

RICE

WEED RESPONSE RATINGS FOR RICE HERBICIDES^a

	Amazon Sprangletop	Ammania (Redstem)	Barnyardgrass	Bearded Sprangletop	Broadleaf Signalgrass	Crabgrass	Dayflower	Ducksalad	Eclipta	Fall Panicum	Flatsedges	Gooseweed	Hemp Sesbania (coffeebean)	Morningglory	Northern Jointvetch	Nutsedge	Palmer Amaranth ^c	Smartweed	Spikerush	Texasweed (2-3 leaf)	Red Rice	Volunteer Glyphosate-Resistant Soybean ^d	Glyphosate-Resistant Horseweed ^e
Clearfield Rice System																							
Beyond	5	8	8	5	9	-	6	2	6	7	8	-	3	8	3	-	6	5	-	5	9	0	-
Clearpath	6	8	9	6	9	9	6	6	8	6	9	0	7	8	7	8	5	6	-	7	8	-	-
Newpath (2 applications)	6	8	9	8	9	9	5	7	0	9	9	5	0	7	0	8	6	7	9	5	9	0	-
Preemergence/ Delayed Pre																							
Bolero delayed pre	7	7	8	7	4	7	8	7	8	7	7	6	4	4	5	4	-	5	7	5	0	-	-
Command pre	8	0	9	8	9	9	0	0	0	9	0	0	2	3	3	0	0	2	0	0	0	0	-
Prowl delayed pre	8	1	9	7	8	8	0	4	0	8	0	0	0	0	0	0	7	2	0	0	0	0	-
Quinclorac pre	0	0	9	0	9	9	5	2	8	8	5	3	6	7	7	0	0	0	-	-	0	-	-
Quinclorac + Bolero delayed pre	8	7	9	8	9	9	7	7	9	9	8	5	8	8	8	0	-	5	7	-	0	-	-
Quinclorac + Prowl delayed pre	8	3	9	8	9	9	3	0	8	9	5	3	6	8	7	0	7	2	-	-	0	-	-
Postemergence (Before Flood)																							
Aim	0	6	0	0	0	0	7	5	7	0	0	-	9	9	7	0	7	9	0	6	0	2	-
Basagran	0	8	0	0	0	0	9	7	7	0	8	7	3	3 ^b	3	7	2	7	8	5	0	0	-
Clincher SF	8	0	8	9	9	6	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0
Grandstand	0	8	0	0	0	0	6	4	9	0	6	5	9	9	8	0	8	6	5	8	0	9	6
Grasp	0	7	8	0	0	0	8	9	8	2	9	-	8	5	8	3	6	7	8	6	0	9	8
Grasp Xtra	0	7	8	0	0	0	9	9	9	2	9	-	9	8	9	3	8	7	8	8	0	9	8
League	0	8	0	0	0	0	8	7	8	0	8	-	9	8	8	8	5	7	-	8	0	8	-
Londax	0	8	0	0	0	0	8	9	8	0	8	9	4	0	7	6	5	6	8	5	0	-	-
Permit	0	0	0	0	0	0	8	4	5	0	8	-	8	4	7	9	6	4	-	6	0	8	6
Permit Plus	0	9	0	0	0	0	8	7	9	0	8	-	9	7	7	8	6	8	-	7	0	8	6
Propanil	5	6	9	4	9	7	5	7	8	8	9	5	9	5	5	4	8	6	9	6	0	8	1
Propanil + Basagran	5	9	9	4	9	7	9	7	9	9	9	7	9	5 ^b	9	6	8	8	9	6	0	-	-
Propanil + Bolero (or RiceBeaux)	9	8	9	9	9	7	8	8	9	9	9	6	9	6	5	5	8	6	9	7	0	8	-
Propanil + Grandstand	5	9	9	4	9	7	5	7	9	9	8	8	9	9	9	5	9	7	9	8	0	9	-
Propanil + Londax (or Duet)	5	9	9	4	9	7	8	7	9	9	9	9	9	9	9	8	8	8	9	7	0	-	-
Propanil + Prowl	9	7	9	9	9	7	5	7	9	9	9	5	9	5	5	4	8	5	7	6	0	-	-
Propanil + quinclorac	5	6	9	4	9	7	5	6	8	9	9	5	9	8	9	5	8	5	9	6	0	8	8
Propanil Sequential (3 + 3)	8	6	9	7	9	7	6	7	9	9	9	5	9	5	5	6	8	8	9	7	0	8	-
Quinclorac early post	0	3	9	0	9	7	3	3	9	6	5	-	8	8	8	0	3	0	-	3	0	2	6
Quinclorac + Aim (or Broadhead)	0	7	9	0	9	7	7	5	9	6	5	-	9	9	8	0	8	8	-	6	0	2	6
Quinclorac + Bolero	7	5	9	7	9	9	7	7	9	8	7	5	8	8	8	0	5	4	7	-	0	5	-
Quinclorac + Prowl	0	3	9	0	9	8	3	3	8	6	5	-	8	8	8	0	5	2	-	6	0	-	-
Regiment	2	6	9	2	3	0	8	9	7	0	8	0	8	6	7	0	6	9	-	8	0	9	5
Ricestar HT	8	0	9	9	9	8	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0
Storm	2	9	3	2	3	3	7	8	7	2	8	-	9	8	6	7	7	8	-	8	0	0	-
Strada	0	8	0	0	0	0	7	6	8	0	9	-	9	7	9	7	5	6	-	6	0	8	5
Postemergence (After Flood)																							
Grandstand	0	9	0	0	0	0	-	3	8	0	5	9	8	-	-	-	6	4	7	4	0	-	-
Propanil	0	4	4	0	4	4	0	3	4	4	5	0	8	0	0	3	7	5	7	4	0	-	-
Propanil + Grandstand	0	9	2	0	2	2	4	5	6	2	6	7	9	8	8	2	6	4	9	4	0	-	-
Ultra Blazer	0	0	0	0	0	0	0	0	0	0	0	0	9	8	6	0	6	0	0	4	0	0	-
2,4-D	0	9	0	0	0	0	9	9	9	0	8	6	9	9	5	5	4	6	8	3	0	-	-

^aControl expected under optimum conditions. Mississippi State University does not guarantee these estimates since many factors cause herbicide performance to vary.

^b8 for palmleaf morningglory.

^cControl ratings apply for herbicide applications made to Palmer amaranth 2 to 3 inches tall. Palmer amaranth resistance to Group 2 herbicides (Beyond, Grasp, League, Londax, Newpath, Permit, Permit Plus, Regiment, and Strada) is prevalent across Mississippi.

^dControl ratings do not apply to sulfonylurea-tolerant soybean (STS).

^eControl ratings apply only to glyphosate-resistant horseweed emerging in the spring. Lower control can be expected for glyphosate-resistant horseweed emerging in the fall.

Rating Scale: 0-3 = none to slight; 4-6 = fair; 7-8 = good; 9-10 = excellent.

Consult labels for approved adjuvants.

Weed resistance to recommended use-rates of certain herbicides has been documented in Mississippi — SEE PAGE 9.

Rice, Continued

Crop, weed, or situation and active chemical per treated land acre

Formulation needed to treat 1 acre broadcast

Time of application

Weeds controlled

Special instructions and remarks

Preplant

flumioxazin — 0.51 to 1.02 lb/A	Valor 51 WDG — 1 to 2 oz/A	30 days preplant	Will enhance control of cutleaf evening primrose, henbit, Carolina geranium, and wild mustard when applied in a burndown program with glyphosate, paraquat, or 2,4-D	Used in a burndown program at 2 ounces per acre will provide residual control of horseweed, henbit, chickweed, and dandelion.
glyphosate — 1 to 1.5 lb/A	See glyphosate table on pages 5-6 for rates.	Preplant or preemergence	Annual and perennial grasses and broadleaf weeds	Apply to actively growing weeds less than 6 inches tall. Use higher rate for weeds more than 6 inches tall. Apply up to 5 pounds of active ingredient per acre for control of perennial weeds. See labels for specific weeds. Glyphosate may be tank-mixed with soil-applied herbicides for residual activity.
glyphosate + clo-mazone — 1 to 1.5 lb/A + 0.3 to 0.6 lb/A	See glyphosate table on pages 5-6 for rates + Command 3 ME — 0.8 to 1.6 pt/A	Up to 14 days before planting	Annual and perennial grasses and broadleaf weeds plus residual control of annual grasses	See <i>Special Instructions and Remarks</i> for glyphosate and clomazone. The field must be free of standing water at the time of application. Antagonism may occur in some situations. Use the full rate of glyphosate. Sequential postemergence grass herbicide application will be needed.
halosulfuron — 0.031 to 0.062 lb/A	Permit or Halomax 75 WG — 0.67 to 1.33 oz/A	Preplant or preemergence	Yellow nutsedge, annual weeds	Avoid off-site movement to soybean. Add a nonionic surfactant at 0.25% v/v or a crop oil concentrate at 1% v/v. Application is safe to rice when soil pH is less than 8.0. Do not make more than one preplant/preemergence application per growing season.
halosulfuron + thifensulfuron — 0.024 + 0.0028 lb/A	Permit Plus 75 WG — 0.75 oz/A	Preplant or pre-emergence	Pennsylvania smartweed, yellow nutsedge, and annual weeds	Avoid off-site movement to soybean. Add a nonionic surfactant at 0.25% v/v or a crop oil concentrate at 1% v/v. Application is safe to rice when soil pH is less than 8.0. Do not make more than one preplant/preemergence application per growing season.
paraquat — 0.5 to 1 lb/A	2 lb/gal formulation — 2 to 4 pt/A; 3 lb/gal formulation — 1.33 to 2.67 pt/A	Preplant or preemergence	Annual and perennial grasses and broadleaf weeds. Use lower rates on weeds 1-3 inches tall and higher rates on weeds 4-6 inches tall.	Avoid off-site movement to emerged vegetation. Add nonionic surfactant at 0.25% v/v or crop oil concentrate at 1% v/v. Command at 0.8-1.6 pints per acre may be added for residual control of grasses.
saflufenacil — 0.022 to 0.044 lb/A	Sharpen 2.85 SC — 1 to 2 oz/A	15 days preplant	Horseweed and other broadleaf weeds	See Sharpen label for surfactant information. Target weeds should be less than 4 inches in height or diameter. Sharpen may be tank-mixed with glyphosate, paraquat, or glufosinate to improve grass and broadleaf control. Do not apply more than 2 ounces per acre in a single season. Do not apply within 45 days of flooding.
thifensulfuron + tribenuron — 0.016 to 0.025 lb/A	Firstshot 50 SG — 0.5 to 0.8 oz/A	Preplant or preemergence	Winter annual and some perennial broadleaf weeds, including curly dock and Pennsylvania smartweed	Apply to actively growing weeds. May be mixed with other preplant herbicides to broaden weed spectrum. Extend time from application to planting to 7 days when Firstshot is used on light-textured soil (sand, sandy loam) or when Firstshot is used on high pH soils (>7.9).
thiobencarb — 4 lb/A	Bolero 8 EC— 4 pt/A Preplant/preflood	(Water-seeded rice only)	Barnyardgrass, sprangletop, and aquatic weeds	Prepare seedbed for water seeding with levees constructed. Destroy all vegetation prior to Bolero application. Apply Bolero and establish flood immediately. Wait 3 days after flood establishment before seeding.
2,4-D amine — 0.5 to 1 lb/A	Various formulations — 1 to 2 pt/A	During winter and early spring at least 30 days prior to planting	Annual and perennial broadleaf weeds	Do not apply by air after March 31. Do not apply more than 2.5 pints per growing season.

Rice Continued

Crop, weed, or situation and active chemical per treated land acre

Formulation needed to treat 1 acre broadcast

Time of application

Weeds controlled

Special instructions and remarks

Clearfield Rice System

imazethapyr — 0.063 to 0.094 lb/A	Newpath 2 AS — 4 to 6 oz/A	Preplant-incorporated. Sequential application to 3- to 5-leaf rice required.	Red rice and annual grasses; also controls yellow nutsedge	Use on Clearfield rice varieties and hybrids only. Flush for activation if rainfall does not occur within a few days of planting. This application must be followed by one postemergence application of Newpath or Beyond. Avoid off-site movement of Newpath onto conventional rice varieties.
imazethapyr — 0.063 to 0.094 lb/A	Newpath 2 AS — 4 to 6 oz/A	Preemergence. Sequential application to 3- to 5-leaf rice required.	Red rice and annual grasses; also controls flatsedges and yellow nutsedge	Use on Clearfield rice varieties and hybrids only. Flush for activation if rainfall does not occur within a few days of planting. This application must be followed by one postemergence application of Newpath or Beyond. Avoid off-site movement of Newpath onto conventional rice varieties.
imazethapyr — 0.063 to 0.094 lb/A	Newpath 2 AS — 4 to 6 oz/A	3-leaf through 5-leaf rice before flooding	Red rice and annual grasses; also controls flatsedges and yellow nutsedge	Use on Clearfield rice varieties and hybrids only. Tank-mixing with other herbicides will be required for control of broadleaf weeds, including hemp sesbania, northern jointvetch, and eclipta. This application must be preceded by one preplant-incorporated or preemergence application of Newpath. Avoid off-site movement of Newpath onto conventional rice varieties. Add a nonphytotoxic crop oil concentrate at 1% v/v or nonionic surfactant at 0.25% v/v.
imazethapyr — 0.063 to 0.094 lb/A followed by imazethapyr — 0.063 to 0.094 lb/A	Newpath 2 AS — 4 to 6 oz/A followed by Newpath 2 AS — 4 to 6 oz/A	First postemergence application at spike to 1-leaf rice followed by second postemergence application approximately 14 days later	Red rice and annual grasses; also controls flatsedges and yellow nutsedge	Use on Clearfield rice varieties and hybrids only. A soil-applied herbicide such as Command should be used in the first Newpath application for sprangletop control and to aid in residual control of annual grasses. Tank-mixing with other herbicides will be required for control of broadleaf weeds, including hemp sesbania, northern jointvetch, and eclipta. Avoid off-site movement of Newpath onto conventional rice varieties. Add a nonphytotoxic crop oil concentrate at 1% v/v or nonionic surfactant at 0.25% v/v.
imazethapyr + quinclorac — 0.063 + 0.312 lb/A followed by imazethapyr — 0.063 to 0.094 lb/A	Clearpath 75 DF — 0.5 lb/A followed by Newpath 2 AS — 4 to 6 oz/A	Preplant-incorporated, preemergence, or postemergence from spike to 1-leaf rice followed by a postemergence application of Newpath approximately 14 days later	Red rice and annual grasses; also controls eclipta, flatsedges, morningglory, and yellow nutsedge. Improved control of some grasses and broadleaf weeds over Newpath alone.	Use on Clearfield rice varieties and hybrids only. Tank-mixing with other herbicides will be required for complete control of broadleaf weeds, including hemp sesbania, northern jointvetch, and eclipta. Avoid off-site movement of Clearpath and Newpath onto conventional rice varieties. Clearpath at 0.5 pound per acre provides 4 ounces of Newpath and 0.4 pound of Facet. Add a nonphytotoxic crop oil concentrate at 1% v/v or nonionic surfactant at 0.25% v/v. See <i>General Instructions and Remarks for Quinclorac.</i>
imazamox — 0.039 to 0.047 lb/A	Beyond 1 AS — 5 to 6 oz/A	After at least one application of Newpath or Clearpath. Apply from 4-leaf rice until 14 days after panicle initiation on Clearfield varieties and from 4-leaf rice to panicle initiation on Clearfield hybrids.	Barnyardgrass, broadleaf signalgrass, fall panicum, morningglory, and red rice	Use on Clearfield rice varieties and hybrids only. Beyond may be substituted for the second application of Newpath, but two applications are required before flooding. Some Clearfield hybrids are less tolerant to Beyond than others. An emergency salvage application of Beyond may be applied for late-season suppression of red rice, but rate should not exceed 10 ounces in a single growing season. Avoid off-site movement of Beyond onto conventional rice varieties. Add a nonphytotoxic crop oil concentrate at 1% v/v.

Rice Continued

Crop, weed, or situation and

active chemical per treated land acre	Formulation needed to treat 1 acre broadcast	Time of application	Weeds controlled	Special instructions and remarks
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Preemergence/Delayed Pre

clomazone — 0.3 to 0.6 lb/A Command 3 ME — 0.8 to 1.6 pt/A Preemergence

Barnyardgrass, broadleaf signalgrass, crabgrass, fall panicum, and sprangletop

Command may be applied from planting to rice emergence but before weed emergence. Do not apply to recently land-formed fields. If grasses emerge after application, rainfall or flushing may be needed for activation or reactivation. **Caution: follow label when tank-mixing.**

Command 3ME Herbicide Applied Alone RATES AND WEEDS CONTROLLED	
Soil Texture	Broadcast Rates Per Acre*
Coarse (light) Soils: (sand, loamy sand, sandy loam)	Do not use
Medium Soils: (loam, silt, silt loam, sandy clay, sandy clay loam)	0.8 to 1.125 pt/A (0.3 to 0.4 lb ai)
Fine (heavy) Soils: (silty clay, clay loam, silty clay loam, clay)	1.33 to 1.6 pt/A (0.5 to 0.6 lb ai)
*Select lower to higher rates based on lighter to heavier soils	

clomazone + quinclorac — 0.3 to 0.6 lb/A + 0.25 to 0.5 lb/A Command 3 ME — 0.8 to 1.6 pt/A + 75 DF — 0.33 to 0.67 lb/A or equivalent rate of liquid formulation (See table on page 83) Preemergence or delayed pre-emergence

Barnyardgrass, broadleaf signalgrass, crabgrass, fall panicum, sprangletop, and eclipta

See *Special Instructions and Remarks* for Command and quinclorac. If grasses emerge after application, rainfall or flushing will be required for activation or reactivation of the herbicide.

glyphosate — 1 to 1.5 lb/A + clomazone — 0.3 to 0.6 lb/A See glyphosate table on pages 5-6 for rates + Command 3 ME — 0.8 to 1.6 pt/A From planting to rice emergence. **Do not apply if rice is beginning to emerge.**

Annual and perennial grasses and broadleaf weeds plus residual control of annual grasses

See *Special Instructions and Remarks* for glyphosate and Command. The field must be free of standing water at application. Antagonism may occur in some situations. **Use the full rate of glyphosate.** If grasses emerge after application, rainfall or flushing will be required for activation or reactivation of the herbicide. Sequential postemergence grass herbicide application will be needed.

glyphosate + pendimethalin — 1 to 1.5 lb/A + 0.75 to 1 lb/A See glyphosate table on pages 5-6 for rates + Prowl or Pendimax 3.3 EC — 1.8 to 2.4 pt/A; Prowl H2O 3.8 CS — 1.6 to 2.1 pt/A Delayed preemergence

Winter annual weeds and residual grass control

See *Special Instructions and Remarks* for glyphosate alone and for pendimethalin.

pendimethalin — 0.75 to 1 lb/A Prowl or Pendimax 3.3 EC — 1.8 to 2.4 pt/A; Prowl H2O 3.8 CS — 1.6 to 2.1 pt/A Delayed preemergence

Annual grasses, including barnyardgrass, broadleaf signalgrass, and sprangletop

Apply after the rice seed has absorbed water and germinated and after the soil has been previously sealed over the seed by at least 1 inch of rainfall or by irrigation (flush). If the soil has not been sealed by rain or flush, apply when 80% of germinated seeds have primary root (radicle) or shoot at least 0.5 inch long. If applied to soil prior to these conditions, or to cracked soil, the stand reduction or stunting of rice may occur. Under some conditions, **use of gibberellic acid-treated seed, heavy rainfall or flushing after application** may result in herbicide injury to rice. Rice can overcome moderate injury with appropriate cultural practices.

quinclorac — 0.25 to 0.5 lb/A 75 DF — 0.33 to 0.67 lb/A or equivalent rate of liquid formulation (See table on page 83) Preemergence or delayed preemergence

Annual grasses except sprangletop; also controls eclipta

Do not use on sand or loamy sand soils. Apply in 10-40 gallons per acre by ground and 5 gallons per acre by air. See *General Instructions and Remarks for Quinclorac*. Do not apply on precision-cut land until the second rice crop. Rice seed exposed to the spray may be severely injured.

Rice, Continued

Crop, weed, or situation and active chemical per treated land acre

Formulation needed to treat 1 acre broadcast

Time of application

Weeds controlled

Special instructions and remarks

quinclorac + pendimethalin — 0.25 to 0.5 lb/A + 0.75 to 1 lb/A	75 DF — 0.33 to 0.67 lb/A or equivalent rate of liquid formulation (See table below) + Prowl or Pendimax 3.3 EC — 1.8 to 2.4 pt/A; Prowl H2O 3.8 CS — 1.6 to 2.1 pt/A	Delayed preemergence	Annual grasses, including sprangletop; Also controls eclipta	See <i>Special Instructions and Remarks</i> for pendimethalin. See <i>General Instructions and Remarks for Quinclorac</i> . Do not apply on precision-cut land until the second rice crop. Rice seed exposed to the spray may be severely injured.
quinclorac + thiobencarb — 0.25 to 0.5 lb/A + 3 to 4 lb/A	75 DF — 0.33 to 0.67 lb/A or equivalent rate of liquid formulation (See table below) + Bolero 8 EC — 3 to 4 pt/A	Preemergence or delayed preemergence	Annual grasses, including sprangletop; Also controls eclipta	See <i>General Instructions and Remarks for Quinclorac</i> . Do not apply on precision-cut land until the second rice crop. Rice seed exposed to the spray may be severely injured. Application to rice stressed by high salt and/or high pH soil may cause excessive rice injury.
thiobencarb — 4 lb/A	Bolero 8 EC — 4 pt/A	Delayed preemergence (1 to 5 days before rice and weed emergence)	Barnyardgrass, sprangletop, and aquatic weeds	Seedbed should be sealed by rain or flushing. Do not allow soil to crack after application. Application to rice stressed by high salt and/or high pH soil may cause excessive rice injury.
thiobencarb + pendimethalin — 4 lb/A + 0.75 to 1 lb/A	Bolero 8 EC — 4 pt/A + Prowl or Pendimax 3.3 EC — 1.8 to 2.4 pt/A; Prowl H2O 3.8 CS — 1.6 to 2.1 pt/A	Delayed preemergence (1 to 5 days before rice and weed emergence)	Barnyardgrass, broadleaf signalgrass, sprangletop, and aquatic weeds	See <i>Special Instructions and Remarks</i> for pendimethalin. Seedbed should be sealed by rain or flushing. Do not allow soil to crack after application. Application to rice stressed by high salt and/or high pH soil may cause excessive rice injury..

GENERAL INSTRUCTIONS AND REMARKS FOR QUINCLORAC. See table below for soil type restrictions. Quinclorac on soil requires water for activation. For preemergence application, apply to moist soil or apply to dry soil and flush the field within 3 to 5 days. For postemergence application, flush 3 to 14 days after application or when new grass/weeds have emerged and are less than 1 inch tall.

1. DO NOT apply more than 0.67 pound per acre of 75 DF formulation, 1 pint per acre of 4 L formulation per season, or 42 ounces per acre of 1.5 L formulation.
2. DO NOT use on soil that does not have good water-holding capacity.
3. DO NOT use quinclorac in tank mixes other than those listed on product labels or supplemental labels.
4. DO NOT allow quinclorac to drift onto sensitive crops such as cotton, soybeans, corn, or vegetables.
5. DO NOT plant any crop other than rice for a period of 309 days following quinclorac application.
6. DO NOT use quinclorac on precision-cut fields until the second rice crop.

Preemergence Application for Drill-Seeded Rice

Soil texture	75 DF rate	4 L rate	1.5 L rate
sand, loamy sand	Do not use	Do not use	Do not use
sandy loam	0.33–0.44 lb/A	0.5–0.67 pt/A	21–28 oz/A
loam, silt loam, silt, sandy clay loam	0.44–0.5 lb/A	0.67–0.75 pt/A	28–32 oz/A
silty clay loam, clay loam, sandy clay, silty clay, clay	0.5–0.67 lb/A	0.75–1 pt/A	32–42 oz/A

Rice, Continued

Crop, weed, or situation and

active chemical per treated land acre	Formulation needed to treat 1 acre broadcast	Time of application	Weeds controlled	Special instructions and remarks
Postemergence (Before Flood)				
acifluorfen + bentazon — 0.25 to 0.5 lb/A + 0.25 to 0.5 lb/A	Storm 4 L — 1.5 pt/A	After rice tillering to boot	Dayflower, flatsedges, hemp sesbania, morningglory, redstem, smartweed, and yellow nutsedge	Add a nonionic surfactant at 0.25% v/v.
bentazon — 0.75 to 1 lb/A	Basagran 4 L — 1.5 to 2 pt/A in 10 gal water for aerial application	At least 24 hours before flooding. On flooded fields, lower flood to expose weed foliage.	Dayflower, flatsedges, smartweed, redstem, and yellow nutsedge	Refer to label for rates and stages of weed growth. Apply early to actively growing weeds. Do not apply to submerged weeds because thorough coverage is necessary. A second application may be made 10 to 14 days later if needed. Do not apply more than 2 pounds per acre per season. Tank mix with propanil to increase weed spectrum. Add a nonphytotoxic crop oil concentrate at 1.25% v/v.
bispyribac-sodium — 0.02 to 0.033 lb/A	Regiment 80 WP — 0.4 to 0.67 oz/A	3-leaf rice but before first elongated internode exceeds 0.5 inch	Barnyardgrass, junglerice, johnsongrass, hemp sesbania, duck-salad, and Pennsylvania smartweed	See Regiment label for a list of adjuvants approved by Valent. Apply in at least 10 gallons per acre and do not exceed 1.06 ounces per year. Avoid off-site movement to soybean. It provides little or no control of sprangletop. Medium-grain varieties may be more sensitive to Regiment under stressed conditions.
carfentrazone — 0.025 to 0.05 lb/A	Aim 2 EC — 1.6 to 3.2 oz/A	2-leaf rice or larger and weeds up to 4 inches tall	Cocklebur, hemp sesbania, morningglory, and smartweed	Do not apply more than 8.6 ounces per season. If flood is lowered, return to normal 24 hours following treatment. Hold water 30 days after treatment. Add a nonionic surfactant at 0.25% v/v or a nonphytotoxic crop oil concentrate at 1% v/v. Avoid applications from flag leaf emergence through harvest-aid application.
carfentrazone + halosulfuron — 0.025 to 0.05 lb/A + 0.032 to 0.063 lb/A	Aim 2 EC — 1.6 to 3.2 oz/A + Permit or Halomax 75 WG — 0.67 to 1.33 oz/A	After rice reaches 2-leaf stage	Flatsedges, hemp sesbania, morningglory, smartweed (1- to 2-leaf), and yellow nutsedge	See <i>Special Instructions and Remarks</i> for Aim and Permit/Halomax. Add nonionic surfactant at 0.25% v/v.
carfentrazone + quinclorac — 0.015 to 0.03 + 0.19 to 0.375 lb/A	Aim 2 EC — 1 to 2 oz/A + 75 DF — 0.25 to 0.5 lb/A or equivalent rate of liquid formulation (See table on page 83); Broadhead 70 DF — 6 to 12 oz/A	Preplant, pre-emergence, or between the 2-leaf rice stage and permanent flood	Barnyardgrass, morningglory, hemp sesbania, and other grass and broadleaf weeds	See <i>Special Instructions and Remarks</i> for Aim. See <i>General Instructions and Remarks for Quinclorac</i> . Add nonionic surfactant at 0.25% v/v or a nonphytotoxic crop oil concentrate at 1% v/v.
clomazone 0.3 to 0.6 lb/A	Command 3 ME — 0.8 to 1.6 pt/A	1- to 2-leaf rice.	Residual control of annual grasses	For control of existing grass weeds present at time of application, include a postemergence grass herbicide such as Clincher SF, propanil, quinclorac, or Ricestar HT.
cyhalofop-butyl — 0.25 to 0.28 lb/A	Clincher SF 2.38 EC — 13.5 to 15 oz/A	1-leaf rice up to 60 days before harvest.	Barnyardgrass, broadleaf signalgrass, fall panicum, seedling johnsongrass, sprangletop (13.5 oz up to 4-leaf grass)	Apply at least 10 gallons per acre by air or ground. A nonphytotoxic crop oil concentrate or methylated seed oil must be used at 1 quart per acre. Soil moisture is critical for good activity. Tank-mixing with broadleaf or sedge herbicides can result in loss of grass control. Do not exceed 25 ounces per acre per year.
fenoxaprop + safener — 0.077 to 0.1088 lb/A	Ricestar HT 0.58 EC — 17 to 24 oz/A	1-leaf rice to tillering but before panicle initiation	Barnyardgrass, sprangletop, broadleaf signalgrass, johnsongrass (seedling), and fall panicum	Do not apply within 48 hours of an application of methyl parathion. Soil moisture is critical for good activity. Tank-mix only with approved herbicides on Ricestar HT label.

Rice Continued

Crop, weed, or situation and active chemical per treated land acre

Formulation needed to treat 1 acre broadcast

Time of application

Weeds controlled

Special instructions and remarks

halosulfuron — 0.032 to 0.063 lb/A	Permit or Halomax 75 WG — 0.67 to 1.33 oz/A	Prior to rice emergence until after flooding	1- to 6-inch yellow or purple nutsedge, 0.67 oz/A; 6-to 12-inch sedges, 1-1.33 oz/A	Do not apply within 48 days of harvest. Avoid off-site movement to soybeans. Add a nonionic surfactant at 0.25% v/v or a crop oil concentrate at 1% v/v.
halosulfuron + thifensulfuron — 0.024 + 0.0028 lb/A	Permit Plus 75 WG — 0.75 oz/A	Before rice emergence until 48 days before harvest	Pennsylvania smartweed, yellow nutsedge, and annual weeds	Do not apply within 48 days of harvest. Avoid off-site movement to soybean. Add a nonionic surfactant at 0.25% v/v or a crop oil concentrate at 1% v/v. Do not exceed 1.5 ounces per acre in a season.
imazosulfuron — 0.15 to 0.19 lb/A	League 75 WDG — 3.2 to 4 oz/A	2-leaf rice but before 2-inch internode elongation	Hemp sesbania, morningglory, and annual weeds	See League label for a list of adjuvants and tank mixtures approved by Valent. League may not be applied preemergence in Mississippi. Soybeans may not be planted for 12 months after League application.
orthosulfamuron — 0.053 to 0.065 lb/A	Strada 50 WG — 1.7 to 2.1 oz/A	Early post-emergence to 0.5 inch internode elongation	Flatsedges, hemp sesbania, and northern jointvetch	Tank-mix with other herbicides such as Command, Newpath, or propanil to broaden spectrum. See label for surfactant requirements.
penoxsulam — 0.031 to 0.036 lb/A	Grasp 2 SC — 2 to 2.3 oz/A	Emergence to 60 days before harvest	Up to 7-leaf eclipta, hemp sesbania, northern jointvetch, and flatsedges; up to 4-leaf duck salad and barnyardgrass	Do not apply to drought-stressed weeds. Little to no control of sprangletop, broadleaf signalgrass, and fall panicum. May cause stunting and root pruning, especially if higher than labeled rates are applied. Avoid use on high pH soils (>7.8). Add a nonphytotoxic crop oil concentrate or methylated seed oil adjuvant at 1 quart per acre.
penoxsulam + triclopyr lb/A — 0.031 to 0.043 lb/A + 0.19 to 0.26 lb/A	Grasp Xtra 1.74 SC — 16 to 22 oz/A	2- to 3-leaf rice to 0.5-inch internode elongation	Barnyardgrass and broadleaf weeds	Add nonphytotoxic crop oil concentrate or methylated seed oil at 1 quart per acre. May cause stunting and root pruning, especially if higher than labeled rates are applied. Rice injury can be severe if soil pH is more than 7.8. However, research indicates Clearfield rice varieties are more tolerant than conventional varieties on soils with pH greater than 7.8. Delay flood for 72 hours after application.
propanil — 3 to 6 lb/A	3 to 6 qt/A of 4 lb/gal formulation in 10 gal water for aerial application and 15 to 20 gal water for ground application	1- to 4-leaf barnyardgrass	Barnyardgrass and other grasses and broadleaf weeds	See <i>General Instructions and Remarks for Propanil</i> . If grass is in the 4- to 5-leaf stage, apply 4 to 5 pounds of active ingredient per acre. To prevent reinfestation, flood 1 or 2 days after application. Weed foliage must not be covered with water at time of application. Consult label concerning adjuvant use.

GENERAL INSTRUCTIONS AND REMARKS FOR PROPANIL: For aerial application, apply 10 gallons of spray mixture and avoid drift to susceptible crops. Complete spray coverage is necessary. Weeds should be growing actively at treatment time. Rice plants may show yellowing after treatment; however, plants recover quickly. **Do not** exceed 6 pounds per acre per application or 8 pounds per acre per season. **Do not** apply when rain is expected within 6 hours or during periods when daily maximum temperatures are below 75 °F, or above 100 °F. Application during high temperatures may result in excessive rice injury. **DO NOT** use in spray equipment that has contained organophosphate insecticides unless the equipment has been cleaned thoroughly, and **DO NOT** apply these insecticides within 14 days before or after applying propanil.

Rice, Continued

Crop, weed, or situation and active chemical per treated land acre

Formulation needed to treat 1 acre broadcast

Time of application

Weeds controlled

Special instructions and remarks

propanil — 6 to 8 lb/A (For split application where flooding is delayed)	Total 6 to 8 qt/A of 4 lb/gal formulation in two applications	Split application, 3 to 4 lb/A when weeds are in 1- to 3-leaf stage and apply second 3 to 4 lb/A treatment when needed	Barnyardgrass, sprangletop, and other grasses and broadleaf weeds	See <i>General Instructions and Remarks for Propanil</i> . Flood 1 or 2 days after final application. This treatment may not give satisfactory control of sprangletop species. Weed foliage must not be covered with water at time of application. Consult label concerning adjuvant use.
propanil + bensulfuron — 3 to 5 lb/A + 0.038 to 0.063 lb/A	propanil — 3 to 5 qt/A of 4 lb/gal formulation + Londax 60 DF — 0.75 to 1 oz/A or Duet 4.03 F — 3 to 5 qt/A	1 to 7 days before flood	Many grass and broadleaf weeds and yellow nutsedge	See <i>General Instructions and Remarks for Propanil</i> . For best results, maintain permanent flood and keep water as static as possible. Consult the label concerning use of surfactants. For increased control of nutsedge, add Permit at 0.25 to 0.33 ounce per acre.
propanil + halosulfuron — 3 to 4 lb/A + 0.032 to 0.063 lb/A	propanil — 3 to 4 qt/A of 4 lb/gal formulation + Permit or Halomax 75 WG — 0.67 to 1.33 oz/A	Apply to emerged weeds.	Eclipta, flatsedges, hemp sesbania, northern jointvetch, morningglory, and yellow nutsedge	See <i>Special Instructions and Remarks for Propanil</i> and Permit/Halomax.
propanil + triclopyr — 3 to 4 lb/A + 0.125 to 0.25 lb/A	propanil — 3 to 4 qt/A of 4 lb/gal formulation + Grandstand 3 SL — 0.5 to 0.67 pt/A	After rice reaches the 2-leaf stage and before weeds exceed 6 inches in height. Use no more than 0.5 pt/A of Grandstand if applying to 2- to 3-leaf rice and up to 0.67 pt/A if applying after 4-leaf stage.	Barnyardgrass, morningglory, hemp sesbania, northern jointvetch, eclipta, and redstem	See <i>General Instructions and Remarks for Propanil</i> . See <i>Special Instructions and Remarks for Grandstand</i> . Flood should be delayed for 72 hours after application.
propanil + pendimethalin — 3 to 4 lb/A + 0.75 to 1 lb/A	propanil — 3 to 4 qt/A of 4 lb/gal formulation + Prowl or Pendimax 3.3 EC — 1.8 to 2.4 pt/A; Prowl H2O 3.8 CS — 1.6 to 2.1 pt/A in 10 gal water for aerial application	After rice emerges and barnyardgrass is in 1- to 3-leaf stage	Postemergence control of barnyardgrass and other grasses and broadleaf weeds; residual control of barnyardgrass, broadleaf signalgrass, crabgrass, and sprangletop	See <i>General Instructions and Remarks for Propanil</i> . The seedbed should be firm and free of large clods, trash, and surface water at time of application. Fields should be flushed if adequate rainfall does not occur within 7 days. Do not make more than one application of pendimethalin per season.
quinclorac — 0.25 to 0.5 lb/A	75 DF — 0.33 to 0.67 lb/A or equivalent rate of liquid formulation (See table on page 83)	Early post-emergence	1- to 2-leaf barnyardgrass, broadleaf signalgrass, hemp sesbania, and eclipta; controls 2- to 6-leaf morningglory.	Add a nonphytotoxic crop oil concentrate at 1 quart per acre to maximize weed control. Quinclorac can be applied to water-seeded rice after first true leaf of rice has developed. Do not use on precision-cut fields until the second year as rice injury might occur. Does not control sprangletop. See <i>General Instructions and Remarks for Quinclorac</i> .

Rice, Continued

Crop, weed, or situation and active chemical per treated land acre

Formulation needed to treat 1 acre broadcast

Time of application

Weeds controlled

Special instructions and remarks

quinclorac + acifluorfen — 0.25 to 0.5 lb/A + 0.125 to 0.25 lb/A	75 DF — 0.33 to 0.67 lb/A or equivalent rate of liquid formulation (See table on page 83) + Ultra Blazer 2 L — 0.5 to 1 pt/A	After rice reaches 3-leaf stage	Grasses and broadleaf weeds	Add a nonionic surfactant at 0.25% v/v. See label for mixing instructions. Do not apply to recently land-formed fields. See <i>General Instructions and Remarks for Quinclorac</i> .
quinclorac + acifluorfen + bentazon — 0.25 to 0.5 lb/A + 0.75 lb/A	75 DF — 0.33 to 0.67 lb/A or equivalent rate of liquid formulation (See table on page 83) + Storm 4 L — 1.5 pt/A	After rice reaches 3-leaf stage	Grasses and broadleaf weeds	Add a nonionic surfactant at 0.25% v/v. See label for mixing instructions. Do not apply to recently land-formed fields. See <i>General Instructions and Remarks for Quinclorac</i> .
quinclorac + fenoxaprop + safener — 0.25 to 0.5 lb/A + 0.077 to 0.1088 lb/A	75 DF — 0.33 to 0.67 lb/A or equivalent rate of liquid formulation (See table on page 83) + Ricestar HT 0.58 EC — 17 to 24 oz/A	Apply to small, actively growing weeds	Grasses and broadleaf weeds, including ecleipta hemp sesbania, and morningglory	See <i>General Instructions and Remarks for Quinclorac</i> . See <i>Special Instructions and Remarks</i> for Ricestar HT. Soil moisture is critical for good activity. Rainfall or flush will be required for residual grass control from quinclorac after application.
quinclorac + propanil — 0.25 to 0.5 lb/A + 3 to 5 lb/A	75 DF — 0.33 to 0.67 lb/A or equivalent rate of liquid formulation (See table on page 83) + propanil — 3 to 5 qt/A of 4 lb/gal formulation	Early post-emergence	Grasses and broadleaf weeds	See label for mixing instructions. Do not use on precision-cut fields until the second year as rice injury might occur. Weed foliage must not be covered with water at time of application. Consult label concerning use of surfactants or crop oil concentrates. See <i>General Instructions and Remarks</i> for quinclorac and propanil.
tricypyr — 0.25 to 0.375 lb/A	Grandstand 3 SL — 0.67 to 1 pt/A	3-leaf to 0.5-inch internode elongation	Hemp sesbania, ecleipta, morningglory, northern jointvetch, and redstem	Flood must be delayed 72 hours to prevent rice injury for applications made prior to flood. If flood is lowered for application, do not expose the crown of rice plants and wait 48 hours before raising the flood level. Add a nonionic surfactant at 0.25% or nonphytotoxic crop oil concentrate at 1% v/v. Do not use on precision-cut land until the second rice crop.
tricypyr + halosulfuron — 0.25 to 0.375 lb/A + 0.032 to 0.063 lb/A	Grandstand 3 SL — 0.67 to 1 pt/A + Permit or Halomax 75 WG — 0.67 to 1.33 oz/A	3-leaf to 0.5-inch internode elongation	Flatsedges, hemp sesbania, morningglory, northern jointvetch, and yellow nutsedge	See <i>Special Instructions and Remarks</i> for Grandstand and Permit/Halomax. Add nonionic surfactant at 0.25% v/v. Do not apply within 48 days of harvest.
thiobencarb + propanil — 3 to 4 lb/A + 3 to 4 lb/A	Bolero 8 EC — 3 to 4 pt/A + propanil — 3 to 4 qt/A of 4 lb/gal formulation or RiceBeaux 6 EC — 4 qt/A	Early post-emergence. Grass in 1- to 3-leaf stage, aquatics less than 0.5 inch tall, and broadleaf weeds less than 2 inches tall.	Grass and broadleaf weeds	See <i>General Instructions and Remarks for Propanil</i> . Soil should be moist at the time of application and not allowed to crack after application. Do not apply to stressed rice. RiceBeaux at 4 quarts per acre provides 3 pints of Bolero and 3 quarts of propanil per acre.

Rice, Continued

Crop, weed, or situation and active chemical per treated land acre

Formulation needed to treat 1 acre broadcast

Time of application

Weeds controlled

Special instructions and remarks

Postemergence (After Flood)

acifluorfen — 0.125 to 0.25 lb/A	Ultra Blazer 2 L — 0.5 to 1 pt/A in 5 to 10 gal water	Apply to actively growing sesbania before it flowers. Apply to rice prior to early boot stage.	Hemp sesbania	Add a nonionic surfactant at 0.25% v/v. Do not mix Ultra Blazer with oils, drift control agents, liquid fertilizers or other pesticides. See label for other restrictions.
bensulfuron — 0.038 to 0.06 lb/A	Londax 60 DF — 1 to 1.6 oz/A in 10 gal water for aerial application	Apply to flooded field pre-emergence to weeds or very early postemergence to submerged aquatic weeds. Red-stem and yellow nutsedge should be 3 to 4 inches above water at application.	Aquatic weeds	Apply after flood establishment but before weeds reach the 3-leaf stage. Hold water static for at least 7 days after application. May be tank mixed with propanil 1-7 days pre-flood for increased yellow nutsedge and rice flatsedge control. See label for tank-mix rates. Add nonphytotoxic crop oil concentrate at 1% v/v or nonionic surfactant at 0.25% v/v if used alone or with a dry flowable herbicide.
bispyribac-sodium 0.034 lb/A	Regiment 80 WP — 0.67 oz/A	Postflood but before 0.5-inch internode elongation	Barnyardgrass, junglerice (4 tiller up to booting)	See label for list of adjuvants approved by Valent. Avoid off-site movement to soybeans.
cyhalofop-butyl 0.25 to 0.28 lb/A	Clincher SF 2.38 EC — 13.5 to 15 oz/A	Postflood	Annual grasses	Soil moisture is critical for good activity. Tank-mixing with broadleaf or sedge herbicides can result in loss of grass control. Do not exceed 25 ounces per acre per year. Add a nonphytotoxic crop oil concentrate or methylated seed oil at 1 quart per acre.
halosulfuron — 0.47 to 0.63 lb/A	Permit or Halomax 75 WG — 1 to 1.33 oz/A	Postflood to 48 days before harvest	Hemp sesbania, jointvetch, flatsedge	Avoid off-site movement to soybean. Add a nonionic surfactant at 0.25% v/v or a crop oil concentrate at 1% v/v. Do not apply more than 1.3 ounces per acre in a season.
penoxsulam — 0.036 to 0.044 lb/A	Grasp 2 SL — 2.3 to 2.8 oz/A	Postflood to 60 days before harvest but before heading if targeting barnyardgrass	Barnyardgrass (prior to heading), hemp sesbania, jointvetch, flatsedge, and duck-salad	Emergency salvage treatment. Regrowth of treated weeds may occur. Add a nonphytotoxic crop oil concentrate or methylated seed oil adjuvant at 1 quart per acre.
propanil + triclopyr — 2 to 3 lb/A + 0.25 to 0.38 lb/A	propanil — 2 to 3 qt/A of 4 lb/gal formulation + Grandstand 3 SL — 0.67 to 1 pt/A	Postflood before 0.5-inch internode elongation	Broadleaf weeds, including hemp sesbania less than 5 feet tall	See <i>General Instructions and Remarks for Propanil</i> . See <i>Special Instructions and Remarks</i> for Grandstand. Consult propanil label concerning adjuvant use. Floodwater should cover the soil surface and root area of treated plants.
2,4-D amine 1 to 1.5 lb/A	Various formulations — 2 to 3 pt/A	Late tillering stage but before first elongating internode exceeds 0.5 inch in length.	Hemp sesbania, curly indigo, redstem, duck-salad, gooseweed, smartweed, spikerush, umbrellasedge, water hyacinth, morningglory, and dayflower.	Follow Division of Plant Industry regulations for phenoxy herbicides. Add 1 pint of surfactant to each 50 gallons of spray mix. Fields should have shallow flood at time of treatment. Do not apply nitrogen within 5- to 21-day period before treatment. Use extreme caution to prevent drift to susceptible crops.

Rice, Continued

Crop, weed, or situation and active chemical per treated land acre

Formulation needed to treat 1 acre broadcast

Time of application

Weeds controlled

Special instructions and remarks

Preharvest

carfentrazone —
0.025 lb/A

Aim 2 EC — 1.5 oz/A

Rice moisture content is
≤25%

Morningglory

Aim labeling requires application at least 3 days before harvest.

Sodium chlorate
at 4.5 lb/A

1.5 gal of a 3 lb/gal
formulation in 10 gal
spray solution per acre

Apply 7 days
before harvest

Desiccation of weeds
and “down” rice

Allow 7 days between application and
harvest.

RED RICE CONTROL. Steps should be taken to prevent the introduction of this weed into rice fields. These steps include use of rice seed free of red rice, cleaning equipment before entering uninfested fields, and hand roguing of light infestations. Where severe infestations occur, several cycles of a 2-year soybean or a 1-year sorghum/1-year soybean rotation with rice are suggested. During the years out of rice, strive for 100% red rice control. Use a combination of preemergence and postemergence herbicides recommended for the control of red rice (see soybean section). A combination of shallow spring and fall disking in conjunction with clod disruption also should be used to reduce the soil reserves of red rice by stimulating germination and destroying germinated seed. When rice is planted, an early-season variety should be used. It should be planted late to allow for additional spring tillage and seeded at a rate that allows a good competitive stand. The early-season varieties mature earlier, thereby limiting the amount of red rice that shatters before harvesting as well as extending the time interval for additional fall tillage.