

PURPLE LOOSESTRIFE BIOCONTROL TREATMENT WITH *GALERUCELLA* BEETLES

2024 Order Form

2024 Beetle Pot Pricing:

*(Each pot contains ~300-400 *Galerucella sp.* adults and larvae + pupae and a large number of eggs)*

Number of Pots per Order	Cost per Pot
1-9	\$225
10-19	\$205
20-29	\$190
30-39	\$175
40-49	\$165
50-60	\$155
60+	Special Order

- Orders over 60 pots may require multiple delivery dates
- Orders must be received by May 26, 2024 to ensure availability

Delivery Fee: **\$200 (Lower Peninsula of MI):** No delivery charge if client picks up beetle pots from K&A Kalamazoo, MI office. No out-of-state deliveries.

Payment: Due upon receipt/transfer of pots (Make checks payable to Kieser & Associates, LLC)

OPTIONAL Early-Season Evaluation: K&A staff will accompany a lake representative to conduct an onsite review of purple loosestrife density to give more accurate recommendations of *Galerucella* beetle pot amounts for treatment. Optional survey to be conducted before May 26, 2024.

Cost of Early-Season Evaluation: **\$500 fee + mileage to lake at \$0.67/mile**

2024 Order:

Optional Early-Season Evaluation: Yes No

Number of Pots: _____

Will this order require delivery? Yes, I agree to the \$200 delivery charge No, I will pick up the pots

Authorized Representative Name: _____

Organization: _____

Address for Billing: _____

Phone Number: _____

E-mail: _____

 Signature of Authorized Representative

Date of Order: _____

Completed Order Form Should Be Emailed to Natalie Howard (nhoward@kieser-associates.com) or mailed to:

Kieser & Associates, LLC
c/o 2024 PL Beetle Orders
536 E. Michigan Ave., Suite 300
Kalamazoo, MI 49007

If you have any questions about this information, please contact Natalie Howard or Mark Kieser at: 269-344-7117 or mkieser@kieser-associates.com.

Beetle Pot Placement Recommendations

When deciding if *Galerucella sp.* beetles are an appropriate approach for your shoreline, first understand the density of the purple loosestrife infestation.

- “**Light**” equates to a small infestation consisting of a single isolated plant or a population small enough to possibly be controlled by physical removal or spot herbicide treatment.
- “**Heavy**” corresponds to infestations of 100 loosestrife plants or cover ¼ acre area that are too large to be easily managed by physical removal and targeted herbicide treatment. Such sites may best be managed via biological control methods.

1. Manage “Light” infestations with physical removal or targeted herbicide treatment.

Those areas designated as “Light” equate to isolated populations of purple loosestrife along the shoreline. These sites would be amenable to the following management practices:

- *Physical Removal*

Dig or pull up as much of the plants’ roots as possible. If digging is not an option, cut the plant to the ground being sure to include all flowers and seed heads. Each mature plant can produce 2,000,000 seeds. Contain all plant materials in plastic garbage bags and dispose of in landfill. **Do not compost or burn purple loosestrife.**

- *Herbicide Treatment*

Herbicides can be effective in managing purple loosestrife, although care must be taken to treat only purple loosestrife without impacting any adjacent desirable native vegetation. Targeted application can create patches in the vegetation allowing native plants to re-colonize. Improper application can impact desirable vegetation and result in an increase of purple loosestrife growth. Only herbicides formulated for use near surface water should be used. Herbicides for purple loosestrife control are:

- **Glyphosate** - Trade names: Rodeo, Pondmaster, Eagle
- **Triclopyr** - Trade name: Renovate

Herbicide applied to the tops of plants can be effective and limit exposure to non-target plants. Treatments should be conducted early in the growing season (when plants have just begun to flower) to prevent seed production. If possible, the flower heads should be removed and bagged for landfill disposal prior to herbicide application to prevent seeds from developing and depositing on the site (USDA).

Depending on the herbicide and formulation, licensed herbicide applicators or individual property owners can apply herbicides. **Herbicide labels must be read and directions specifically followed for safe and effective chemical use.**

2. Manage “Heavy” infestations with biological control using the *Galerucella sp.* beetles.

The *Galerucella sp.* beetle has been tested extensively by the United States Department of Agriculture (USDA) to ensure the beetles would cause no harm to native vegetation or agricultural crops. The beetles were approved for release in the United States in 1992 (USDA) and were released in Michigan in 1994 (Landis, 2003).

The beetles selectively feed on purple loosestrife and have been used with varying success on large-scale purple loosestrife management sites. While the beetles are not a means of eradication of purple loosestrife, they have been found to effectively control the plant, allowing native vegetation to re-establish. The beetles can weaken the purple loosestrife over time, resulting in shorter, less-robust plants which produce fewer seeds. It may require several years for the impacts of the biocontrol to be evident, and reintroduction of the *Galerucella sp.* beetle may be required in subsequent years. We recommend placement of 3-4 potted plants infested with beetles for every ¼ acre area of purple loosestrife. Installation by K&A would be in addition to the costs outlined above.

Herbicides can impact the *Galerucella sp.* beetles and use should be avoided in areas where the beetles have been released or are present.

References

Landis, D.A., D.C. Sebolt, M.J. Haas, and M. Klepinger. 2003. Establishment and impact of *Galerucella californiensis* L. (Coleoptera: Chrysomelidae) on *Lythrum salicaria* L. and associated plant communities in Michigan. Biological Control. 28:78-91.

United States Department of Agriculture (USDA). Date unknown. Purple Loosestrife Plant Guide. USDA NRCS National Plants Database.
https://plants.usda.gov/plantguide/pdf/pg_lysa2.pdf