

SMALL GRAINS

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				
paraquat at 0.5 to 0.75 lb	2.0 EC - Gramoxone Inteon — 32 to 64 oz in a minimum of 10 gal by ground or 5 gal by air. Add NIS at 1 to 2 pt per 100 gal.	Before small grains (wheat, barley, oats, rye, and triticale) emerge.	Most small, emerged annual weeds.	Apply as a broadcast spray. Use 32 ounces when applying to 1- to 3-inch weeds and 64 ounces to 6-inch or larger weeds. Do not apply under windy conditions or graze or feed treated forage to livestock. See the label for tank mixtures with Hoelon (wheat only).
glyphosate at 0.375 to 1.5 lb ae	See glyphosate table on pages 5-6 for rates.	Preplant for vegetation knockdown.	Consult label for list of weeds controlled.	Refer to the glyphosate formulation table on page 5 for surfactant/adjuvant recommendations for specific glyphosate formulations.
saflufenacil at 0.02 to 0.04 lb	2.85 lb/gal - Sharpen — 1 to 2 oz. in 5 or more gal by ground or 3 or more gal by air. Add MSO at 1% v/v (1 gal per 100 gal) plus AMS at 8.5 to 17 lb per 100 gal.	Preplant or pre-emergence check label.	Small, actively growing broadleaf weeds and preemergence activity on broadleaf weeds. Consult label for specific weeds.	Rainfall is required to activate this herbicide as a preemergence treatment. Use only with drill-planting method. Do not apply to emerged small grain. Do not apply Sharpen within 30 days of planting. Broad-spectrum burndown control of grasses or broadleaf weeds usually requires a tank-mix partner with Sharpen. Consult the label for crop rotational intervals and Sharpen tank-mix partners. Small grain forage or hay can be fed or grazed 30 days after application.
Preemergence — Wheat				
diclofop methyl at 0.75 to 1 lb/A	2 to 2.67 pt of Hoelon 3 EC in at least 10 gal water for ground and 5 gal water for air.	After seeding.	Annual ryegrass.	Do not apply preemergence to other small grains. In coarse-textured soils with less than 2% organic matter use the low rate. Use the higher rate for fine-textured soils with more than 2% organic matter. Use high rate if ryegrass pressure is heavy irrespective of soil type or organic matter. See postemergence Hoelon entry below for additional restrictions.
Preemergence — Wheat or Barley				
chlorsulfuron + metsulfuron at 0.017 to 0.042 lb/A	Finesse — 0.2 to 0.5 oz/A.	Apply after planting but before wheat emerges.	Broadleaf weeds, and annual bluegrass and ryegrass at the 0.5 oz/A rate.	Finesse should not be used on soils with a pH above 7.9. Minimum rotational cropping interval for STS soybeans is 6 months; non-STs soybeans, corn, sorghum, and cotton require 18 months. The 0.5-ounce-per-acre rate is necessary for annual bluegrass and ryegrass activity, and it may be improved with a sequential application of metribuzin. Wheat seed planted less than 1 inch deep (broadcast seeding) are more susceptible to crop injury.

Consult labels for approved adjuvants.

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

Small Grains, Continued

Crop, weed, or

Chemical per treated land acre	Formulation needed to treat 1 acre broadcast	Time of application	Weeds controlled	Special instructions and remarks
Postemergence — Wheat, Oats, Barley, or Rye				
2,4-D amine at 0.5 to 0.75 lb/A or LV esters at 0.25 to 0.5 lb/A	2,4-D amine — 1 to 1.5 pt/A; or LV esters — 0.5 to 1 pt/A of 4 lb/gal formulations.	After wheat is fully tillered, until stem elongation begins — Feekes Stages 3 to 5 (4- to 8-inch-tall wheat).	Wild mustards, vetch, buttercup, and pepperweed. Poor control of wild garlic, henbit, and curly dock.	Apply to emerged and actively growing weeds. This treatment may be applied in combination with liquid nitrogen fertilizer. Oats are less tolerant of 2,4-D than wheat. Rates up to 2 pints per acre (1 pound of active ingredient per acre) may be used to suppress wild garlic, but such treatments will increase the potential for crop injury.
dicamba + 2,4-D at 0.125 + 0.50 lb/A	Clarity — 0.25 pt. plus 1 pt (4 lb/gal formulation) of 2,4-D amine or low-volatile ester in 5 gal water for air and in 10 to 20 gal water for ground application. Add 1 pt surfactant for each 50 gal spray mix.	Same as above.	Same as above. Garlic and/or onions.	Same as above. The low-volatile ester formulation should be used where wild garlic and/or onions are a problem. See the label for injury precautions and grazing restrictions for lactating dairy cows.
Postemergence — Wheat				
chlorsulfuron + flucarbazone at 0.027 to 0.040 lb/A	Finesse Grass & Broadleaf — 0.6 to 0.9 oz/A. Add 0.25% non-ionic surfactant, unless liquid N comprises at least 50% of the spray volume.	After wheat has 2 leaves but before jointing. After weed emergence.	Many annual broadleaf and grass weed species.	Finesse grass and broadleaf should not be used on soils with a pH above 7.9. The minimum rotational cropping interval for STS soybeans is 6 months under any soil pH; all field corn with soil pH 7.5 or lower can be recropped at 14 months. Unless a crop rotation interval is specified, a field bioassay must be completed (see label for specific directions). Treated wheat fields may be grazed at any time. Note: for best results, apply 5 to 7 days before grazing.
diclofop methyl at 0.5 to 1 lb/A	1.33 to 2.67 pt Hoelon 3EC in at least 10 gal water and a minimum of 40 psi for ground; 5 gal water by air. Surfactant not needed.	When ryegrass is in the 1-leaf to 2-tiller stage.	Annual ryegrass.	If ryegrass is in the 5-leaf to 2-tiller stage, use high rate. Do not mix with other pesticides or liquid fertilizer. Do not graze treated fields or feed treated forage to livestock. Broadleaf herbicides should not be applied within one week of Hoelon application. Do not make more than 1 application per season. Activity is slow. Do not make aerial application when wind is above 5 mph or within 100 feet of lake, pond, stream, drainage basin, or tidal marsh.
flufenacet + metribuzin at 0.136 to 0.34 + 0.034 to 0.085 lb/A	Axiom DF — 4 to 10 oz/A depending upon soil texture.	After wheat has emerged from spiking to 2-leaf stage.	Many annual broadleaf weeds, annual bluegrass, and ryegrass.	Wheat seed must be planted 1 to 2 inches deep (generally best achieved by drill-planting, rather than broadcast seeding methods). Axiom must be applied preemergence to weeds. Apply as a broadcast spray by ground equipment at 10 or more gal per acre. Do not add COC or other oil-based adjuvants with tank mixtures. Do not allow animal grazing for 30 days after application.

Small Grains, 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
mesosulfuron-methyl at 0.013 lb/A	Osprey - 4.75 oz/A in at least 10 gal/A of water by ground or 5 gal/A of water by air.	From wheat emergence through jointing. Ryegrass control normally best with fall application.	Annual ryegrass, annual bluegrass.	For best ryegrass control, apply on 1-leaf- to 2-tiller-stage ryegrass, when it is actively growing. Application of Osprey must include one of these two suggested adjuvant systems: (1) a high-quality MSO with 10% emulsifier or greater at a rate of 1.3–1.5 pints of MSO per acre; or (2) a nonionic surfactant at 0.5% v/v, plus either AMS (1.5–3 pounds per acre) or UAN (1–2 quarts per acre). Wheat injury may occur if topdress nitrogen is applied within 14 days of Osprey application. Do not apply within 30 days of forage harvest or within 60 days of hay, grain, and straw harvest.
metribuzin at 0.094 to 0.141 lb/A	Sencor DF 75% — 2 to 3 oz/A.	During the fall when wheat is actively growing and has at least 2 leaves and 1-inch secondary roots.	Annual bluegrass and annual broadleaf species.	Crop tolerance to Sencor may vary depending upon variety and wheat health and root development. Wheat seed planted less than 1 inch deep (broadcast seeding) are more susceptible to crop injury. Do not use on soils with less than 0.75% organic matter. Do not use COC or any adjuvant containing vegetable or petroleum oils. Do not apply in combination with fluid fertilizer.
pendimethalin at 0.71 to 1.43 lb/A	Prowl H2O — 1.5 to 3 pt/A. Rate is dependent upon soil texture. Apply no more than 2 pt/A on coarse-textured soils; 2 to 3 pt/A may be used on fine-textured (clay) soils.	After wheat is in the 1-leaf stage but before the flag leaf is visible. Must be applied before weed emergence.	Ryegrass and other small-seeded annual grasses and broadleafs.	Wheat seed should be planted at least 0.5 to 1 inch deep to avoid crop injury. Thus, application should generally be restricted to drill-planted wheat, seeded deeper than the specified depth. To control emerged weeds, Prowl H2O may be tank-mixed with post-emergence herbicides registered for use in wheat. Prowl H2O will only provide residual weed control. Plant residue may inhibit weed control, so only use in prepared (tilled) seedbeds. Do not apply Prowl H2O within 11 days of wheat harvest for forage, 28 days for hay harvest, and 60 days for grain or straw harvest.
pyroxsulam at 0.0164 lb/A	PowerFlex — 3.5 oz/A. Add 0.25% nonionic surfactant with at least 80% active ingredient.	Apply in the fall or spring from 3-leaf to joint stage of actively growing wheat. Apply when grass weeds are at the 2-leaf to 2-tiller stage and before broadleaf weeds are taller than 2 inches or 2 inches in diameter.	Ryegrass and many annual grass and broadleaf weed species.	Do not tank-mix with dicamba, amine formulations of 2,4-D, or organophosphate insecticides. PowerFlex may be mixed in a spray solution containing up to 50% nitrogen fertilizer, but it should not exceed 30 pounds per acre of actual N. However, this may cause wheat injury, as will liquid nitrogen fertilizer applied within 7 days of a PowerFlex application. Do not apply more than 3.5 ounces per acre per growing season. The rotational cropping interval for soybean and cotton is 3 months; corn and sorghum require 9 months. Do not apply within 60 days of harvest or within 28 days for hay harvest. Do not graze within 7 days after application.

Small Grains, 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 — Wheat and Barley				
pinoxaden at 0.053 lb/A	Axial XL — 16.4 oz/A. Surfactant is included.	Apply from 2-leaf to pre-boot stage wheat. Apply to 1-leaf to 2-tiller ryegrass.	Ryegrass and oats.	Additional surfactant is not required. For best control, apply to small, actively growing ryegrass. Axial XL may be mixed in a spray solution containing up to 50% nitrogen fertilizer. Only one application is allowed per crop season. Do not graze or harvest forage for hay for 30 days after application. Do not harvest for grain or straw for livestock feed within 60 days of application.
Postemergence — Wheat, Oats, Rye				
prosulfuron at 0.0178 lb/A	Peak 57 WDG — 0.5 oz/A in a minimum of 2 gal of water by air or 10 gal by ground. Add 1 pt nonionic surfactant for each 50 gal spray mix.	Over-the-top to wheat or oats from 3-leaf to internode elongation.	Most winter annual broadleaves, garlic.	See label for rate to use on weed height. See label for tank mixtures with dicamba. See label for restrictions. Do not plant cotton or non-STS soybeans for 10 months after application. Do not graze or feed forage for 30 days after application. Do not harvest for grain and silage for 60 and 40 days after application, respectively.
Postemergence — Wheat, Oats, Triticale, or Barley				
thifensulfuron + tribenuron at 0.014 to 0.028 lb/A	Harmony Extra SG with TotalSol — 0.45 to 0.9 oz/A. On oats, use 0.45 to 0.6 oz/A. Add 0.25% nonionic surfactant unless liquid N comprises at least 50% of the spray volume.	After the crop is in the 2-leaf stage but before the flag leaf is visible.	Winter annual broadleaves, wild garlic, and curly dock.	Apply to actively growing annual broadleaf weeds less than 4 inches tall or wide. For wild garlic control, use 0.75 to 0.9 ounces per acre when weeds are less than 12 inches tall with 2 to 4 inches of new growth. Wild garlic subjected to cold weather or stress will be more difficult to control. Two applications may be made per crop season provided the total amount does not exceed 1.5 ounces per acre. Allow at least 7 days between application and grazing or feeding forage to livestock, 30 days for feeding hay to livestock, and 45 days for grain harvest.
Preharvest — Wheat				
glyphosate at 0.37 to 0.75 lb/A	Glyphosate 4/5 lb/gal — 16 to 32/9.5 to 19.2 oz/A in 3 to 10 gal water by air or in 10 to 20 gal water by ground.	After wheat has 30% or less moisture and at least 7 days before harvest.	Annual broadleaf and grass weeds, johnsongrass, marestail.	Do not use on wheat grown for seed. Avoid drift to nearby crops that are not Roundup resistant.