



# 2021 Clearfield Production System for Rice Stewardship Guide

Clearfield rice growers are expected to protect and prolong the usefulness of this technology by following the specific requirements of the current year Clearfield Rice Stewardship Grower Agreement. Growers are also asked to implement specific management practices to help prevent weed resistance. The key practices for proper stewardship of Clearfield rice are as follows:

## In-Season Clearfield Rice Production

**Mandatory practices:** Grower may obtain a license to apply an imidazolinone herbicide registered for use on Clearfield rice (including, without limitation, BASF's **Newpath**®, **Clearpath**® and **Beyond**® herbicides) by purchasing such products. After obtaining the applicable license by purchasing the herbicide, Grower agrees to apply the herbicide in accordance with the product label, including stated label rate and timing. Any BASF herbicides should be purchased from an authorized BASF herbicide retailer.

- Each year in which Grower desires to plant Clearfield rice seed, Grower must purchase new seed (registered or certified) for such year from an authorized Clearfield seed retailer. Saving seed to plant next year's crop is not allowed (NO "brown-bagging" or "bin-running" of Clearfield rice seed is permitted).
- Proof of purchase records for Clearfield rice seed and imidazolinone herbicide registered for use on Clearfield rice must be provided to BASF prior to BASF's servicing any crop claim. BASF does not warrant the crop safety or performance of herbicides other than BASF brands. For warranty of BASF herbicides, consult the product label.

## The subsequent sections describe Best Management Practices that should be implemented to preserve the efficacy and usefulness of the Clearfield Production System for Rice

### Best Management Practices – Resistance Management

- Start clean – utilize a burndown herbicide at planting.
- Plant Clearfield rice according to seed company recommendations for best cropping practices.
- Apply a residual herbicide, such as **Prowl**® **H<sub>2</sub>O** herbicide, delayed pre-emergence, to increase grass control.
- Apply two applications of **Newpath** herbicide as labeled or one application of **Newpath** followed by one application of **Clearpath** herbicide or vice versa to increase weed control. **Clearpath** may be substituted for only one of the **Newpath** applications but not both. The second application provides residual for extended weed control. **Beyond** herbicide may be applied as the second application after the first application of **Newpath** or **Clearpath**.
- Water management:
  - Flush within 2 days of first application.
  - Initiate permanent flood within 2 days of second application or as soon as the growth stage of the rice permits.
  - Maintain good soil moisture until permanent flood.
  - Maintain weed-free levees and red-rice-free ditches and turnrows.
  - Treat with **Beyond** to control escaped red rice at a proper growth state according to **Beyond** label.
  - Rogue for red rice escapes.
  - DO NOT ratoon rice crop if red rice is present at harvest, regardless of plans to harvest or utilize as habitat.
  - Roll and flush Clearfield rice fields after harvest to promote germination of weeds in the fall.
  - After frost in the fall, destroy all remaining rice plants

## Best Management Practices – Crop Rotation Following Planting Clearfield Rice

- DO NOT plant Clearfield rice in consecutive years in the same field.
- Rotate to another crop such as Roundup Ready® soybeans or corn and use alternate herbicide mode of action for red rice control.
- In rotational crop use a residual herbicide for red rice and grass control, such as **Outlook**® herbicide, **Verdict**® herbicide, Dual Magnum® or Dual II Magnum®. DO NOT use an ALS herbicide as the primary residual herbicide.
- If late germinating red rice is present in a Roundup Ready crop prior to canopy closure, an application of Roundup® is recommended. A non-ALS herbicide should also be used to control red rice and other grasses in soybeans just prior to canopy closure.
- DO NOT grow crawfish following growing Clearfield rice (plant non-Clearfield rice for use in crawfish fields).
- DO NOT fallow fields following Clearfield rice without repeated field tillage or glyphosate treatments to control volunteer red rice.
- DO NOT allow any Clearfield rice to go to seed in a non-rice year. This includes any fallow or crawfish productions fields.
- When practical, cultivate all rotational crops regardless of herbicide program.

## Best Management Practices – Stewardship Recommendation for Fields with Severe Infestations of Volunteer Rice with ALS Herbicide Tolerance

- **DO NOT** plant Clearfield rice for at least three years.
- **DO NOT** plant Provisia® rice the year after planting Clearfield rice
- Plant an alternate crop for three or more years before rotating back to Clearfield rice. Rotate to crops such as Roundup Ready (RR) or LibertyLink® (LL) soybeans or corn for multiple years in the following rotation (year 1: RR or LL crop; year 2: RR or LL crop or Provisia rice; year 3: RR or LL crop or Provisia rice if not planted the previous year).
- Use glyphosate in Roundup Ready soybeans or glufosinate in LibertyLink soybeans for post-emergence control of red rice. Other products such as Select Max®, Fusilade®, or **Poast**® may be considered for post-emergence control of red rice in either Roundup Ready or LibertyLink soybeans. In addition to post-emergence herbicide options, it is also recommended to apply a non-ALS residual herbicide such as **Outlook**, **Verdict**, Dual Magnum or Dual II Magnum prior to red rice emergence.
- DO NOT allow any Clearfield rice to go to seed throughout the season.
- Use cultivation or rogue all suspect out-crossed plants to prevent red rice seed production.

Always read and follow label directions.

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The Clearfield rice technology is protected by one or more of the following U.S. Patents: 6,943,280; 7,399,905; 8,841,525; and 9,499,834; Patent Application Numbers US16/656,112; US16/656,119; PCT/US2017/035222; and PCT/US2019/027616, with additional patent applications pending.

The Clearfield rice technology is protected by one or more of the following U.S. PVPA certificates: 200800366; 201000006; 201400523; 201600232; 201800292; 2020175 (pending); 2020176 (pending) and additional PVPA Certificates may be pending. Unauthorized propagation of these varieties is prohibited.

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