

NEMATOCIDE TRIAL 2021

SFNMC 2021 ADVISORY MEETING

NOVEMBER 3 - 4, 2021

Background

- Limited nematode control options now



Managing Nematodes without Methyl Bromide

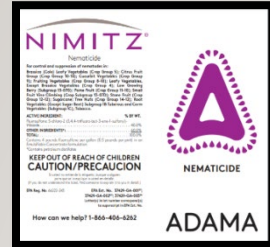


- *“The increasing regulatory pressure on pesticides has affected nematicides more than other products.*

*With the recent spike in nematicide research, a number of new products (Nimitz, Velum and Majestene) have recently entered the market, and more new products are expected in the near future. Unlike the older nematicides, they more specifically target nematodes. Therefore, **they should not be considered fumigant replacements.**“*

Background continued

- Nimitz



labeled as a nematocide
active ingredient is fluensulfone 40.0%
pre-plant only
conifer nurseries not on label

- Velum



labeled as both fungicide and nematocide
active ingredient is fluopyram 41.5%
conifer nurseries not on label

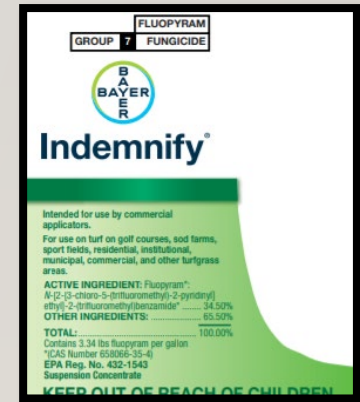
- Majestene



labeled as biological insecticide and nematocide
active ingredient is heat-killed *Burkholderia*
conifer nurseries not on label

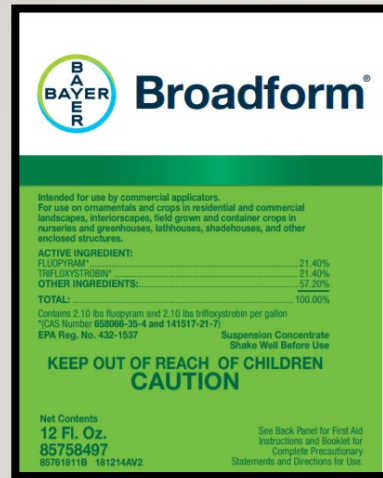
- Indemnify

labeled as a fungicide and nematocide
active ingredient is fluopyram 34.5%
labeled for turf only



Background continued

- Broadform



labeled as a fungicide
active ingredients are fluopyram 21.4% and trifloxystrobin 21.4%
“field grown and container crops in nurseries” on label
known to be a contact nematicide as well as a fungicide

one ingredient in Stratego fungicide in SFNMC rust trials

CROP DIRECTIONS FOR USE

BROADFORM is a broad-spectrum fungicide for the control of certain foliar and stem diseases of listed crops.

CROP USE RESTRICTIONS

- Do not apply more than 27.1 fl. oz.¹ of BROADFORM per acre of production or acre of landscape per year or crop cycle for plants grown in outdoor nurseries, outdoor seedbeds, field plantings and landscapes.
- Do not apply more than 27.1 fl. oz.¹ of BROADFORM per acre per year or crop cycle to seedlings and plants grown in greenhouses, containers, and other enclosed structures.

max. allowable amount per acre per year is 27.1 fl. oz.

Fluopyram :

- Produced by Bayer CropScience
- Testing done in crop and turf applications over 4 years in over 100 field trials
- A SDHI fungicide found to have nematicidal activity (very unusual)
- As a fungicide, is taken up by roots and moved through plant to control diseases
- A contact nematicide inhibiting the production of energy in nematodes
- Has extremely long soil half-life of 6 months to 2 years (unique)
- Binds moderately tightly to organic matter
- Avoid applying prior to significant rainfall within 48 hours to prevent leaching



2021 NEMATICIDE TRIAL

- 1 fungicide aka nematicide: Broadform fluopyram 21.4% + trifloxystrobin 24.4%
- 1 nursery – ArborGen Bullard TX nursery
- maximum allowable application per acre per year: 27.1 oz.
- apply in nematode hot spot in field last fumigated in 2019
- 2 treatments: 0 sprays - control
3 sprays - 8 oz/ac at sowing + 11 oz/ac 21 DAT + 8 oz/ac 21 DAT

2021 NEMATOCIDE TRIAL

- By nursery staff: product purchased
trial plots laid out
3 Broadform applications made
soil samples taken and shipped to Auburn for analysis (May – September)
germination counts made
seedling samples to be collected and shipped to Auburn for analysis



photos by G. Bickerstaff, ArborGen Inc.

2021 Nematode populations in control plots and Broadform-treated plots

Soil Sampling Date	CONTROL mean number of nematodes per plot	TREATMENT mean number of nematodes per plot
5/12/2021	38.4	47.8
6/2/2021	26.2	30.2
6/21/2021	10.0	12.2
8/3/2021	10.4	29.3
9/22/2021	16.2	21.3
Mean	20.2	28.2

What's next?

- Nematode pressure was not high enough this year to adequately test the product's efficacy on nematode control
- Plan to retest this product in 2 nurseries in 2022
- Include other non-fumigant nematicide products if identified
- Nematicides we test could be used to **extend** fumigation in fields, not act as fumigation replacements

QUESTIONS?

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