Productive cattle start with ClariFly® Larvicide.

- Helps control house and stable flies in areas populated by beef and dairy cattle.
- Works as a feed-through, passing into manure where flies lay eggs.
- Can be used in IPM programs in conjunction with parasitoid wasps.

For more information, contact your feed dealer, visit www.CentralFlyControl.com, www.StarbarProducts.com or call 1-800-347-8272.

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ClariFly® Larvicide Frequently Asked Questions

Besides irritating cattle, flies can transmit disease and affect feeding, consequently reducing productivity. Industry data has shown that an Integrated Pest Management (IPM) program in place to control stable and house flies will increase cattle performance.

1. **What is ClariFly Larvicide?**

   ClariFly® Larvicide is an EPA registered feed additive containing Diflubenzuron, a larvicide that controls house flies and stable flies in areas populated by confined beef and dairy cattle.

2. **What is the mode of action of ClariFly Larvicide?**

   Insects have an external skeleton, an “exoskeleton” made of chitin. The active ingredient in ClariFly® Larvicide, Diflubenzuron, targets immature flies by either contact or ingestion, and inhibits the deposition of chitin during molting. Without a functioning exoskeleton, the larvae die before they can become breeding adult flies that can bother your animals.

3. **What species of animals can be fed ClariFly Larvicide?**

   ClariFly® Larvicide is labeled for lactating and non-lactating beef and dairy cows, slaughter, stocker calves, and feeder cattle and calves including veal calves.

4. **What is the approved cattle dose?**

   The dosage for cattle is 0.10 mg/kg of body weight per day, except for calves weighing 100-200 pounds.

<table>
<thead>
<tr>
<th>Weight</th>
<th>Feed Intake</th>
<th>Grams of Diflubenzuron/Ton</th>
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</thead>
<tbody>
<tr>
<td>100-150</td>
<td>1.0-1.4</td>
<td>13.6</td>
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<tr>
<td>100-170</td>
<td>1.5-1.7</td>
<td>10.9</td>
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<tr>
<td>100-200</td>
<td>&gt;1.8</td>
<td>9.1</td>
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</tbody>
</table>

5. **Why can’t ClariFly Larvicide be fed to horses, swine and poultry?**

   Although another formulation of Diflubenzuron is approved for equine use (SimpliFly® feed-thru fly control), ClariFly® Larvicide is specially formulated for use in cattle, so it is not labeled for use in horses. The active ingredient, Diflubenzuron, is not approved for use in swine or poultry to control flies. It is a violation of Federal law to use a product for a use that is not on the label.

6. **When should I start feeding ClariFly Larvicide – when should I stop?**

   Start feeding ClariFly® Larvicide early in the spring, 30 days before flies begin to appear, and continue feeding throughout the summer and into the fall, until cold weather restricts fly activity. To minimize the number of over-wintering pupae, feed ClariFly® Larvicide 30 days past first frost.

7. **Since ClariFly Larvicide is an EPA registered product, what is the FDA’s stance on use with other feed additives?**

   The FDA classifies ClariFly® Larvicide as a pesticide when used in non-medicated feeds. The product can be custom blended per the provisions of 40 CFR 167.3. However, in medicated feeds, no EPA registration is required when the source of Diflubenzuron is an EPA-registered product. ClariFly® Larvicide may be used in feed containing any FDA approved drug unless contradicted by the drug approval or otherwise prohibited by law. In this situation, the medicated feed application requirement is determined by the regulatory status of the drug.

8. **Can I put ClariFly Larvicide in my pelleted feed?**

   Yes, Diflubenzuron has been pelleted in animal feeds at temperatures up to 200°F without noticeable process losses.

9. **How much will it cost per head per day to incorporate ClariFly Larvicide into my fly management program?**

   Because the inclusion rate of ClariFly® Larvicide is dependent on the weight of the animal, the cost per head per day will vary as the animal increases in size. As a general rule, it will cost $0.10 - $0.15 of a cent per hundred pounds of body weight per day. For example, it should cost between 2 and 2.5 cents per day to treat a 500 pound calf.

10. **Since ClariFly Larvicide controls larvae feeding on manure from treated cattle, what other measures of fly control should I use?**

    For the best fly control, a complete IPM program should be implemented. ClariFly® Larvicide can be used as an effective tool in any IPM program to reduce on-site fly breeding. Other parts of a good fly IPM program include sanitation (clean up spilled feed, rottting vegetation, old silage, and other fly breeding sources), cultural controls (keep weeds under control, repair leaky waterers, etc.), and use adult fly controls such as the Starbar® line of traps, sprays, foggers, and scatter baits to control adult flies that may migrate from outside of your facility.

11. **Does ClariFly Larvicide affect parasitic wasps or dung beetles?**

    ClariFly® Larvicide does not harm parasitic wasps. Wasps that parasitize fly pupae seek out pupae in the field. The male wasp drills a hole into the pupa and lays eggs inside the pupal case of the fly. As the immature wasps develop, they feed on the fly pupa that is transforming into an adult, killing the fly in the process. Fly larvae in ClariFly® Larvicide treated manure die before they can form pupae, so the wasps are unaffected. ClariFly® Larvicide can have a negative impact on dung beetles larvae (but not adults) that feed on manure from treated cattle.

12. **Are there any environmental concerns or any problems if other animals mistakenly eat ClariFly Larvicide?**

    Diflubenzuron is a pesticide that poses a low risk to human health and the environment. It has the following advantages over existing conventional pesticides:
    • Low impact on human health
    • Low toxicity to non-target organisms (birds, fish, plants)
    • Low potential for groundwater contamination
    • Low use rates
    • Compatibility with Integrated Pest Management (IPM) practices

    The EPA concluded that it is practically non-toxic to avian species, small mammals, freshwater and marine fish and bees. However, data does show that Diflubenzuron is toxic to freshwater and marine aquatic invertebrates.

13. **Should I be concerned about residues in meat or milk? Are there any withdrawal times associated with ClariFly Larvicide?**

    The metabolism of Diflubenzuron in cattle has been extensively studied in beef and dairy cattle. The EPA has established tolerances for milk, animal fat, meat and meat by-products at 0.05 ppm. Metabolism studies in dairy cows showed no detectable levels of Diflubenzuron residues in milk when dosed for up to 28 days. In studies of beef cattle and dairy cows, only very low levels of Diflubenzuron (below the meat tolerance) were occasionally seen in liver, kidney, fat and muscle. Therefore, there are no withdrawal requirements when using ClariFly® Larvicide.

14. **How does ClariFly Larvicide compare to organophosphate oral larvicides?**

    Organophosphates (“OP’s”) are a class of insecticides that have been used extensively in the cattle industry across all application methods, including feed-through oral larvicides. OP resistance is well documented in many fly populations. Feeding an organophosphate oral larvicide increases the risk of developing OP resistance in a fly population more rapidly. ClariFly® Larvicide provides an answer for controlling flies in situations where resistant flies are a problem.

15. **Where can I purchase ClariFly Larvicide and/or Starbar® products?**