

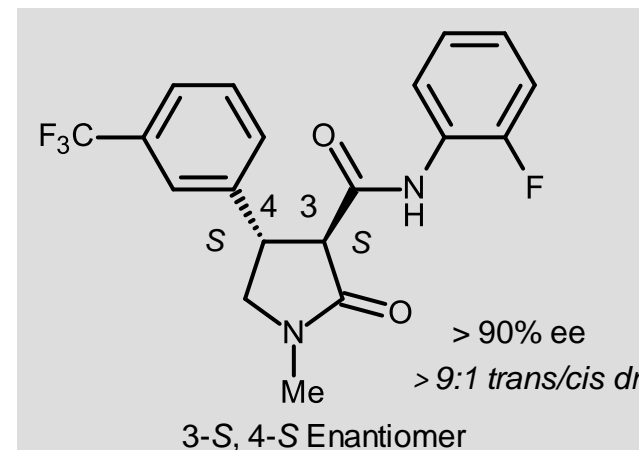
# TVE29 (Tetflupyrolimet): A New Mode-of-Action Herbicide for Effective Management of Herbicide-Resistant Grass Weeds

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# TVE29 (Tetflupyrolimet)—Overview

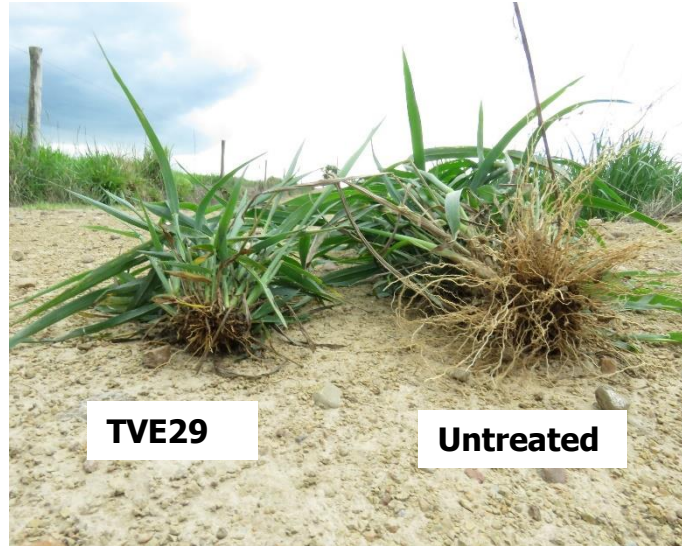
- **1st new mode of action (DHODH) herbicide** in decades – a major innovation!
  - [Group 28 HRAC Classification](#)
- **Outstanding residual control (50 days+)** of key grass weeds, some sedges and BLWs with excellent safety on transplanted or direct seeded Indica or Japonica rice.
- Controls herbicide resistant grass weeds in rice.
- **Excellent fit in global rice grass/cross spectrum weed market**, especially as a “One Shot” mixture product.



ECHCG control at 56 DAT in VN

# TVE29 Symptomology on Weeds

*Sourgrass - Digitaria insularis*



TVE29

Untreated

## Visual Symptoms:

- Very clear root pruning in weeds
- Growth inhibition (stunting); necrosis



*Early Barnyardgrass - Echinochloa oryzicola*



*Signal grass - Brachiaria decumbens*

# TVE29 Field Performance - United States

Arkansas, US (Heavy Soils)

Photos taken – 7/29/21 (37 DAT of Preflood Application)

Species: **Barnyardgrass** and **Tighthead Sprangletop**



# TVE29 Technical Knowledge Snapshot

Area	Status
Biology	Season long control of grass weeds in rice culture, some BLWs & sedge control; Low use rate
MOA	<b>Novel</b> ; Dihydroorotate dehydrogenase (DHODH), pyrimidine biosynthesis; <b>Group 28 HRAC</b>
Formulations	Good flexibility; multiple formulations tested globally (SC, GR, EC, WG)
Mammalian Toxicology	No significant areas of concern
Ecotox	No significant areas of concern
E-Fate	Do not expect drinking water issues, and soil persistence of parent is manageable
B-Fate	Bioaccumulation not expected; rapid metabolism

# TVE29 Summary

- TVE29 (Tetflupyrolimet) belongs to a new herbicidal mode-of-action class of aryl pyrrolidinone anilides that interferes with de novo pyrimidine biosynthesis via inhibition of dihydroorotate dehydrogenase enzyme in the plants.

## Tetflupyrolimet

(Chemical Family: Aryl pyrrolidinone anilide)

28

HRAC/WSSA

- Discovered by targeted high-volume screening; Optimization gave rise to analogs with high grass activity.
- Selectivity to both Indica and Japonica biotypes & transplanted and direct-seeded rice grown worldwide.
- Studies show TVE29 provides season-long control of important grass weeds, key broadleaf weeds and sedges.
- Due to its new mode of action, TVE29 has no known cross-resistance.



An example of the excellent crop safety at 2X rate Pre- application