Natural Lake

CattZilla

Improve Cattail Treatments

CattZilla is a pioneering adjuvant that uses biochemistry to aid the treatment of cattails, bulrush, and similar plants. CattZilla enhances the penetration and efficiency of herbicides and speeds the breakdown of dead stalks and shoots from the inside out. CattZilla is a natural biocatalyst intended to be used with chemical treatments to improve efficacy. It does not kill aquatic plants or algae alone.

When applied in mid to late season when the cattails are fully developed, use of Cattzilla combined with an aquatic herbicide will promote a rapid collapse of the plant and continued degradation of the dead plant material.





Diagram shows CattZilla lysing cattails and moving down through the stalks.

KEY BENEFITS & HIGHLIGHTS

- Enhances treatment efficiency and consistency
- Speeds degradation of dead shoots and stalks
- Reduces the number of follow up treatments
- Used as an adjuvant
- Speeds chemical reactions and absorption
- Collapses dead cattails and amplifies natural decomposition
- Safe for environment and applicator

Effects of Biocatalysts on Cattail Treatments

Naturalake Biosciences' CattZilla and AquaSticker Testing

STUDY SUMMARY

- HPLC analysis: CattZilla increased glyphopsate penetration into cattail tissues
- Microscopy analysis: significantlyly more chlorosis (lack of chlorophyll or damage) in the Glyphosate + CattZilla + AquaSticker
 treatment
- Slightly more cattail mortality observed at 21 and 28 days in comparison to glyphosate control (about 97% mortality vx 90% mortality)
- Significantly lower live leaf height for cattails treated with CattZilla and CattZilla + AquaSticker. This indicates cattails beginning to flal over at a faster rate (21-35 days vs 42 days for all cattail living leaves to be knocked down)





RESULTS AND DISCUSSION

Leaf height of living tissue did not differ among treatments at 7 DAT and 14 DAT (p=0.4096 and 0.9367, respectively). At 21 DAT. live leaf height of plants treated with CattZilla was reduced compared to reference and plants treated with glyphosate alone. All CattZilla treated plants observed lower live leaf heights than plants treated with Glyphosate alone or reference plants until 35 DAT. At 42 DAT. all live leaf heights of treated plants were similar.

Height of dead leaves did not differ among any treatment at any sampling event; presence of dead leaves in reference treatments was likely due to normal senescence of a few leaves throughout the plants lifecycle (p>0.05 for all sampling events). After treatments were administered, new growth was not observed in any treatment making statistical analysis impossible.

Herbicide Residue: Glyphosate residues among treatments at each sampling event had a high degree of variation. at 3 DAT, CattZilla treated plants showed more glyphosate penetration in the upper leaf, lower leaf, and root idicating more rapdi response that glyphosate alone treated plants. CattZilla and CattZilla + AquaSticker treated plants had increased glyphosate penetration vs glyphosate alone treated plats at 3 DAT and 21 DAT.



MEAN (GLYPHOSTAE CONCENTRATION (PPB) 3) VS. DAYS AFTER TREATMENTS

CATTZILLA DOSAGE - WHEN MIXED WITH ALGAECIDE OR HERBICIDE

Herbicide	CattZilla	or	Treatment Area	CattZilla
1 gallon	16 ounces		1000 sq feet	12 - 16 ounces
2 gallons	24 - 32 ounces		2000 sq feet	24 - 32 ounces
5 gallons	60 - 80 ounces		0.5 acre	2 - 3 gallons
50 gallons	3 - 6 gallons		1 acre	4 - 6 gallons
100 gallons	6 - 10 gallons		2 acres	8 - 12 gallons

• Mix directly with herbicide and follow herbicide rate and instructions

CattZilla is available in multiple container sizes: 1, 2.5, 55, and 275 gallons

USES & APPLICATIONS

Cattails

Alligator weed

- Frog's-bit
 - Giant Reed
 - Lakes and ponds
- Rivers and streams
- Golf courses
 - Retention ponds

Bulrush

- akes and pends
- WetlandsCanals
- And more!

THE SCIENCE BEHIND IT

Cattails are supported by a rigid cellular framework that allows them to grow up to 20 feet tall and withstand both wind and gravity. This cellular framework is made of complex proteins, carbohydrates, fatty acids, and minerals. In early spring, carbohydrates stored in the rhizomes are converted to energy for shoot growth. In addition, Cattails have a well-developed aerenchyma that allows for gas to exchange aerobically from the leaves to the roots. Even standing dead cattails will support this gas exchange and contribute to new growth.

When cattails are green and in full bloom, excess carbohydrates are returned through the rhizomes to the root system for storage. Herbicide applications (glyphosate, imazapyr, imazamox) are used at this time until the first frost to get the most benefit of this translocation process. CattZilla works synergistically with the aquatic herbicide to speed penetration and enhance the degradation of the cattail's dead cellular framework. When the supporting framework weakens, the dead cattails will fall and disrupt the gas exchange through the aerenchyma. After the cattails fall, Cattzilla promotes continued degradation of the stalks and rhizomes.



