

ANALYSIS

Department of Agriculture Japanese Beetle and Emerging Pests

Analyst: Wendy Gibson

Request: Acknowledge receipt of a report on Japanese Beetles and other emerging pests.

Analysis: The Department of Agriculture (ODA) submitted a report in response to a SB 5002 (2023) budget note.

During the 2024 legislative session, the Oregon Department of Agriculture is directed to produce a detailed report for presentation to the Joint Committee on Ways and Means on the status of the agency's surveillance and treatment against the Japanese beetle and other emerging pests, such as the vine mealybug. At a minimum, the Department's report shall include the following:

- *Program strategies and partnerships to further eradication efforts;*
- *Size and general location of the currently affected area(s);*
- *Results of surveys with comparative annual data, where available;*
- *Annual program costs, funded activities, and the change in both over time; and*
- *Projections, and the Department's eradication plan.*

Invasive pests threaten agriculture, habitat, and native species. ODA has been working towards Japanese beetle eradication in Oregon since 2017. The objective of the Japanese Beetle Eradication program is to protect agriculture in the Western United States and prevent the beetle's spread from the Eastern states. Each state is categorized by its pest status, with Category 1 being the most desirable. Oregon has successfully maintained its Category 1 status, which classifies the state as a pest-free area due to continued surveys, an active eradication program, and maintenance of a quarantine against the Japanese beetle. The beetle will economically impact Oregon's \$1 billion nursery industry and other agricultural products if the Category 1 status is changed.

The Department reports treating 2,500 acres for the beetle in 2023, including a significant infestation at a local blueberry farm. Overall, ODA says the treatments appear to be working, and the Department anticipates a continued decline in the number of beetles if treatments continue for a minimum of 3-5 more years.

SB 5002 (2023) appropriated \$1 million General Fund and established three limited duration positions to continue the Japanese beetle eradication work. ODA reports the need for sustained funding of at least \$1.4 million to treat impacted areas successfully.

The Department did not address other emerging pests in the report as required by the budget note; however, several are known to be a concern, including the light brown apple moth, spongy moth, vine mealybug, and emerald ash borer beetle.

In 2021, the vine mealybug was identified in Oregon. The pest is a substantial threat to wine grapes worldwide in many production regions. The wine industry generates approximately \$7 billion in total economic activity in Oregon. Eradication and treatment of the vine mealybug, while contained in one area, can lessen the chances of a widespread infestation and future economic impact. The Department received \$0.3 million General Fund in SB 5506 (2023) to survey and treat the impacted commercial vineyards in Jackson County.

The emerald ash borer beetle is a wood-boring insect that infests and kills native North American ash trees. The beetle was first detected in the United States in 2002 and has since killed hundreds of millions of ash trees. The West Coast had remained free of the pest until the discovery of the beetle in 2022 in Forest Grove. Ash trees play an essential habitat conservation role in Oregon by helping to mitigate the rising river temperatures. The Department received a \$0.5 million General Fund appropriation from the 2022 Emergency Board for an initial emerald ash borer beetle response.

Recommendation: The Legislative Fiscal Office recommends that the Joint Committee on Ways and Means acknowledge receipt of the report.

Request: Report on the Japanese Beetle Eradication program by the Department of Agriculture.

Recommendation: Acknowledge receipt of the report.

Discussion: The Oregon Department of Agriculture has produced a report on the Japanese Beetle Eradication program. The report was requested in a budget note included in House Bill 5002 (2023) budget report that requested a report on the Department's surveillance and treatment against the Japanese beetle and other emerging pests. The budget note requires detailing of program strategies and partnerships to further eradication efforts, size, and general location of the currently affected area(s); results of surveys with comparative annual data, where available; annual program costs, funded activities, and the change in both over time; and projections and the Department's eradication plan.

The Japanese Beetle Eradication program is seasonal, operating from April through the summer months and is focused on identified infested areas within Multnomah, Clackamas, and Washington counties with additional trapping activities statewide. In 2023, the program treated 2,500 acres including and property within 200 meters of a trap that caught at least two beetles in 2022. Beetles have been found on residential properties as well as a blueberry farm within a residential neighborhood.

In 2023, a total of 6,399 beetles were trapped, with the majority of those occurring on the blueberry farm. Trapped beetles are indicative of a greater population, not a cumulative assessment of the impact of the program. The program had a total budget of \$979,147 for the 2023 program, which included six limited duration positions as well as costs for Services and Supplies.

ODA included an estimated continued scope of a Japanese Beetle Eradication program for 2024. The estimate includes treatment of 1,318 acres, down from the 2,500 acres treated in 2023, as well as continued treatment of the blueberry farm identified in 2023. Beyond 2024, ODA estimates 3-5 years of additional programs will be needed to meet eradication goals.



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DEPARTMENT OF
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635 Capitol St NE, Salem, OR 97301-2532
503.986.4550 | Oregon.gov/ODA

January 16, 2024

Senator Elizabeth Steiner, Co-Chair
Representative Tawna Sanchez, Co-Chair
Interim Joint Committee on Ways and Means
900 Court Street NE
H-178 State Capitol
Salem, OR 97301

Dear Co-Chairs:

Nature of the Request

The Oregon Department of Agriculture (ODA) respectfully requests permission to appear before the Joint Committee on Ways and Means and acknowledge receipt of a report on the status of the agency's surveillance and treatment against the Japanese beetle and other emerging pests during the 2024 legislative session.

Agency Action/Background

ODA's 2023-25 Legislatively Adopted Budget, HB 5002 (2023), included a budget note directing ODA to report to the Joint Committee on Ways and Means during the 2024 legislative session, on the status of the agency's surveillance and treatment against the Japanese beetle and other emerging pests, such as the vine mealybug. The budget note directed the department, at a minimum, to report on the following:

- Program strategies and partnerships to further eradication efforts;
- Size and general location of the currently affected area(s);
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- Projections, and the Department's eradication plan.

Action Requested

ODA respectfully requests that the Joint Committee on Ways and Means

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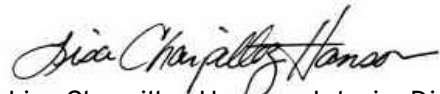
Senator Elizabeth Steiner, Co-Chair
Representative Tawna Sanchez, Co-Chair
January 16, 2024
Page 2

- Acknowledge and accept the attached report on the status of Japanese beetle and other emerging pests.

Legislation Affected

None.

Sincerely,



Lisa Charpilloz Hanson, Interim Director
Oregon Department of Agriculture

Enclosure – Japanese Beetle Eradication Program Status Report





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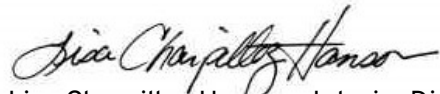
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Sincerely,



Lisa Charpilloz Hanson , Interim Director
Oregon Department of Agriculture

Enclosure – Japanese Beetle Eradication Program Status Report





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**Insect Pest Prevention & Management
Program**

26755 SW 95th Ave, Wilsonville, OR 97070
503.986.4636 | Oregon.gov/ODA

Japanese Beetle Eradication Program Status Report

Background

Japanese beetle (JB) continues to pose significant threat to the marketability and sustainability of Oregon's agricultural products as they can feed on over 300 species of plants. Since its first detection in the early 1980's, the largest infestation of Japanese beetles (369) was confirmed in Washington County, Oregon in 2016. At that time, the Oregon Department of Agriculture (ODA) initiated a long-term eradication project, the first of its kind in the nation. The Japanese beetle (JB) Eradication Project aimed to safeguard Oregon's agriculture and natural ecosystems with support from local communities and municipalities.

JB has become established in over half of the United States. Washington State confirmed JB in the Yakima County in 2020, just across the Columbia River from Hermiston. Similar to Oregon, their JB population has grown, and state officials are following the control strategy which Oregon employed.

Program Strategy

The JB Eradication Program is seasonal, with treatments spanning from April through mid-summer and trapping continuing into September. ODA coordinates treatment on infested areas of irrigated turfgrass and ornamental landscapes to kill JB in its larval stage before they emerge from the soil and begin feeding on plant foliage. Additional foliar treatments may be applied if adult JB are also present. Treatment area sizes vary in size and scope each year, depending on the previous years' trapping data. The program requires an extensive trapping network, which spans throughout the infested areas within Multnomah, Clackamas, and Washington Counties- to all parts of Oregon. A unique feature of the eradication program was that all treatment, green yard waste collection, and its disposal was provided free of charge to the public. This is not characteristic, nor required, of most pest response plans. However, the original program leaders felt this was essential to garnering public support and trust. Moreover, direct state oversight of treatments and green yard waste disposal ensured that JB populations were controlled, and the pest did not spread to un-infested areas.

In response to reduced program funding in the 23-25 biennium, the ODA re-evaluated the program strategy to maximize available resources without sacrificing efficacy. ODA made three cost saving measures to the program. First, ODA approached larger businesses and organizations with properties within the treatment area about covering treatment costs. Tualatin Hills Parks and Recreation District, Portland International Airport, Beaverton Public Schools District, Lake Oswego Parks and Recreation,

and several golf courses agreed to cover their treatment costs in spring 2023 season, which resulted in a savings of \$60,000 for the program. Second, ODA discontinued the free green yard waste collection and disposal services in 2023. This resulted in a savings of ~ \$180,000 for the program. To offset the lack of control on green waste disposal, ODA increased monitoring efforts in areas where green waste is disposed of and made efforts to educate the public on ways to dispose of high-risk materials properly. The long-term impacts of not providing the green yard waste collection and waste disposal remains unknown. Third, the number of seasonal hires for trapping activities was reduced.

2023 Accomplishments

In 2023, ODA treated 2,500 acres for JB (Figure 1). The treatment area included any property within 200 meters of a trap that caught two or more beetles in 2022. An additional treatment was conducted on 65 acres in high-risk areas. Total treatment area was 30% smaller as compared to 2022, evidence of successful eradication of several small JB populations.

A critical part of the 2023 season involved a 2.4-acre u-pick blueberry farm in a residential neighborhood. In 2022, 1,635 beetles were trapped on this blueberry farm. Beetles were first detected on the farm in 2020 (Table 1.2). ODA could not treat the blueberry farm in 2021 and 2022 due to not having treatment permission from the owner and the pesticide used (Acelepryn) is not labeled for use on edible plants. However, the owner consented to treatment in 2023 and ODA treated the blueberry plants with an edible plant safe insecticide called Altacor, which kills JB at both larval and adult life stages. Since the infestation was so severe at the farm, four treatments were conducted in 2023. The aggressive approach to treatment on this property is expected to result in a significant decrease in beetles trapped next year.

Survey Results Over Time

Due to continuous state funding, the program strategy has proved successful given that the number of beetles trapped, and the size of the treatment area, have been significantly reduced over the last seven years (see Table 1.1 and Table 1.2).

In 2023, ODA trapped 6,399 Japanese beetles, a significant increase from the number of beetles trapped in 2022. Of the trapped beetles, 83% were from the previously mentioned u-pick blueberry farm. Only 1067 beetles were trapped outside the blueberry farm (Table 1.2), a 35% reduction from the number of beetles trapped outside the blueberry farm in 2022. So, while the total number of beetles trapped increased between 2022-23, the JB numbers continue to shrink in areas ODA has been treating (i.e. the residential properties). The treatment areas have decreased each year since 2021. Again, ODA anticipates the total number of trap catches in 2024 to be much lower as a result of being able to treat the u-pick blueberry farm for the first time with multiple rounds of treatment.



Table 1.1: Number of beetles trapped vs. acres treated over time.

Year	Acres Treated	# JB trapped
2016	X	369
2017	~1,000	23,480
2018	~2,500	17,473
2019	~3,000	7,782
2020	~4,000	4,490
2021	~4,200	3,652
2022	~3,500	3,254
2023	~2,500	6,399 [‡]
2024	~1,300	X

[‡]83% of beetles were trapped on a single 2.4-acre u-pick blueberry farm

Table 1.2: Number of beetles trapped in residential vs. the blueberry farm treated over time.

Year	Acres Treated	# JB trapped residential*	# JB trapped blueberry farm**
2016	X	369	0
2017	~1,000	23,480	0
2018	~2,500	17,473	0
2019	~3,000	7,782	0
2020	~4,000	4,118	372
2021	~4,200	2,859	793
2022	~3,500	1,619	1,635
2023	~2,500	1,067	5,332
2024	Est. ~1,300	TBD	TBD

*Count excludes blueberry farm infestation

**Count includes areas in the immediate vicinity of the blueberry farm

Program Costs

To continue operations at the current level, the ODA would require sustained funding of at least \$1.4 million for the biennium. This assumes cost of operations is at, or similar levels, as seen in the 23-25 biennium. With the modifications to the program strategy described as above, the bulk of program funds are allotted toward staff salaries and insecticide treatments.

Table 2 summarizes the projected program costs for the next 2024 field season. Salary costs listed were built upon the budget set forth in the originally proposed 2021-2023 biennium budget request. Insecticide treatment costs are estimated to be at a range of \$205,000 to \$250,000, a notable decrease from the \$389,000 spent on treatments in 2023. Treatment costs are variable as some landowners choose to self-treat (e.g., airports, schools, etc.), which is why a range is listed. The



predicted decrease in treatment cost is a result of reduced beetle catches. It is critical to make the connection that as beetle trap captures decrease, so too does the treatment area for the following season.

The anticipated staffing needs include 6 seasonal trappers (limited duration), 1 NRS1 assistant coordinator (limited duration), 2 NRS1 (permanent), 2 NRS3 field office coordinator (permanent), 1 NRS4 project coordinator (limited duration), and 1 NRS4 GIS specialist (permanent). Staff travel costs for 2024 are built on last year’s fleet costs. Equipment and supply costs account for trapping materials, outreach materials, legal fees to obtain administrative warrants when required, and consent letters to inform the public of treatment plans, and other related field supplies.

Table 2: Anticipated costs to conduct Japanese beetle eradication efforts in Oregon in 2024.

Budget Overview	Proposed Costs for 2024
Staff Salary	\$373,000
Insecticide Treatment	\$250,000
Vehicles	\$35,000
Equipment and Supplies	\$30,000
Total Estimated Costs	\$688,000

Program Plans for 2024 field season

In 2024 field season, the ODA proposes to continue with survey and treatments following the same strategy as described above. ODA intends to treat 1,318-acres, reflecting a 52% reduction in treatment area from 2023 field season (Figure 2). This decrease results from successful eradication of several small populations within the overall treatment area. The illustrated treatment areas include any property that falls within 200 meters of a trap that caught two or more beetles in 2023 (in some cases, single beetle trap catches are included if they are in high-risk areas or there are several single trap catches in one area). ODA will continue a treatment regime at the u-pick blueberry farm. Additional treatments will need to occur over the next few years, to ensure that population does not grow again. Areas to be treated are within Washington, Multnomah, and Clackamas counties, specifically NW, SW, NE Portland, Unincorporated Portland, Lake Oswego, and Beaverton.

The green yard waste collection and disposal services are expected to remain paused through the 2024 season and ODA will continue monitoring efforts in areas where green waste is disposed of to minimize the risk of spreading to other un-infested areas in Oregon. ODA continues to maintain the project website (<https://www.japanesebeetlepx.info>) to ensure engagement with the public.

Projections beyond 2024

While ODA has made significant progress towards eradicating Japanese beetle in Oregon, at least 3-5 years of action are still needed to meet that goal.



A severely reduced or loss of a trapping/treatment program will result in the loss of the progress that has been made to date. At a reduced funding level, program operations would have to significantly be reduced. The cost of treatments will fall completely to the public and private business sector. Moreover, ODA will have to reduce program staff levels even further. Reduced staffing equals reduced trapping levels. Without a strong monitoring force, populations will not be monitored appropriately, and JB will likely expand its range and arise in new areas of the state, or in neighboring states. At which point, the program will not have resources to respond to those incipient populations.

The u-pick blueberry farm is a telling case study of why the project is critical to continue. In 2020, ODA trapped beetles at the u-pick blueberry farm for the first time and caught 372 beetles in and around the farm. Since the farm was left untreated for several years, due to lack of consent for access and limitations with the pesticide, the number of JB rose to 5,332 at that site in just three years. If this project were to end prematurely before meeting our project goals, it is expected that the beetle numbers at infested locations would rise at a similar rate as those seen at the blueberry farm. ODA expects to see a decline in JB populations in 2024 due to the continued treatments conducted in 2023.

Ultimately if JB establishes and becomes widespread Oregon, the economic impact on all crops, agricultural commodities, and other related businesses could be approximately \$45.5 million. Oregon's \$1 billion nursery industry will be directly placed at risk as Oregon will lose its pest-free status, which currently alleviates the nurseries from treatment and other compliance program requirements. Moreover, all agricultural products would be privy to significant trade restrictions or face prohibitions. Beyond the negative implications to plant commodities, producers would have no choice but to rely on insecticides. Leading to significant financial burden and increased negative environmental impacts.



Figure 1: 2023 treatment areas. A total of 2,553 acres were treated.

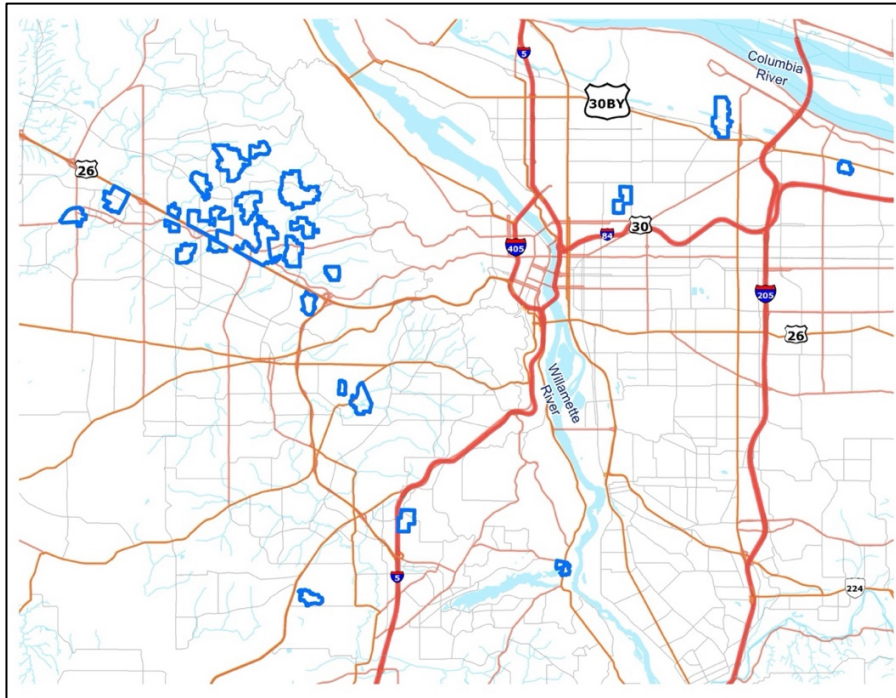


Figure 2: 2024 season proposed treatment areas. The 1,318 acres of proposed treatment area represents a 52% reduction from 2023 treatment plan.

