



## 2018 Stewardship Guide

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

### In-Season Provisia Rice Production

**Mandatory practices:** Grower will obtain a license to apply **Provisia**<sup>TM</sup> herbicide, an ACCase (Quizalofop) herbicide registered for use on Provisia<sup>TM</sup> rice, when Provisia herbicide is purchased from a BASF-authorized herbicide retailer. 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, and resistance management requirements. BASF herbicides must be purchased from a BASF-authorized herbicide retailer.

- Each year in which Grower elects to plant Provisia rice seed, Grower must purchase new seed (registered or certified) from an authorized Provisia seed retailer. **DO NOT** save seed to plant for the following crop ("brown-bagging" or "bin-running" of Provisia rice seed is **Strictly Forbidden**).
- Proof of purchase records for Provisia rice seed and Provisia herbicide for use on Provisia 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.
- **DO NOT** plant Provisia rice in consecutive years in the same field.

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

#### **Best Management Practices – Resistance Management**

- Start clean – utilize a non-ACCase burndown herbicide at planting.
- Plant Provisia rice according to seed company recommendations for best cropping practices.
- Apply a residual herbicide such as Command<sup>®</sup> preemergence or Prowl<sup>®</sup> H2O delayed pre-emergence herbicides to increase grass control
- A sequential **Provisia** herbicide application program is necessary for optimum control of volunteer rice and red rice due to extended emergence. **Provisia** herbicide is a selective post emergence grass herbicide for the control of red rice, volunteer rice types (conventional, Clearfield<sup>®</sup> rice or hybrid volunteer rice), annual and perennial grasses in rice production. It may be necessary to tank mix additional herbicides with different sites of action for broadleaf and sedge control. In tank mix applications use the higher rate of **Provisia** herbicide and follow the most restrictive label.
  - Water management:
    - Flush within 2 days of first application.
    - Initiate permanent flood immediately after second Provisia herbicide application to prevent grass germination
- If Provisia rice is planted, always spray Provisia herbicide to control red rice and volunteer rice to prevent potential outcrossing of the Provisia trait from Provisia rice to red rice, volunteer rice or other grasses.
- Maintain weed-free levees and red-rice-free ditches and turnrows.
- Rogue for red rice escapes.

- Scout after herbicide application to monitor weed populations for early signs of suspected resistance development. Indicators of suspected herbicide resistance include: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species. If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by roguing. Prevent movement of suspected resistant weed seeds to other fields by cleaning farm equipment when moving between fields, and planting clean seed.
- **DO NOT** ratoon rice crop if red rice is present at harvest, regardless of plans to harvest or utilize as habitat.
- Roll and flush Provisia 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 Provisia Rice**

- Rotate to the Clearfield® Production System for Rice or another crop such as Roundup Ready® or Liberty Link® soybean or corn and use alternate herbicide mode of action for red rice control.
- If rotating to Clearfield rice follow the Clearfield stewardship guide for control of volunteer rice types (conventional, Provisia or hybrid volunteer rice) to help prevent weed resistance.
- In other rotational crops use a residual herbicide for red rice and grass control, such as **Outlook**® herbicide, **Verdict**® herbicide, Dual Magnum® or Dual II Magnum®.
- Apply glyphosate prior to canopy closure if red rice is present in a Roundup Ready crop. Non-ALS and non-ACCcase herbicides should also be used to control red rice and other grasses just prior to canopy closure.
- Apply glufosinate prior to canopy closure if red rice is present in a Liberty Link crop. Non-ALS and non-ACCcase herbicides should also be used to control red rice and other grasses just prior to canopy closure.
- **DO NOT** fallow fields following Provisia rice without repeated field tillage, glyphosate treatments, or glufosinate treatments to control volunteer rice or red rice.
- **DO NOT** allow any Provisia rice to go to seed in a non-rice year. This includes any fallow or crawfish production fields.
- When practical, cultivate all rotational crops regardless of herbicide program.

### **Best Management Practices - Stewardship Recommendations for Fields with Severe Infestations of Red Rice and Volunteer Rice with ALS Herbicide Tolerance**

- **DO NOT** plant Clearfield rice for at least three years with severe ALS resistant weeds.
- **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 Liberty Link (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 **Provisia** herbicide in Provisia rice to control volunteer rice with ALS herbicide tolerance. Apply **Provisia** herbicide at 13-15.5 fluid ounces per acre to growing grasses, red and volunteer rice (2 leaf – 1 tiller) and follow with a sequential application at 15.5 fluid ounces per acre 10-21 days later (prior to PI) for control of later emerging growing grasses, red and volunteer rice.
- Use glyphosate in Roundup Ready soybeans or glufosinate in Liberty Link soybeans for postemergence control of red rice. It is also recommended to apply a non-ALS residual herbicide such as **Outlook**, **Verdict**, Dual Magnum or Dual II Magnum herbicides prior to red rice emergence. Non-ALS and non-ACCcase herbicides should also be used to control red rice and other grasses just prior to canopy closure.
- **DO NOT** allow any ALS or ACCcase herbicide tolerant rice to go to seed throughout the season.
- Rogue all suspected out-crossed plants to prevent red rice seed production.

## Best Management Practices - Stewardship Recommendations for Fields with Severe Infestations of Red Rice and Volunteer Rice with ACCase Herbicide Tolerance

- **DO NOT** plant Clearfield rice for at least three years in fields with severe ACCase resistance
- Plant Clearfield rice and an alternate crop such as Roundup Ready or Liberty Link soybean or corn for three or more successive years in the following rotation (year 1 RR or LL crop or Clearfield rice, year 2 RR or LL crop or Clearfield rice if not planted the previous year, year 3 RR or LL crop or Clearfield rice if not planted the previous year).
- Use a labeled imidazolinone herbicide in Clearfield rice to control any suspected resistant volunteer rice.
- Use glyphosate in Roundup Ready soybean or glufosinate in Liberty Link soybean for postemergence control of red rice. It is also recommended to apply a non-ALS residual herbicide such as **Outlook**, **Verdict**, Dual Magnum or Dual II Magnum herbicides prior to red rice emergence. Non-ALS and non-ACCcase herbicides should also be used to control red rice and other grasses just prior to canopy closure.
- **DO NOT** allow any ACCcase or ALS tolerant rice to go to seed throughout the season.
- Use cultivation or rogue all suspected out-crossed plants to prevent red rice seed production.

Always read and follow label directions.

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