>



Range Program

Background

The ISDA Range program provides support, coordination, and expertise to Idaho rangeland livestock producers and land and wildlife management agencies for planning and management of vegetation and other rangeland resources utilizing the best available science and best management practices. These services are provided per Idaho Code Title 22, Chapter 1, Section 22-103(23)

What We Do

- **Policy NEPA review** - ISDA's Range program provides support to the livestock industry by reviewing, commenting on, and providing interpretation on all relevant state and federal rangeland-related documents. Examples include Rangeland Health Assessments; Evaluations; Determinations; Environmental Assessments (EAs); Environmental Impact Statements (EISs); grazing decisions for permit renewals; trailing/crossing permit decisions; fire rehabilitation closure decisions; Resource Management Plans; as well as any proposal that impacts vegetation management or resources of value to the livestock industry. Reviews ensure that the best available scientific information and management practices are proposed and remain consistent with federal and state regulations.
- **Rangeland Monitoring** - The ISDA program allows for participation, coordination, and cooperation between ISDA, land management agencies, and grazing permittees in the collection and review of photo data. This program provides a framework for monitoring data to be collected by permittees and used in grazing permit renewals. It also produces a standardized and scientifically valid monitoring protocol for Idaho.
- **Outreach/ technical assistance/ expertise** - Provide training and assistance to producers on public and private lands, as well as to land management agencies, for the planning and initial implementation of a monitoring program.

Program Updates

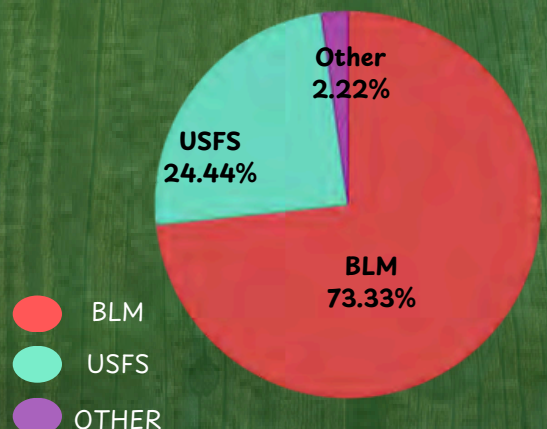
In 2024 the ISDA Range Program began building and implementing the Idaho Grazing Improvement program.

What is the Idaho Grazing Improvement Program: The Idaho Rangeland Improvement Act or RIA (House Bill 468) established the framework for the Idaho Grazing Improvement Program (IGIP). This new program, which will be housed within the Idaho State Department of Agriculture (ISDA) Range Program, will function as a cost-share grant program to implement projects that will improve rangeland health, productivity, and management. IGIP will give ISDA range staff the ability to assist in developing range improvement projects on federal, state, and private rangelands that will benefit livestock operations, watersheds, and wildlife.

Idaho Grazing Improvement Program

Policy:

Forty-Five individual NEPA projects that are directly rangeland related were received and reviewed by the range program in 2024. These areas included grazing permit renewals, energy development, vegetation treatments and conservation and land rules. These projects were seen at various levels of management from national to field office level.



Exotic Wood Boring Bark Beetle -USDA Survey

As part of USDA's 2024 National EWBB Survey, a total of 18 Lindgren Funnel traps at 10 locations in three counties throughout Idaho were installed and monitored. Sites included Forest Service campgrounds, national forests, tree farms, wood recycler, and urban landscape plantings. In 2024, a variety of six different lure combinations were used in the traps. Current years' specimens were sent to the Oregon Department of Agriculture Insect Pest Prevention & Management Program: 499 specimens of woodborers identified in 33 species and none were of regulatory concern. One species of note for Idaho was *Xyleborus pfeilii*, and exotic ambrosia beetle that has been reported in Oregon since 1997. (Report provided by Robert Gourley, SPHD, USDA APHIS PPQ)



Pale Cyst Nematode- USDA Survey

Idaho's Pale Cyst Nematode Eradication Program:

Production Acres Surveyed: 421

Seed Acres Surveyed: 237

Number of Counties Surveyed: 4

2 Counties with Pale Cyst Nematode (PCN): 32 fields (3,538 acres total)

Report provided by Denise Olson, Director, PCN Program, USDA APHIS PPQ

All thirty-two known PCN infested fields are located within an 8.5-mile radius that spans portions of northern Bingham County and southern Bonneville County. One associated field (42.75 acres) is in the progress of being deregulated by PPQ for 2024. No PCN-infested fields have been deregulated by PPQ. The current regulated area is 6,495 acres; of that total 3,538 acres are infested fields, and 2,957 acres are associated fields. Viability staining analyses of cysts from 30 infested fields show no detectable viability. Of these 30 fields, 21 have successfully completed the greenhouse bioassay phase of evaluating eradication progress, making them eligible to return to potato production with certain regulatory controls in place. The remaining fields have greenhouse bioassays in progress, with the final results expected in 2026. Two infested fields are working through the eradication process and still show some level of viable PCN in soil samples.

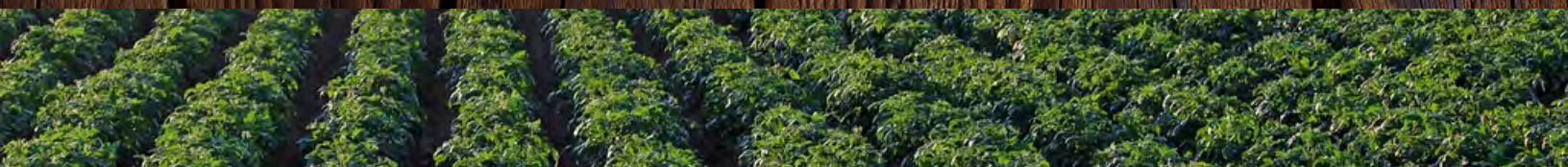
In 2024, potatoes were planted on two infested fields (168.5 acres, total) that were eligible to return to PCN host crop production as part of the in-field bioassay test, the final test that must be passed to declare PCN eradication and deregulate an infested field. This was the second crop for one field and the third crop for the other field since before PCN was detected on those fields.

PCN Eradication Treatments: The soil fumigant Telone II (1,3-dichloropropene) was applied to 537 acres (5 fields) in 2024. Soil samples were collected from the 5 fields following treatment to determine treatment efficacy. In four of these fields no viable PCN was detected after Telone treatment. These fields will begin the greenhouse bioassay phase in spring 2025 with final results in 2026.

Outreach: Stakeholder updates (Quarterly Reports) were published to the USDA APHIS PCN website in April, July, and October 2024. The 2024 fourth quarter report will be posted in January 2025.

Sampling Information: To date, the PCN Program has collected 540,843 soil samples in Idaho (from outside of the 32 known infested fields) to ensure Idaho's freedom from PCN. A total of 209,300 samples have been collected from the eradication fields since 2006 in order to monitor eradication progress and to provide cysts to several institutions for PCN research.

To date, the PCN laboratory in Idaho Falls has screened 687,720 soil samples collected in Idaho, and 121,595 samples from other potato producing states. An additional 63,862 samples collected in Idaho were screened at the Idaho Food Quality Assurance Laboratory and the University of Idaho Parma laboratory between 2006 and 2009. There have been no pale cyst nematode detections in the U.S. outside of southeast Idaho. Since program inception in 2006, the PCN Program has analyzed the viability of 1,123 cyst samples collected from infested fields before and after eradication treatments.



2024 Plant Industries Public Outreach and Educational Presentations

January

January 24	A. Broersma/C. Morrison	Quagga Mussel Update	Bean School TF
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February

February 13	A. Broersma/C. Morrison	Quagga Mussel Update	Ditchriders IF
February 14	Broersma/Morrison/Patterson	Quagga Mussel Update	Ditchriders Rupert
February 27	Broersma/Morrison/Patterson	Quagga Mussel Update	Water Users Group Rupert
February 28	Broersma/Morrison/Patterson	Quagga Mussel Update	Water Users Group TF

March

March 6-7	A. Broersma/G. Mabey	Malad IWIT	WIT Staff
March 14	C. Morrison/G. Mabey	Quagga Mussel Update	Tribes
March 20-21	A. Broersma/G. Mabey	Franklin IWIT	WIT Staff

April

April 24	B. Muffley/M.Devey	Intro to Invasive Species Owyhee Field Day	Students
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May

May 1	B. Muffley/M.Devey	Quagga Mussel Update/Noxious Weed	Noxious Weed Professionals
May 7-8	A. Broersma/G. Mabey	Dubios/Rover/IP IWIT	WIT Staff
May 14-15	Abbie Broersma	Salmon/NF IWIT	WIT Staff

November

November 4-8	D. Heckathorne/V. Stewart	Idaho Spongy Moth Review- Kentucky	Other States
November 18	M. Curriden/C. Morrison	KVRI Q/Z monitoring/Quagga Mussel Update	Public
November 19	K. Goetti/M. Devey	Quagga Mussel Update/Pest Survey	Pest Control Professionals
November 21	Patterson/Heckathorne	Quagga Mussel Update/Pest Survey	Pest Control Professionals

December

December 13	Tina Eiman	Apiary Program Update	Idaho Apiaries
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Page 1 - Field Inspection, Photo by ISDA Staff

Page 3 - Field Inspection, Photo by ISDA Staff

Page 4 - Apple Maggot Photo by Gyorgy Csoka, Hungry Forest Research Institute, Bugwood.org; Apples Photo by Pixabay.com; Apple Maggot Trap Photo by Whitney Cranshaw, Colorado State University, Bugwood.org; Western Cherry Fruit Fly Photo by Whitney Cranshaw, Colorado State University, Bugwood.org

Page 5 - Emerald Ash Borer Photo by Eric Day, Virginia Polytechnic Institute, & State University, Bugwood.org; Emerald Ash Borer Damage Photo by Michigan Dept. Agriculture, Bugwood.org; Emerald Ash Borer Photo by Daniel Herms, The Ohio State University, Bugwood.org; EAB Larvae Photo by Pennsylvania Dept. of Conservation & Natural Resources-forestry, Bugwood.org; Emerald Ash Borer Adult Photo by Pennsylvania Dept. of Conservation & Natural Resources-forestry, Bugwood.org; EAB Gridled Trap Photo by Pennsylvania Dept. of Conservation & Natural Resources-forestry, Bugwood.org; EAB Pupa Photo by Kenneth R Law, USDA APHIS PPQ, Bugwood.org

Page 6 - European Pine Shoot Moth Photo by www.inaturalist.com, creative Commons 3.0; ESPM Larvae Photo by Miulan Zubrik, Forest Research Institute-Slovakia, Bugwood.org; European Pine Shoot Moth Pupa Photo by Miulan Zubrik, Forest Research Institute-Slovakia, Bugwood.org; Pine tree Damage Photo by David McComb, USDA Forest Service, Bugwood.org; Tree Damage photo by Jan Liska, Forestry & Game Management Research Institute, Bugwood.org

Page 7 - Spongy Moth Female Photo by Rusty Haskell, University of Florida,, Bugwood.org; Spongy Moth Larvae Photo by Bill McNee, Wisconsin Dept. of Natural Resources, Bugwood.org; Spongy Moth male Photo by Karla Salp, Washington Dept. Of Agriculture, Bugwood.org

Page 8 - Japanese Beetle Photos by David Cappaert, Bugwood.org; Japanese Beetle Larva Photo by Jim Baker, North Carolina State University, bugwood.org; Japanese Beetle Cluster Photo by Melissa Schreiner, Colorado State University, Bugwood.org; JB Damage Photo by Melissa Schreiner, Colorado State University, Bugwood.org

Page 9 - Old World Bollworm Photo by Paolo Mazzei, Bugwood.org; Small Brown Planthopper Photo by Paul Langlois, USDA APHIS PPQ, Bugwood.org; Wheat Blast Photo by Professor MD Tofazzal Islam, Plantwise.org; Sunn Pest Photo by Mustapha El-Bouhssin, icarda.org; Cochlicellid Snail Photo by Ferran Turmo Gort, www.inaturalist.org; Maritime Garden Snail Photo by Charles Olsen, USDA APHIS PPQ, Bugwood.org

Page 10 - Silver Y Moth Photo by Paolo Mazzei, Bugwood.org; Bud Borer by Todd Gilligan & Marc E Epstein, USDA APHIS PPQ, Bugwood.org; Maritime Garden Snail Photo by James D Young, USDA APHIS PPQ, Bugwood.org; Yellow Witchweed Photo by Lytton John Musselman, Old Dominion University, Bugwood.org

Page 11 - Grain Elevator Photo by Pixabay.com; Grain Field Photo by Pixabay.com; Grain Harvest Photo by Pixabay.com; Grain kernels Photo by Gerald Holmes, Strawberry Center, Cal Poly San Luis Obispo, Bugwood.org; Head of Wheat Photo by Ruben Duran, Washington State University, Bugwood.org

Page 12 - ISDA Staff Photo by Stephen Sweet, Local Beekeeper; Honeybee Photos by Pixabay.com

Page 13 - Bee Inspection Photos by ISDA Staff; Honeybee Photo by Pixabay.com; Semi-truck load of bees Photo by Sarah Yadow, Project Apis m.

Page 14-17 - Most Mormon Cricket and Grasshopper Photos by ISDA Staff, Idaho State Dept. of Agriculture; All Scenery Photos by Pixabay.com; Mormon Crickets on Sagebrush Photo by Whitney Cranshaw, Colorado State University, Bugwood.org

Page 18 – Cull Onion Photo by ISDA Staff, Idaho State Dept. of Agriculture; Variety of Dry Beans, Nursery Stock, & Seed Germination Photos by Pixabay.com

Page 19-27 – Field Inspections Headers, All Photos are from Pixabay.com

Page 28 – Plant Pathology Lab, Common Smut Photos by Daren Mueller, Iowa State University, Bugwood.org; High plains virus Photo by William M. Brown Jr., Bugwood.org; Bacterial wilt Photo by Howard F. Schwartz, Colorado State University, Bugwood.org; Bacterial Wilt leaf Damage Photo by D. Caffier, Lab. National de la Protection des vegetaux, Bugwood.org

Page 29 – Feed, Fertilizer and Amendments ,Lab Photo by ISDA Staff, All other photos by Pixabay.com

Page 30-35 – Invasive Species, All Photos by ISDA Staff,

Page 36 – Range, Photo by Pixabay.com

Page 37 – Potato Field Photo by Pixabay.com; Pale cyst Nematode Photo by Christopher Hogger, Swiss Federal Research Station for Agroecology & Agriculture, Bugwood.org, Bugwood.org

Page 38 – Shoshone Falls Photo by ISDA Staff

Page 39-40 – Photos by ISDA Staff

