4. PEANUT WEED MANAGEMENT

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Effective weed management is essential for profitable peanut production. Peanuts are not very competitive with weeds and thus require higher levels of weed control than most other agronomic crops to avoid yield losses. Weeds may also decrease digging efficiency, so effective late-season weed control can minimize losses during harvest. A weed management program in peanuts consists of good weed control in rotational crops; cultivation, if needed; establishment of a satisfactory stand and growing a competitive crop; and proper selection and use of herbicides. Finally, weeds interfere with fungicide movement into the peanut canopy, often referred to as deposition, and this can negatively affect disease control.

CROP ROTATION

Rotate peanuts with corn, cotton, or grain sorghum to help manage various pests, including weeds. Crop rotation allows the use of different herbicides on the same field in different years. Crop and herbicide rotation, along with good weed control in the rotational crops, helps prevent the buildup of problem weeds and helps keep the overall weed population at lower levels. Crop rotation will also help reduce the chance of developing populations of weeds that are resistant to herbicides.

CULTIVATION

Cultivation can supplement chemical weed control. However, cultivation can damage the crop and reduce yield if not done properly. Moving soil onto the lower branches and around the base of the plants causes physical damage and enhances development of stem and pod diseases. Deep cultivation also destroys residual herbicide barriers and brings up additional weed seeds. Cultivate when peanuts are small. Set sweeps to run flat and shallow to avoid throwing soil onto the peanut plants. Generally, in-season cultivation of peanuts is not recommended.

WEED SCOUTING

All fields, regardless of the crop being grown, should be surveyed for weeds between mid-August and the first killing frost. Record the weed species present and note the general level of infestation of each species (light, moderate, or heavy). Weeds present in the fall will be the ones most likely to be problems the following year. Knowing what problems to expect allows you to better plan a weed management program for the following crop.

Scout peanut fields weekly from planting through mid-July to determine if or when postemergence herbicide treatment is needed. Proper weed identification is necessary because species respond differently to various herbicides. Contact your county Extension center for aid in weed identification. Timely application of postemergence herbicides is critical for effective control. Cultivation may be more appropriate if herbicide-resistant biotypes increase in prevalence.

Weeds vary in their competitiveness with peanuts. Common cocklebur is considered the most competitive weed, while nutsedge and annual grasses are the least competitive. Table 4-1 includes a relative ranking of the competitive nature of weeds with peanuts. Keep in mind that high populations of annual grasses at the end of the season can cause significant pod loss during digging and vine inversion.

Table 4-1. Competitive Indices for Weeds in Peanut*

Weed	Rank	Weed	Rank
Common cocklebur	10.0	Fall panicum	1.8
Jimsonweed	5.8	Florida pusley	1.5
Common lambsquarters	5.2	Tropic croton	1.2
Smartweed	4.7	Dayflower	1.2
Redroot pigweed	4.0	Common purslane	1.2
Common ragweed	3.8	Prickly sida	1.2
Sicklepod	3.6	Horsenettle	1.1
Pitted morningglory	3.6	Yellow nutsedge	0.3
Entireleaf morningglory	3.2	Purple nutsedge	0.2
Velvetleaf	3.0	Goosegrass	0.2
Broadleaf signalgrass	1.8	Crabgrass	0.2
Eclipta	1.8		

*10 = most competitive weed

WEED MANAGEMENT COMPONENT OF PEANUT RISK MANAGEMENT TOOL

Factors other than herbicides that impact weed management can be found in the peanut risk management tool described in Chapter 11. As we encounter more weeds that have evolved resistance to herbicides, it will be important to use nonchemical practices that suppress weeds and take pressure off of herbicides. The peanut risk management tool will allow you to see how practices such as planting date, row pattern and plant population, and previous crop history increase or decrease risk to yield due to weed interference.

COMMENTS ON PEANUT HERBICIDES

Preplant Burndown Herbicides

Glyphosate (various formulations) and Gramoxone SL (other formulations are available) are relatively nonselective herbicides that control many of the winter weeds present in reduced tillage fields (Table 4-2). Harmony Extra and 2,4-D (various formulations) can also be applied. Harmony Extra can be applied no closer than 45 days before planting. 2,4-D should be applied at least 30 days before planting.

Preplant Incorporated, Preemergence, and Postemergence Herbicides

Numerous herbicides are labeled for use in peanuts (Tables 4-3, 4-4, and 4-5). Timely application of the appropriate herbicide at the correct rate is essential for successful weed control in peanuts. Additional information on feeding restrictions of peanut hay (Table 4-6), suggested rain-free period to maintain control (Table 4-7), and rotation restrictions on herbicide use (Table 4-8) are provided.

Reduced Rates of Herbicides

When crop prices are low, producers are looking for ways to reduce production costs. One possibility is to reduce the application rate of herbicides. Under certain environmental conditions and with certain weed species or weed complexes, specific herbicides can be applied below the manufacturer's suggested use rate without sacrificing weed control. However, growers are cautioned that herbicides applied at reduced rates often do not control weeds adequately when environmental conditions (soil moisture in particular) do not favor herbicide activity. Applying herbicides at reduced rates to large weeds or weeds that are "hardened" often results in poor control as well. Weeds can also be more difficult to control if they were injured by herbicide with previous treatment. Using reduced rates will require that growers apply herbicides in a more timely manner and when weeds are not stressed. Regardless of the previously mentioned factors relative to reduced rates, manufacturers of herbicides will not back up their products when they are applied below the suggested use rate. Liability falls exclusively to the grower.

COMPATIBILITY OF AGROCHEMICALS

Compatibility is an important consideration when applying two or more products in the same tank. See Chapter 9 for more information on agrochemical compatibility. Consult product labels, Chapter 9, and your county Extension agent for more information on agricultural chemical compatibility.

Table 4-2 Weed Responses to Herbicides Applied Prior to Peanut Planting in Reduced Tillage Systems[1,3]

Species	Gramoxone SL	Glyphosate	2,4-D	Glyphosate + Harmony Extra	Glyphosate + 2,4-D	Glyphosate + Valor SX[2]
Bluegrass	GE	E	N	E	E	E
Buttercup	E	E	G	E	E	E
Chickweed	E	E	P	E	E	E
Curly dock	NP	E	F	E	FG	G
Geranium	GE	PF	PF	GE	F	GE
Henbit	E	E	FG	E	E	E
Horseweed	PF	GE	GE	E	E	E
Mustard	FG	FG	GE	GE	E	E
Primrose	PF	F	E	FG	E	G
Ryegrass	G	E	N	E	E	E
Small grains	GE	E	N	E	E	E
Swinecress	P	FG	F	GE	G	E

[1] Gramoxone SL can be applied after peanut emergence; see notes in Table 4-3. Glyphosate (various formations) can be applied at or before ground cracking. 2,4-D (various formulations) should be applied 3 or more weeks before planting. Harmony Extra cannot be applied closer than 45 days prior to planting. See specific product labels for tank mixtures with these herbicides.

[2] Valor SX can be applied prior to planting up to 2 days after planting. See product label for information on sprayer cleanout.

[3] E = excellent control, 90% or better; G = good control, 80 to 90%; F = fair control, 50 to 80%; P = poor control, 25 to 50%; N = no control, less than 25%.

CHEMICAL WEED CONTROL IN PEANUTS

Control of witchweed is part of the State/Federal Quarantine Program. Contact the N.C. Department of Agriculture & Consumer Services, Plant Industry Division, at 1-800-206-9333.

Table 4-3. Chemical Weed Control in Peanuts

Herbicide and Formulation	Pounds Active Ingredient Per Acre	Precautions and Remarks
Preplant Incorporated, Annual grasses and small-seeded broadleaf weeds		
alachlor, MOA 15 (Intrro 4 EC)	2 to 3 (2 to 3 qt)	Incorporate no deeper than 2 inches; see label for specific instructions. Unless shallowly incorporated, Intrro is more consistently effective when applied preemergence. Weak on Texas panicum. Do not apply more than 3 qt of Intrro per acre per season. Before using Intrro, check with buyers to determine if there are marketing restrictions on Intrro-treated peanuts.
acetochlor, MOA 15 (Warrant 3 ME)	0.94 to 1.5 (1.25 to 2 qt)	Apply and incorporate in top 2 inches of soil. Do not apply more than 4 qt of Warrant per acre per year.
ethalfluralin, MOA 3 (Sonalan 3 EC)	0.56 to 0.75 (1.5 to 2 pt)	Controls common annual grasses including Texas panicum. Use 3 pt Prowl or 2 pt ethalfluralin for control of broadleaf signalgrass, Texas panicum, and fall panicum. Incorporate 3 inches deep for Texas panicum; otherwise, incorporate 2 to 3 inches deep. See labels for maximum waiting period between application and incorporation. Immediate incorporation is best. Dual Magnum, Outlook, or Warrant may be tank mixed with Prowl or Sonalanto to suppress yellow nutsedge.
pendimethalin, MOA 3 (Prowl H2O 3.8 EC) (Prowl 3.3 EC)	0.71 to 1.43 (1.5 to 3 pt) (1.7 to 3.5 pt)	
Preplant Incorporated, Annual grasses, small-seeded broadleaf weeds, and nutsedge		
dimethenamid, MOA 15 (Outlook 6.0 L)	0.75 to 1 (16 to 21 fl oz)	Apply and incorporate in top 2 inches of soil within 14 days of planting. Use high rate of Dual Magnum, Dual, or Outlook for yellow nutsedge and broadleaf signalgrass. Not effective on purple nutsedge. Weak on Texas panicum. May be tank mixed with Prowl or Sonalan.
metolachlor, MOA 15 (Dual Magnum 7.62 EC) (Dual 8 EC)	0.95 to 1.27 (1 to 1.33 pt) (1.5 to 2 pt)	

Herbicide and Formulation	Pounds Active Ingredient Per Acre	Precautions and Remarks
Preplant Incorporated, Broadleaf weeds and suppression of nutsedge		
diclosulam, MOA 2 (Strongarm 84 WDG)	0.024 (0.45 oz)	Effective on common cocklebur, morningglory, common ragweed, eclipta, and common lambsquarters. Suppresses yellow and purple nutsedge. Does not control sicklepod. More effective when applied in combination with Dual, Outlook, Warrant, Prowl, or Sonalan. See label for rotation restrictions, especially corn and grain sorghum. Growers are cautioned that Strongarm can occasionally injure cotton the following year on soils with a shallow hardpan (less than 10 inches) and/or loam soils. Cotton grown under early season stress resulting from conditions such as excessively cool, wet, dry, or crusted soils may be particularly susceptible to carryover of Strongarm. The rotation interval between applying Strongarm to peanut and then planting cotton is 18 months in Camden, Currituck, Pasquotank, and Perquimans counties. Some weed species have developed resistance to Strongarm, including common ragweed and Palmer amaranth.
Preplant Incorporated, Annual grasses, broadleaf weeds, and suppression of nutsedge		
diclosulam, MOA 2 Strongarm + pendimethalin, MOA 3 (Prowl H2O 3.8 EC) (Prowl 3.3 EC) or ethalfluralin, MOA 3 (Sonalan 3 EC) or metolachlor, MOA 15 (Dual Magnum 7.62 EC) (Dual 8 EC) or dimethenamid (Outlook 6.0 L) or acetochlor (Warrant 3 ME)	0.024 (0.45 oz) + 0.71 to 1.43 (1.5 to 3 pt) (1.7 to 3.5 pt) or 0.56 to 0.75 (1.5 to 2 pt) or 0.95 to 1.27 (1 to 1.33 pt) (1.5 to 2 pt) or 0.75 to 1 (16 to 21 fl oz) or 0.95 to 1.5 (1.24 to 2 qt)	Effective on annual grasses, common cocklebur, common ragweed, eclipta, morningglory, and common lambsquarters. Suppresses purple and yellow nutsedge. Does not control sicklepod. See Strongarm label for rotation restrictions.

Table 4-3. Chemical Weed Control in Peanuts (continued)

Herbicide and Formulation	Pounds Active Ingredient Per Acre	Precautions and Remarks
PPI followed by PRE, Annual grasses, broadleaf weeds, and suppression of nutsedge		
pendimethalin, MOA 3 (Prowl H2O 3.8 EC) (Prowl 3.3 EC) or ethalfluralin, MOA 3 (Sonalan 3 EC) or metolachlor, MOA 15 (Dual Magnum 7.62 EC) (Dual 8 EC) or dimethenamid, MOA 15 (Outlook 6.0L) or acetochlor, MOA 15 (Warrant 3 ME) followed by diclosulam, MOA 2 (Strongarm 84 WDG) or flumioxazin, MOA 14 (Valor SX 51 WDG)	0.71 to 1.43 (1.5 to 3 pt) (1.7 to 3.5 pt) or 0.56 to 0.75 (1.5 to 2 pt) or 0.95 to 1.27 (1 to 1.33 pt) (1.5 to 2 pt) or 0.75 to 1 (16 to 21 oz) or 0.95 to 1.5 (1.24 to 2 qt) 0.024 0.45 oz or 0.063 (2 oz)	Controls most broadleaf weeds. Will not control sicklepod and is marginal on certain large-seeded broadleaf weeds. Do not incorporate Valor SX. Valor SX should be applied to the soil surface immediately after planting. Significant injury can occur if flumioxazin is incorporated or applied 3 or more days after planting. Significant injury from Valor SX has been noted in some years even when applied according to label recommendations. However, injury is generally transient and does not affect yield. See previous comments about cotton response to Strongarm applied the previous year on some soils. Up to 3 oz per acre of Valor SX can be applied to peanut, but injury potential increases. See product label for sprayer cleanup before other uses.
Split application (PPI + POST), Most broadleaf weeds and nutsedge		
imazethapyr, MOA 2 (Pursuit 2 AS)	0.031 + 0.031 (2 + 2 oz)	Effective on most common broadleaf weeds and yellow and purple nutsedge. Does not control eclipta, lambsquarters, ragweed, or croton. Pursuit will usually control seedling johnsongrass and foxtails. For control of other annual grasses, Pursuit may be tank mixed with Dual Magnum, Dual, Outlook, Prowl H2O, Prowl, or Sonalan and incorporated. See label for incorporation directions and rotational restrictions. Some weed species have developed resistance to Pursuit. Research in N.C. has generally shown more effective control of a broader spectrum of weeds with split applications of half of the Pursuit applied preplant incorporated followed by the other half applied early postemergence.

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Table 4-3. Chemical Weed Control in Peanuts (continued)

Herbicide and Formulation	Pounds Active Ingredient Per Acre	Precautions and Remarks
Preemergence, Annual grasses and small-seeded broadleaf weeds		
alachlor, MOA 15 (Intrro 4 EC)	2 to 3 (2 to 3 qt)	Apply as soon after planting as possible. All four herbicides are weak on Texas panicum. Before using Inntro, check with buyers to determine if there are marketing restrictions on Intrro-treated peanuts.
dimethenamid, MOA 15 (Outlook 6.0 L)	0.75 to 1 (16 to 21 fl oz)	
metolachlor, MOA 15 (Dual Magnum 7.62 EC) (Dual 8 EC)	0.95 to 1.27 (1 to 1.33 pt) (1.5 to 2 pt)	
acetochlor (Warrant 3 ME)	0.95 to 1.5 (1.25 to 2 qt)	
Preemergence, Broadleaf weeds		
flumioxazin, MOA 14 (Valor SX 51 WDG)	0.063 2 oz	Apply within 2 days after planting. Significant injury can occur if Valor SX is incorporated or applied 3 or more days after seeding. Controls carpetweed, common lambsquarters, Florida pusley, nightshade, pigweeds, prickly sida, and spotted spurge. Does not control sicklepod, yellow and purple nutsedge, or annual grasses. Morningglory control is marginal where Valor SX is applied at 2 oz per acre. Significant injury from Valor SX has been noted in some years even when applied according to label recommendations. However, injury is generally transient and does not affect yield. Injury may occur if excessive and forceful rainfall occurs when peanut is emerging. Peanut recovers from injury by midseason in most instances. Up to 3 oz per acre of Valor SX can be applied to peanut, but injury potential increases. See product label for comments on sprayer cleanup before other uses.

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Table 4-3. Chemical Weed Control in Peanuts (continued)

Herbicide and Formulation	Pounds Active Ingredient Per Acre	Precautions and Remarks
Preemergence, Annual grasses, broadleaf weeds, and suppression of nutsedge		
flumioxazin, MOA 14 (Valor SX 51 WDG) + metolachlor, MOA 15 (Dual Magnum 7.62 EC) (Dual 8 EC) or dimethenamid, MOA 15 (Outlook 6.0L) or acetlochlor, MOA 15 (Warrant 3 ME)	0.063 (2 oz) + 0.95 to 1.27 (1 to 1.33 pt) 1.5 to 2 pt) or 0.75 to 1 (16 to 21 fl oz) or 0.94 to 1.5 (1.25 to 2 qt)	Apply within 2 days after planting. Significant injury can occur if applied 3 or more days after planting. The combination of Valor SX and Dual, Dual Magnum, Warrant, or Outlook does not control sicklepod but will control annual grasses (except Texas panicum) and will suppress yellow nutsedge. Valor SX and Warrant will not suppress yellow nutsedge. Significant injury from Valor SX has been noted in some years even when applied according to label recommendations. However, injury is generally transient and does not affect yield. Injury may occur if excessive and forceful rainfall occurs when peanut is emerging. Peanut recovers from injury by midseason in most instances. Up to 3 oz per acre of Valor SX can be applied to peanut but injury potential increases. See product label for comments on sprayer cleanup before other uses.
diclosulam, MOA 2 (Strongarm 84 WDG)	0.024 (0.45 oz)	Effective on common cocklebur, morningglory, common ragweed, eclipta, and common lambsquarters. Suppresses yellow and purple nutsedge. Does not control sicklepod. More effective when applied in combination with Dual, Dual Magnum, Outlook, Prowl, Sonalan, or Warrant. See label for rotation restrictions, especially corn and grain sorghum. See previous comments on possible cotton injury from Strongarm applied the previous year on some soils.
sulfentrazone, MOA 14 + carfentrazone, MOA 14 (Spartan Charge (0.35 + 3.15 F)	0.07 to 0.12 (3 to 5 fl oz)	Do not apply Spartan Charge after peanuts crack soil. Application immediately after planting is advised. See label for specific rates based on soil texture and organic matter content. See product label for comments on application with other herbicides. Rotation restriction for planting cotton following Spartan Charge at recommended rates for peanut is 12 months.

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Table 4-3. Chemical Weed Control in Peanuts (continued)

Herbicide and Formulation	Pounds Active Ingredient Per Acre	Precautions and Remarks
Preemergence, Annual grasses, broadleaf weeds, and suppression of nutsedge (continued)		
diclosulam, MOA 2 (Strongarm 84 WDG) + metolachlor, MOA 15 (Dual Magnum 7.62 EC) (Dual 8 EC) or dimethenamid, MOA 15 (Outlook 6.0 L) or acetolchlor, MOA 15 (Warrant 3 ME)	0.024 (0.45 oz) + 0.95 to 1.27 (1 to 1.33 pt) 1.5 to 2 pt) or 0.75 to 1 (16 to 21 oz) or 0.94 to 1.5 (1.25 to 2 qt)	Effective on annual grasses, common cocklebur, common ragweed, eclipta, morningglory, and common lambsquarters. Suppresses purple and yellow nutsedge. Does not control sicklepod. See label for rotation restrictions. Some weed species have developed resistance to Strongarm. See previous comments on carryover potential to cotton on some soils and restrictions on planting corn or grain sorghum after use in peanut.
Preemergence, Most annual broadleaf weeds and nutsedge		
imazethapyr, MOA 2 (Pursuit 2 AS)	0.063 (4 fl oz)	Effective on most common broadleaf weeds and yellow and purple nutsedge. Does not control ragweed, eclipta, lambsquarters, or croton. Pursuit may be tank mixed with Dual, Dual Magnum, Warrant, or Outlook for annual grass control. See label for **rotational restrictions**. Some weed species have developed resistance to Pursuit. Research in N.C. has generally shown more effective control of a broader spectrum of weeds with split applications of half of the Pursuit applied preplant incorporated followed by the other half applied early postemergence.
Cracking stage, Emerged annual grasses and broadleaf weeds		
paraquat, MOA 22 (Gramoxone 2 SL) (Parazone 3 SL)	0.13 (11 oz) (8 oz)	Apply at ground cracking for control of small emerged annual grasses and broadleaf weeds. May be tank mixed with Dual, Dual Magnum, Outlook, or Warrant for residual control. Tank mix may increase injury to emerged peanuts. Add 1 pint nonionic surfactant per 100 gallons spray solution. Follow all safety precautions on label. Applying Basagran at 0.5 pt per acre will reduce injury.

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Table 4-3. Chemical Weed Control in Peanuts (continued)

Herbicide and Formulation	Pounds Active Ingredient Per Acre	Precautions and Remarks
Cracking stage and Postemergence, Additional residual control of annual grasses and certain small-seeded broadleaf weeds		
alachlor, MOA 15 (Intrro 4 EC)	2 to 3 (2 to 3 qt)	Use as a supplement to preplant or preemergence herbicides to provide additional residual control of annual grasses and certain small-seeded broadleaf weeds such as pigweed and eclipta. This treatment will not control emerged grasses or broadleaf weeds. See product labels for recommended tank mixtures with contact and systemic herbicides with foliar activity on weeds. With the exception of Anthem Flex, these herbicides do not provide appreciable control of weeds that have emerged. Anthem Flex does control morningglory species that have emerged (carfentrazone in Anthem Flex controls morningglory). Peanuts are often injured more by Anthem Flex than other residual herbicides applied to peanut, but injury is generally transient and does not affect yield.
dimethenamid, MOA 15 (Outlook 6.0L)	0.75 to 1 (16 to 21 oz)	
metolachlor, MOA 15 (Dual Magnum 7.62 EC) (Dual 8 EC)	0.95 1 pt 1.5 pt	
acetochlor, MOA 15 (Warrant 3 ME)	0.95 to 1.5 (1.25 to 2 qt)	
pyroxasulfone, MOA 15 (Zidua 85 WG) (Zidua 4.25 SC)	0.08 to 0.11 (1.5 to 2.1 oz) (2.4 to 3.3 oz)	
Pyroxasulfone, MOA 15 + Carfentrazone, MOA 15 (Anthem Flex)	0.073 + 0.005 (2.5 oz)	
Cracking stage, Most annual broadleaf weeds and nutsedge		
imazethapyr, MOA 2 (Pursuit 2 AS)	0.063 (4 oz)	Effective on most common broadleaf weeds and yellow and purple nutsedge. Does not control ragweed, eclipta, lambsquarters, or croton. If weeds are emerged, add surfactant or crop oil according to label directions. See label for rotational restrictions. Pursuit may be tank mixed with paraquat. Some weed species have developed resistance to Pursuit.

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Table 4-3. Chemical Weed Control in Peanuts (continued)

Herbicide and Formulation	Pounds Active Ingredient Per Acre	Precautions and Remarks
Cracking stage, Some emerged broadleaf weeds and suppression of eclipta and yellow nutsedge		
diclosulam, MOA 2 (Strongarm 84 WDG)	0.024 (0.45 oz)	Strongarm can be applied through the cracking stage. Add 1 quart nonionic surfactant per 100 gallons. The spectrum of weeds controlled is much narrower when applied to emerged weeds. Strongarm will not control emerged common lambsquarters or pigweeds but will control common ragweed and morningglories and will suppress yellow nutsedge and eclipta. See product labels for information on mixing Strongarm with other herbicides. Some weed species have developed resistance to Strongarm. See product label for carryover potential to cotton, corn, and grain sorghum. Strongarm suppresses emerged marestail and dogfennel more effectively than other postemergence broadleaf herbicides when applied to small weeds.
Postemergence, Annual broadleaf weeds		
acifluorfen, MOA 14 (Ultra Blazer 2 L)	0.25 to 0.38 (1 to 1.5 pt)	Apply when weeds are small and actively growing. Use minimum of 20 GPA and high pressure (40 to 60 psi). See label for species controlled, maximum weed size to treat, and addition of surfactant. Do not apply more than 2 pints per acre per season. May make sequential applications of 0.25 pound followed by 0.25 pound per acre. Allow at least 15 days between sequential applications. Can be applied with residual herbicides for improved control.
acifluorfen, MOA 14 (Ultra Blazer 2 L) + 2,4-DB, MOA 4 (Butyrac 200 2 L)	0.25 to 0.38 (1 to 1.5 pt) + 0.25 (16 fl oz)	Addition of 2,4-DB to Ultra Blazer improves control of certain weeds when weed size exceeds that specified on the Ultra Blazer label. See label suggestions on use of surfactant or crop oil. Apply when peanuts are at least 2 weeks old and before pod filling begins. Can be applied with residual herbicides for improved control.

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Table 4-3. Chemical Weed Control in Peanuts (continued)

Herbicide and Formulation	Pounds Active Ingredient Per Acre	Precautions and Remarks
Postemergence, Annual broadleaf weeds (continued)		
bentazon, MOA 6 (Basagran 4 L)	0.75 to 1 (1.5 to 2 pt)	Apply when weeds are small and actively growing. Use minimum of 20 GPA and high pressure (40 to 60 psi). See label for addition of oil concentrate, species controlled, and maximum weed size to treat. Basagran may also be applied at 1 pint per acre for control of cocklebur, jimsonweed, and smartweed 4 inches or less. Do not apply more than 4 pints of bentazon per acre per season. Can be applied with residual herbicides for improved control.
bentazon, MOA 6 (Basagran 4 L) + acifluorfen, MOA 14 (Ultra Blazer 2 L)	0.5 to 1 (1 to 2 pt) + 0.25 to 0.38 (1 to 1.5 pt)	See above comments for Ultra Blazer and Basagran. See labels for weeds controlled, maximum weed size to treat, and use of adjuvants. Can be applied as a tank mixture or as Storm 4L. Can be applied with residual herbicides for improved control.
bentazon, MOA 6 + acifluorfen, MOA 14 (Storm 4L)	0.5 + 0.25 (1.5 pt)	These rates of bentazon and acifluorfen (Ultra Blazer and Basagran) may not provide consistent control of lambsquarters, prickly sida, spurred anoda, and morningglory. Can be applied with residual herbicides for improved control.
bentazon, MOA 6 (Basagran 4 L) + acifluorfen, MOA 14 (Ultra Blazer 2 L) + 2,4-DB, MOA 4 (Butyrac 200 2 L)	0.5 (1 pt) + 0.25 (1 pt) + 0.125 to 0.25 (8 to 16 fl oz)	Adding 2,4-DB will improve control of larger morningglory, cocklebur, common ragweed, pigweed, jimsonweed, and citron. Add surfactant or crop oil according to label directions. Apply when peanuts are at least 2 weeks old. Do not apply after pod filling begins. See comments for Ultra Blazer and Basagran alone. Can be applied with residual herbicides for improved control.
bentazon, MOA 6 (Basagran 4 L) + 2,4-DB, MOA 4 (Butyrac 200 2 L)	0.75 to 1 1.5 to 2 pt) + 0.125 (8 fl oz)	Addition of 2,4-DB to Basagran improves control of morningglories. See above comments for Basagran. Add surfactant or crop oil according to label directions. Do not make more than two applications per year. Apply when peanuts are at least 2 weeks old and not within 45 days of harvest. Can be applied with residual herbicides for improved control.

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Table 4-3. Chemical Weed Control in Peanuts (continued)

Herbicide and Formulation	Pounds Active Ingredient Per Acre	Precautions and Remarks
Postemergence, Annual broadleaf weeds (continued)		
imazapic, MOA 2 (Cadre 2 AS) (Impose 2 AS)	0.063 (4 fl oz)	Controls most broadleaf weeds except ragweed, croton, lambsquarters, and eclipta. Apply before weeds exceed 4 inches; see label for specific weed sizes to treat. Add nonionic surfactant at 1 quart per 100 gallons or crop oil concentrate at 1 quart per acre. A soil-applied grass control herbicide should be used. However, Cadre will usually control escaped broadleaf signalgrass, large crabgrass, fall panicum, and Texas panicum but not goosegrass. Cadre can be mixed with Cobra, Ultra Blazer, and 2,4-DB. See label for rotational restrictions. Some weed species have developed resistance to Cadre. Can be applied with residual herbicides for improved control.
imazethapyr, MOA 2 (Pursuit 2 L)	0.063 (4 fl oz)	Effective on most common broadleaf weeds and yellow and purple nutsedge. Does not control eclipta, lambsquarters, ragweed, or croton. Apply when weeds are 3 inches tall or less. Add surfactant or crop oil according to label directions. See label for rotational restrictions. Pursuit may be tank mixed with Basagran, Ultra Blazer, Gramoxone, and 2,4-DB. Some weed species have developed resistance to Pursuit.
2,4-DB, MOA 4 (Buryrac 200 2 L)	0.2 to 0.25 (12 to 16 fl oz)	Effective on cocklebur and entireleaf and tall morningglories; pitted morningglory may be only partially controlled. Best results achieved when applied to small weeds. May use two applications per year. Do not apply within 45 days of harvest. Suppresses Palmer amaranth and sicklepod.
lactofen, MOA 14 (Cobra 2 EC)	0.2 (12.5 fl oz)	Apply after peanuts have at least six true leaves. Apply to actively growing peanut. Controls most annual broadleaf weeds. See label for species controlled and maximum weed size to treat. Add nonionic surfactant at 1 quart per 100 gallons or crop oil concentrate or methylated seed oil at 1 to 2 pints per acre. See label on when to use various adjuvants. Allow at least 14 days between applications. Can be tank mixed with Basagran, Pursuit, Cadre, 2,4-DB, and/or Select. Can be applied with residual herbicides for improved control. Other formulations of lactofen are available.

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Table 4-3. Chemical Weed Control in Peanuts (continued)

Herbicide and Formulation	Pounds Active Ingredient Per Acre	Precautions and Remarks
Postemergence, Annual broadleaf weeds (continued)		
lactofen, MOA 14 (Cobra 2 EC) + bentazon, MOA 6 (Basagran 4 L)	0.2 (12.5 fl oz) + 0.75 to 1 (1.5 to 2 pt)	See above comments for Basagran and lactofen alone. See labels for weeds controlled, maximum weed size to treat, and use of adjuvants. Can be applied with residual herbicides for improved control.
lactofen, MOA 14 (Cobra 2 EC) + bentazon, MOA 6 (Basagran 4 L) + 2.4-DB, MOA 4 (Butyrac 200 2 L)	0.2 (12.5 fl oz) + 0.75 to 1 (1.5 to 2 pt) + 0.125 to 0.25 (8-16 fl oz)	Adding 2,4-DB will improve control of larger morningglory, cocklebur, common ragweed, jimsonweed, and citron. See above comments for bentazon, lactofen, and 2,4-DB. See labels for weeds controlled, maximum weed size to treat, and use of adjuvants. Can be applied with residual herbicides for improved control.
lactofen, MOA 14 (Cobra 2 EC) + imazapic, MOA 2 (Cadre 2 AS) (Impose 2 AS)	0.2 (12.5 fl oz) + 0.063 (4 fl oz)	See above comments for imazapic and lactofen. See labels for weeds controlled, maximum weed size to treat, and use of adjuvants. Some weed species have developed resistance to Cadre. Can be applied with residual herbicides for improved control.
lactofen, MOA 14 (Cobra 2 EC) + imazethapyr, MOA 2 (Pursuit 2 AS)	0.2 (12.5 fl oz) + 0.063 (4 fl oz)	See above comments for imazethapyr and lactofen. See labels for weeds controlled, maximum weed size to treat, and use of adjuvants. Some weed species have developed resistance to Pursuit.
paraquat, MOA 22 (Gramoxone 2 SL) (Parazone 3 SL)	0.13 (11 fl oz) (8 fl oz)	See label for weeds controlled and maximum weed size to treat; best results if weeds 1 inches or less. A postemergence application may be made following an at-crack application. Do not make more than two applications per season, do not apply later than 28 days after ground cracking, and do not apply if peanuts are under stress or have significant injury from thrips feeding. Gramoxone is more effective when applied within 2 weeks after peanut emergence. Add 1 pint of nonionic surfactant per 100 gallons of spray solution. Will cause foliar burn on peanuts, but peanuts recover, and yield is not affected. Follow all safety precautions on label. Can be applied with residual herbicides for improved control.

(continued)

Table 4-3. Chemical Weed Control in Peanuts (continued)

Herbicide and Formulation	Pounds Active Ingredient Per Acre	Precautions and Remarks
Postemergence, Annual broadleaf weeds (continued)		
paraquat, MOA 22 (Gramoxone 2 SL) (Parazone 3 SL) + bentazon, MOA 6 (Basagran 4 L)	0.13 (11 oz) (8 oz) + 0.25 to 0.75 (0.5 to 1.5 pt)	See previous comments for paraquat alone. Adding Basagran improves control of common ragweed, prickly sida, smartweed, lambsquarters, and cocklebur and reduces injury to peanuts from paraquat. May be applied any time from ground cracking up to 28 days after ground cracking. Add 1 pint of nonionic surfactant per 100 gallons of spray solution. Can be applied with residual herbicides for improved control.
paraquat, MOA 22 (Gramoxone 2 SL) (Parazone 3 SL) + bentazon, MOA 6 + acifluorfen, MOA 14 (Storm 4 L)	0.13 (11 fl oz) (8 fl oz) + 0.5 + 0.25 1 pt	See previous comments for paraquat alone. Storm improves control of common ragweed, smartweed, lambsquarters, common cocklebur, tropic croton, and spurred anoda. May be applied anytime from ground cracking up to 28 days after ground cracking. Add 0.5 pint of nonionic surfactant per 100 gallons of spray solution. The mixture of Gramoxone SL and Storm is more injurious than these herbicides applied alone. Can be applied with residual herbicides for improved control.
Postemergence, Florida beggarweed		
chlorimuron, MOA 2 (Classic 0.25 DF)	0.008 (0.5 oz)	Use only for control of Florida beggarweed. Apply from 60 days after crop emergence to within 45 days of harvest. Application to peanuts less than 60 days old will result in crop injury and yield reduction. Apply before Florida beggarweed has begun to bloom and before it has reached 10 inches tall. Larger beggarweed may only be suppressed. Add 1 quart of nonionic surfactant per 100 gallons spray solution; do not add crop oil. May be tank mixed with 2,4-DB; see label for rates and precautions. Recommended as a salvage treatment only.
Postemergence, Yellow nutsedge		
bentazon, MOA 6 (Basagran 4 L)	0.75 to 1 (1.5 to 2 pt)	Apply when nutsedge is 6 to 8 inches tall. A repeat application 7 to 10 days later may be needed. Adding crop oil concentrate at 1 quart per acre will increase control. Do not apply more than 2 pints of Basagran per season. Not effective on purple nutsedge.

(continued)

Table 4-3. Chemical Weed Control in Peanuts (continued)

Herbicide and Formulation	Pounds Active Ingredient Per Acre	Precautions and Remarks
Postemergence, Yellow and purple nutsedge		
imazapic, MOA 2 (Cadre 2 AS) (Impose 2 AS)	0.063 (4 fl oz)	Apply postemergence when nutsedge is 4 inches or shorter. Add nonionic surfactant at 1 quart per 100 gallons or crop oil concentrate at 1 quart per acre. See label for rotational restrictions.
imazethapyr, MOA 2 (Pursuit 2 AS)	0.063 (4 fl oz)	Apply before nutsedge is taller than 3 inches. Add surfactant at 1 quart per 100 gallons or crop oil concentrate at 1 quart per acre. Do not mix with Basagran for nutsedge control. See label for rotational restrictions. A split application with half of the Pursuit applied preplant incorporated and half applied early postemergence may be more effective than applying all of the Pursuit at one time.
Postemergence, Annual grasses		
clethodim, MOA 1 (Select Max 0.97 EC) (Various "2 EC" formulations)	0.094 to 0.125 (9 to 16 fl oz) (6 to 8 fl oz)	Apply Select and Poast to actively growing grass not under drought stress. Consult labels for maximum grass size to treat. Apply in 5 to 20 GPA at 40 to 60 psi. Do not cultivate within 7 days before or after application. Add 2 pints crop oil to Poast. See label for adjuvant use with Select or Select Max. Some broadleaf/sedge herbicides and fungicides can reduce the efficacy of Select and Poast when applied in tank mixtures. See product labels for specific instructions concerning compatibility with other chemicals. See Chapter 9 for specific pesticides that reduce control by these herbicides. Apply the highest rate of a clethodim product when mixing with broadleaf/sedge herbicides or fungicides.
sethoxydim, MOA 1 (Poast 1 EC) (Poast Plus 1.5 EC)	0.19 (1.5 pt) (1 pt)	
Postemergence, Bermudagrass		
clethodim, MOA 1 (Select Max 0.97 EC) (Various "2 EC" formulations)	0.125 to 0.25 (12 to 32 fl oz) (8 to 16 fl oz)	Apply to actively growing bermudagrass before runners exceed 6 inches In most cases, a second application will be needed. Make second application if regrowth occurs. See comments under annual grasses for adjuvant selection and tank mixing for these herbicides.
sethoxydim, MOA 1 (Poast 1 EC) (Poast Plus 1.5 EC)	0.28 (2.25 pt) (1.5 pt)	

(continued)

Table 4-3. Chemical Weed Control in Peanuts (continued)

Herbicide and Formulation	Pounds Active Ingredient Per Acre	Precautions and Remarks
Postemergence, Rhizome johnsongrass		
clethodim, MOA 1 (Select Max 0.97 EC) (Various "2 EC" formulations)	0.125 to 0.25 (12 to 32 fl oz) (8 to 16 fl oz)	Apply to actively growing johnsongrass before it exceeds 25 inches tall. Add 2 pints per acre of crop oil concentrate. A second application of the same rates can be made if needed before new plants or regrowth exceeds 12 inches.
sethoxydim, MOA 1 (Poast 1 EC) (Poast Plus 1.5 EC)	0.28 (2.25 pt) (1.5 pt)	
Postemergence, Suppression of large Palmer amaranth and other pigweed species that are resistant to the ALS-inhibiting herbicides imazapic, chlorimuron, imazethapyr, and diclosulam		
2,4-DB, MOA 4 (Buryrc 200 2 SL) + lactofen, MOA 14 (Cobra 2 EC) or acifluorfen, MOA 14 (Ultra Blazer 2 L)	0.25 (16 fl oz) + 0.20 (12.5 fl oz) or 0.38 (1.5 pt)	Suppresses and does not completely control Palmer amaranth and other pigweed species that exceed 8 inches. Suppression of weeds exceeding 12 inches will be less than suppression of smaller weeds. Do not expect suppression to exceed 60%. Applying 2,4-DB 3 to 4 days prior to Ultra Blazer or Cobra may be more effective than tank mixtures of 2,4-DB with Ultra Blazer or Cobra. Cobra is generally more effective on larger Palmer amaranth and other pigweed species than Ultra Blazer. Apply crop oil concentrate at 1 gallon per 100 gallons water with acifluorfen or lactofen. See product labels for comments on spray volume and effects on peanut especially during pod set and pod fill. Higher spray volumes are more effective by increasing spray coverage of the contact herbicides Ultra Blazer and Cobra. Two applications of 2,4-DB spaced 10 to 14 days apart will suppress Palmer amaranth and other pigweed species. Although suppression by 2,4-DB is lower than sequential or tank mix application of 2,4-DB and acifluorfen or lactofen within two weeks after application, suppression by sequential applications of 2,4-DB 4 to 5 weeks after initial application is only slightly lower than suppression by sequential or tank mix application of 2,4-DB and Ultra Blazer or Cobra.
2,4-DB, MOA 4 (Butyrac 200 2 SL) then lactofen, MOA 14 (Cobra 2 EC) or acifluorfen, MOA 14 (Ultra Blazer 2 L)	0.25 (16 fl oz) then 0.20 (12.5 fl oz) or 0.38 (1.5 pt)	
2,4-DB, MOA 4 (Butyrac 200 2 L) then 2,4-DB, MOA 4 (Butyrac 200 2 L)	0.25 (16 oz) then 0.25 (16 oz)	

(continued)

Table 4-3. Chemical Weed Control in Peanuts (continued)

Herbicide and Formulation	Pounds Active Ingredient Per Acre	Precautions and Remarks
Postemergence, Suppression of large Palmer amaranth and other pigweed species that are resistant to the ALS-inhibiting herbicides imazapic, chlorimuron, imazethapyr, and diclosulam (continued)		
paraquat, MOA 22 (Gramoxone SL)	See comments	Apply in a roller/wiper implement. Best control achieved when at least 60% coverage of weed foliage occurs. Do not allow paraquat to contact peanut foliage. Mix 1 part Gramoxone SL (other formulations may not be labeled) with 1 to 1.5 parts water to prepare 40 to 50% solution. Add nonionic surfactant at 1 quart per 100 gallons. Adjust equipment to apply up to 2 pints per acre of the herbicide-water mixture.
Postemergence, Late-season residual control of annual grasses and certain small-seeded weeds		
dimethenamid, MOA 15 (Outlook 6.0 L)	0.75 to 1 (16 to 21 fl oz)	Will not control emerged grasses or weeds; apply following a cultivation or appropriate postemergence herbicide if emerged grasses or broadleaf weeds are present. Benefit likely only on very sandy fields heavily infested with annual grasses that receive above normal rainfall during the first 4 to 5 weeks of the growing season. Lay-by of Dual Magnum, Outlook, Warrant, or Anthem Flex may also be of value in fields with a history of eclipta problems; the application must be made before eclipta emerges. Rates are on a broadcast basis; apply in an 18-inch band to row middles. See labels for preharvest intervals.
metolachlor, MOA 15 (Dual Magnum 7.62 EC)	0.64 to 0.84 (0.67 to 0.88 pt)	
acetochlor, MOA 15 (Warrant 3 ME)	0.95 to 1.5 (1.25 to 2 qt)	
Pyroxasulfone, MOA 15 + Carfentrazone, MOA 15 (Anthem Flex)		
Postemergence, Harvest Aide for morningglory control		
Carfentrazone, MOA 14 (Aim 2 EC)	0.016 to 0.031 (1.0 to 2.0 oz)	Aim desiccates annual morningglory. Apply with nonionic surfactant at 1 quart per 100 gal or crop oil concentrate at 1 gal per 100 gal within 7 days of optimum pod maturity and digging and vine inversion. Do not apply earlier in the season. Yield reductions occur when applied prior to 7 days before optimum pod maturity.

(continued)

Table 4-4. Weed Response to Preplant Incorporated, Preemergence, At-Cracking, and Postemergence Herbicides in Peanuts

Herbicides Key: PPI = Preplant Incorporated; PRE = Preemergence; AC= At-Cracking; POST = Postemergence

E = excellent control, 90% or better G = good control, 80% to 90% F = fair control, 50% to 80% P = poor control, 25% to 50% N = no control, less than 25%

Species	Prowl or Sonalan PPI	Prowl or Sonalan + Dual Magnum or Dual PPI	Prowl or Sonalan + Outlook PPI	Dual Magnum or Dual PPI	Warrant PPI	Outlook PPI	Strongarm PPI or PRE	Prowl or Sonalan + Strongarm PPI	Pursuit PPI + POST	Dual Magnum or Dual PRE	Intro PRE	Warrant PRE	Outlook PRE	Valor SX PRE	Prowl or Sonalan PPI + Valor SX PRE	Dual Magnum, Dual, Outlook or Warrant + Valor SX PRE	Dual Magnum or Dual AC[1]	Intro AC[1]	Outlook AC[1]	Gramoxone SL AC or POST	Strongarm AC[2]	Gramoxone + Strongarm AC[2]	Zidua, AC[2], or POST[1]	Anthem Flex, AC[2], or POST[1]
Bermudagrass	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	P	N	P	N	N
Black nightshade	N	F	F	F	F	F	N	N	G	F	FG	FG	F	E	E	E	F	FG	F	PF	N	G	F	F
Broadleaf signalgrass	G	E	E	G	FG	FG	P	G	G	G	FG	FG	FG	P	G	FG	G	FG	FG	E	N	GE	FG	FG
Carpetweed	G	G	G	FG	FG	FG	G	G	FG	FG	FG	FG	G	—	G	G	FG	FG	G	FG	—	G	G	G
Cocklebur	N	N	N	N	N	N	G	G	GE	N	N	N	N	PF	PF	PF	N	N	N	E	E	E	N	N
Common ragweed	N	P	PF	PF	PF	F	G	G	P	PF	PF	PF	F	FG	G	GE	PF	PF	F	F	E	E	FG	FG
Crabgrass	E	E	E	E	E	E	P	E	F	E	E	E	E	PF	E	E	E	E	E	G	N	G	E	E
Crowfootgrass	E	E	E	E	E	E	—	—	—	E	E	E	E	PF	G	G	E	E	E	E	N	GE	E	E
Dayflower	P	GE	—	GE	—	—	G	G	—	GE	—	—	—	F	F	GE	GE	—	—	—	—	G	—	-
Eclipta	N	G	G	G	FG	G	GE	GE	P	FG	FG	FG	FG	G	G	GE	FG	FG	FG	FG	NP	FG	FG	FG

Table 4-4. Weed Response to Preplant Incorporated, Preemergence, At-Cracking, and Postemergence Herbicides in Peanuts (continued)

Species	Prowl or Sonalan PPI	Prowl or Sonalan + Dual Magnum or Dual PPI	Prowl or Sonalan + Outlook PPI	Dual Magnum or Dual PPI	Warrant PPI	Outlook PPI	Strongarm PPI or PRE	Prowl or Sonalan + Strongarm PPI	Pursuit PPI + POST	Dual Magnum or Dual PRE	Intrro PRE	Warrant PRE	Outlook PRE	Valor SX PRE	Prowl or Sonalan PPI + Valor SX PRE	Dual Magnum, Dual, Outlook or Warrant + Valor SX PRE	Dual Magnum or Dual AC[1]	Intrro AC[1]	Outlook AC[1]	Gramoxone SL AC or POST	Strongarm AC[2]	Gramoxone + Strongarm AC[2]	Zidua, AC[2], or POST[1]	Anthem Flex, AC[2], or POST[1]
Fall panicum	G	E	E	E	E	E	P	E	PF	E	E	E	E	PF	FG	GE	E	E	E	E	N	GE	E	E
Florida beggarweed	N	PF	PF	F	F	F	F	F	P	F	F	F	F	G	GE	E	F	F	F	E	FG	G	F	F
Foxtails	E	E	E	E	E	E	P	E	G	E	E	E	E	PF	E	E	E	E	E	E	N	GE	E	E
Goosegrass	E	E	E	E	E	E	P	E	PF	E	E	E	E	PF	GE	E	E	E	E	E	N	GE	E	E
Jimsonweed	N	N	N	N	N	N	GE	GE	G	N	N	N	N	G	G	GE	N	N	N	E	—	E	N	N
Johnsongrass, Seedling	G	G	G	PF	PF	PF	N	G	GE	PF	PF	PF	PF	N	FG	PF	PF	PF	PF	E	N	GE	PF	PF
Johnsongrass, Rhizome	P	PF	PF	N	N	N	N	P	FG	N	N	N	N	N	N	N	N	N	N	P	N	P	N	N
Lambsquarters	G	NG	G	F	F	FG	FG	GE	FG	F	F	F	FG	GE	GE	GE	F	F	FG	F	N	G	FG	FG
Morningglory	P	P	P	N	N	N	G	G	G	N	N	N	N	FG	G	G	N	N	N	F	GE	E	F	GE
Nutsedge, Yellow	N	G	FG	G	N	FG	FG	FG	FG	FG	P	N	F	P	PF	FG	FG	P	F	PF	PF	G	F	F
Nutsedge, Purple	N	N	N	N	N	N	FG	FG	FG	N	N	—	N	P	P	P	N	N	N	PF	NP	PF	N	N
Palmer amaranth and other pigweed	G	E	E	G	G	G	G	E	E	G	GE	G	G	E	E	E	G	GE	GE	E	NP	E	GE	GE
Prickly sida	N	P	P	P	P	P	FG	FG	G	P	P	P	P	FG	G	G	P	P	P	F	—	G	P	P

Table 4-4. Weed Response to Preplant Incorporated, Preemergence, At-Cracking, and Postemergence Herbicides in Peanuts (continued)

Species	Prowl or Sonalan PPI	Prowl or Sonalan + Dual Magnum or Dual PPI	Prowl or Sonalan + Outlook PPI	Dual Magnum or Dual PPI	Warrant PPI	Outlook PPI	Strongarm PPI or PRE	Prowl or Sonalan + Strongarm PPI	Pursuit PPI + POST	Dual Magnum or Dual PRE	Intrro PRE	Warrant PRE	Outlook PRE	Valor SX PRE	Prowl or Sonalan PPI + Valor SX PRE	Dual Magnum, Dual, Outlook or Warrant + Valor SX PRE	Dual Magnum or Dual AC[1]	Intrro AC[1]	Outlook AC[1]	Gramoxone SL AC or POST	Strongarm AC[2]	Gramoxone + Strongarm AC[2]	Zidua, AC[2], or POST[1]	Anthem Flex, AC[2], or POST[1]
Purslane	G	GE	GE	G	FG	G	—	G	—	G	G	FG	G	G	GE	GE	GE	P	P	—	—	—	G	G
Sicklepod	N	NP	NP	NP	NP	NP	P	P	P	NP	PF	NP	NP	P	PF	PF	NP	PF	NP	G	N	G	NP	NP
Smartweed	N	N	N	N	N	N	G	G	G	N	N	N	N	—	—	—	N	N	N	G	—	E	N	N
Spurge spp.	P	F	F	PF	P	PF	—	—	P	F	P	P	F	G	G	G	N	N	N	FG	—	FG	N	N
Spurred anoda	N	N	N	N	N	N	FG	FG	G	N	N	N	N	F	FG	FG	N	N	N	P	—	G	N	N
Texas panicum (Texas millet)	G	G	G	PF	PF	PF	P	G	PF	PF	PF	NP	PF	PF	G	F	PF	PF	PF	E	N	GE	F	F
Tropic croton	N	N	N	N	N	N	PF	PF	P	N	N	N	N	—	—	—	N	N	N	F	—	F	N	N
Velvetleaf	N	N	N	N	N	N	GE	GE	FG	N	N	N	N	F	FG	FG	N	N	N	F	—	FG	N	N

[1] Residual control only (except morningglory control by Anthem Flex).

[2] Assumes weeds are 2 inches tall or smaller.

Table 4-5. Weed Response to Postemergence Herbicides — Peanuts

Herbicides Key: PPI = Preplant Incorporated; PRE = Preemergence; AC = At-Cracking; POST = Postemergence

E = excellent control, 90% or better G = good control, 80% to 90% F = fair control, 50% to 80% P = poor control, 25% to 50% N = no control, less than 25%

Species	Butyrac 200	Gramoxone [1]	Gramoxone + Basagran	Gramoxone + Storm	Basagran	Basagran +Butyrac 200	Ultra Blazer	Ultra Blazer + Butyrac 200	Ultra Blazer + Basagran[2]	Storm	Storm + Butyrac 200	Pursuit + Butyrac 200	Cadre or Impose	Cobra	Cobra + Basagran	Cobra + Basagran + Butyrac 200	Cobra + Cadre or Impose	Cobra + Pursuit	Poast or Poast Plus	Clethodim products
Bermudagrass	N	P	P	P	N	N	N	N	P	N	N	N	N	N	N	N	N	N	FG	G
Black nightshade	N	PF	PF	G	P	P	G[1]	G[1]	G[1]	G[1]	G[1]	G	G	G[1]	G[1]	G[1]	G	G	N	N
Broadleaf signalgrass	N	GE	E	GE	N	N	NP	NP	P	NP	NP	G	G	N	N	N	G	G	E	E
Carpetweed	P	FG	FG	G	P	P	GE	E	E	G	G	FG	FG	G	G	G	G	G	N	N
Cocklebur	E	G	E	E	E	E	G	E	E	E	E	E	E	G	G	E	E	E	N	N
Common ragweed	PF	F	G	E	G[4]	G[4]	E[1]	E[1]	E[1]	E[1]	E[1]	P	PF	E	E	E	E	E	N	N
Crabgrass	N	G	G	G	N	N	N	N	N	N	N	FG	FG	N	N	N	FG	FG	GE	GE
Crowfootgrass	N	GE	G	GE	N	N	P	P	P	P	P	P	G	N	N	N	G	P	F	G
Dayflower	—	G	G	FG	G	G	—	—	G	FG	FG	—	G	—	G	G	G	—	N	N
Eclipta	P	F	F	FG	FG	FG	G	G	G	FG	FG	P	F	G	G	G	G	G	N	N
Fall panicum	N	GE	G	GE	N	N	PF	PF	P	PF	PF	PF	G	N	N	N	G	PF	E	E
Florida beggarweed	P	G	GE	G	N	P	PF	F	F	P	P	P	F	F	F	F	F	F	N	N
Foxtails	N	GE	G	GE	N	N	PF	PF	P	PF	PF	G	G	N	N	N	G	G	E	E
Goosegrass	N	GE	G	GE	N	N	N	N	N	N	N	N	F	N	N	N	F	N	GE	GE
Jimsonweed	P	G	E	E	E	E	E	E	E	E	E	G	E	E	E	E	E	E	N	N
Johnsongrass, Seedling	N	GE	GE	GE	N	N	P	P	P	P	P	GE	E	N	N	N	E	GE	E	E

Table 4-5. Weed Response to Postemergence Herbicides — Peanuts (continued)

Species	Butyrac 200	Gramoxone [1]	Gramoxone + Basagran	Gramoxone + Storm	Basagran	Basagran +Butyrac 200	Ultra Blazer	Ultra Blazer + Butyrac 200	Ultra Blazer + Basagran[2]	Storm	Storm + Butyrac 200	Pursuit + Butyrac 200	Cadre or Impose	Cobra	Cobra + Basagran	Cobra + Basagran + Butyrac 200	Cobra + Cadre or Impose	Cobra + Pursuit	Poast or Poast Plus	Clethodim products
Johnsongrass, Rhizome	N	P	P	P	N	N	N	N	N	N	N	F	FG	N	N	N	FG	F	G	GE
Lambsquarters	PF	F	G	G	FG	G[4]	G	G	GE	G	G	P	PF	P	FG	G	PF	P	N	N
Morningglory, Pitted	FG	F	FG	E	P	G	E	E	E	E	E	G	GE	G	G	G	GE	G	N	N
Morningglory, Others	E	F	FG	E	P	E	GE	E	E	GE	E	E	G	G	G	E	G	E	N	N
Nutsedge, Yellow	N	PF	FG	G	G[3]	G	N	N	G	F	F	F	G	N	G[3]	G[3]	G	F	N	N
Nutsedge, Purple	N	PF	PF	PF	NP	P	N	N	P	N	N	FG	G	N	P	P	G	FG	N	N
Palmer amaranth and other pigweeds	PF	G	G	E	N	P	E	E	E	E	E	E	E	E	E	E	E	E	N	N
Prickly sida	F	F	G	G	G	G	N	F	G	FG	G	P	G	G	G	G	G	G	N	N
Purslane	FG	—	G	G	G	G	E	E	E	GE	GE	FG	—	E	E	E	E	E	N	N
Sicklepod	G[3]	G	G	G	N	G[6]	NP	G[6]	NP	NP	G[6]	G[6]	E	P	P	G[6]	E	F	N	N
Smartweed	PF	G	E	E	E	E	GE	E	E	E	E	G	F	F	E	E	F	G	N	N
Spurge spp.	P	F[1]	F[1]	F[1]	P	P	F[1]	F[1]	F[1]	PF[1]	PF[1]	PF[1]	—	F[1]	F[1]	F[1]	F[1]	—	N	N
Spurred anoda	P	P	FG	G	G	GE	P	P	G	F	F	F	G	F	G	GE	G	F	N	N
Texas panicum	N	GE	G	GE	N	N	NP	NP	NP	NP	NP	NP	G	N	N	N	G	NP	E	E
Tropic croton	PF	F	F	G	F	F	G	G	G	G	G	P	P	G	G	G	G	G	N	N
Velvetleaf	P	F	G	FG	G	G	PF	PF	FG	FG	FG	FG	G	G	G	G	G	G	N	N

[1] Assumes weeds are 2 inches tall or smaller. [2] Assumes optimum rates and ratios of Basagran and Blazer; see labels. [3] Two applications, 10 to 14 days apart.
[4] Assumes optimum conditions and addition of crop oil concentrate. [5] Ratings assume weeds in one- to two-leaf stage. [6] Assumes follow-up treatment with 2,4-DB.

Table 4-6. Restriction on Feeding Peanut Hay to Livestock Following Treatment with Herbicides

Feeding Restricted (Do not feed treated hay to livestock.)	No Feeding Restrictions or Defined Feeding Restrictions*
2,4-DB, Aim, Cadre, clethodim-containing products, Cobra, Impose, Poast, Poast Plus, Pursuit, Sonalan, Storm, Ultra Blazer	Basagran, Dual Magnum, Gramoxone SL, Outlook, Prowl, Zidua

* See product labels for specific information.

Table 4-7. Suggested Rain-free Periods After Application of Postemergence Herbicides

Herbicide	Rain-free Period (hours)	Herbicide	Rain-free Period (hours)
2,4-DB	NR**	Paraquat	0.5
Arrow	1	Poast	1
Basagran	NR*	Poast Plus	1
Ultra Blazer	NR*	Pursuit	1
Cadre, Impose	3	Select, Select MAX	1
Classic	1	Storm	NR*
Cobra	1		

* No restriction listed on label. Suggest 4 to 6 hours for best results.

** No restriction listed on label. Suggest at least 1 hour for best results.

Table 4-8. Restrictions on Crop Rotation of Herbicides with Significant Residual Activity Applied to Peanuts

Herbicide	Corn	Cotton	Soybean	Tobacco	Wheat	Grain Sorghum	Sweetpotato
Anthem Flex	NR	2 months	NR	9 months	4 – 6 months ***	6 – 12 months ***	NR
Cadre, Impose	9 months	18 months	9 months	9 months	4 months	18 months	18 months
Pursuit	NR/8.5 months*	9.5 months/ 18 months*	NR	9.5 months	4 months	18 months	18 months
Strongarm	18 months**	9 months	NR	> 18 months	4 months	18 months	18 months
Valor SX	NR	NR	NR	NR	4 months	NR	NR
Prowl	Following year	NR	NR	NR	4 months	NR	NR
Outlook	NR	Following year	NR	NR	4 months	NR	NR
Dual Magnum	NR	NR	NR	NR	4.5 months	NR	NR
Warrant	NR	NR	NR	NR	4 months	NR	NR
Zidua	NR	NR	NR	18 months	4 – 6 months ***	6 – 12 months ***	NR

NR = no restriction.

*No restriction and 9.5 months if applied postemergence; 8.5 and 18 months if applied preplant incorporated. See label on rainfall and temperature requirements.

**No restriction if appropriate IMI-tolerant corn hybrid is planted. See label for specific instructions.

***See label for Anthem Flex and Zidua rates.

PREVENTING AND MANAGING HERBICIDE-RESISTANT WEEDS

In recent years, populations of weeds that were once controlled by specific herbicides have developed resistance to these herbicides. Historically, the resistance of individual weeds within a population of a species has rarely occurred. However, increased selection pressure and the occurrence of cross and multiple resistance have resulted in increased frequency of herbicide resistance in some peanut fields. Two steps are critical to prevent yield loss from weed interference and preserve herbicide effectiveness: (1) determine whether weed escapes are herbicide resistant, and (2) develop an appropriate management strategy for herbicide-resistant weeds. While most weed escapes are the result of an application error or weather conditions, herbicide resistance is a real threat. Indicators of herbicide resistance, approaches to managing herbicide-resistant weed populations, and classification of resistance potential by mechanism of action are described in the Identification and Management of Herbicide-Resistant Weeds section and listed in Table 4-9. Note that herbicides that are generally not prone to having resistance populations develop can become ineffective if they are used repeatedly without implementation of other weed management practices. The intensity of selection pressure (frequency of application) and likelihood of resistance to develop for a particular herbicide are the two essential elements in determining occurrence of herbicide-resistant biotypes. Contact your local Cooperative Extension agent if herbicide resistance is suspected.

In North Carolina, populations of Palmer amaranth and common ragweed resistant to acetolactate synthase (ALS) inhibiting herbicides have been confirmed. The effectiveness of the herbicides Cadre, Pursuit, and Strongarm will be less in fields where resistant populations exist. Common ragweed resistance to ALS-inhibiting herbicides also has been confirmed. To manage weeds in these fields, growers must use herbicides with a different mechanism of action from the ALS-inhibiting herbicides. This goal can be accomplished in a variety of ways, including application of herbicide mixtures to broaden the spectrum of control.

While not confirmed, it is speculated that populations of Palmer amaranth resistant to PPO-inhibiting herbicides (Valor SX, Cobra, Ultra Blazer, and Storm) are present in North Carolina. Prevent weeds escaping PPO-inhibiting herbicides from reproducing when these weed escapes are first observed. Experiences with development of Palmer amaranth resistance to glyphosate and ALS-inhibiting herbicides remind us that recognizing and addressing resistant populations when they first develop is critical.

Identification and Management of Herbicide-Resistant Weeds

Possible reasons why herbicides do not control weeds that are NOT associated with herbicide resistance:
Improper herbicide choice or rate.
Poor or improper application of herbicide.

Poor timing of herbicide application.
Weather conditions were not favorable when herbicide was applied.
Weeds emerged after the postemergence herbicide was applied.
Other chemicals antagonized the herbicide.

Indicators suggesting that weeds are resistant to herbicides:

Herbicide normally controls the weed in question.
Performance poor on one species while other species are controlled well. Poor control is confined to spots in the field.
Some plants of the weed in question are controlled well while other plants of that species are controlled poorly.
Field history of heavy use of herbicides with the same mechanism of action.

Steps to take to prevent or manage herbicide resistance:

Rotate herbicides having different mechanisms of action.
Use tank mixes or sequential applications of herbicides having different mechanisms of action.
Be especially vigilant when using herbicides with higher risk of resistance development.
Integrate nonchemical controls when possible.
Avoid allowing weeds to produce seeds when herbicide resistance is suspected.

Additional key points:

Although some herbicides inherently are at low risk for resistance development, selection pressure (the frequency of herbicide applications with the same mechanism of action) can overcome the low or moderate theoretical possibility of resistance developing. Spraying weeds that are large and beyond the recommendation on the herbicide label is equivalent to applying herbicides at rates lower than the recommended labeled rates applied to small weeds. This approach decreases the length of time (number of generations) required for weed populations to become resistant.

Table 4-9. Herbicide Categories Prone to Have Weeds Develop Resistance

Category	Trade Name	Common Name	Family	MOA
ALS* Inhibitors—Weeds highly susceptible to developing resistance	Cadre, Impose, Pursuit	Imazapic, Imazethapyr	Imidazolinone	2
	Strongarm	Diclosulam	Triazolopyrimidine	2
	Classic	Chlorimuron	Sulfonyl urea	2
ACCase* Inhibitor—Weeds moderately to highly susceptible to developing resistance	Arrow, Clethodim, Cleanse, Select, Select MAX, Tapout, Volunteer	Clethodim	Cyclohexanedione	1
	Poast, Poast Plus	Sethoxydim	Cyclohexanedione	1
Microtubule Assembly Inhibition—Weeds moderately susceptible to developing resistance	Prowl	Pendimethalin	Dinitroaniline	3
	Sonalan	Ethafluralin	Dinitroaniline	3
Herbicides at low to moderate risk for resistance development	Aim	Carfentrazone ethyl	Aryltriazinone	14
	Anthem Flex	Pyroxasulfone + Carfentrazone ethyl	Pyrazole + Aryltriazinone	15
	Basagran	Bentazon	Benzothiadiazole	6
	Gramoxone SL	Paraquat	Bipyridilium	22
	Dual Magnum	Metolachlor	Chloroacetamide	15
	Intrro	Alachlor	Chloroacetamide	15
	Outlook	Dimethenamid	Chloroacetamide	15
	Spartan Charge	Carfentrazone + Sulfentrazone	Triazolinone + Triazolinone	14
	Storm	Acifluorfen + Bentazon	Diphenylether + Benzothiadiazole	14 + 6
	Ultra Blazer	Acifluorfen	Diphenylether	14
	Valor SX (various formulations)	Flumioxazin	*N*-phenylphtalimide derivative	14
	Warrant	Acetochlor	Chloroacetamide	15
	Zidua	Pyroxasulfone	Pyrazole	15
	2,4-DB (various formulations)	2,4-DB	Phenoxy	4

*ALS = acetolactate synthase; ACCase = acetyl CoA carboxylase; MOA, mechanism of action.

MANAGING PALMER AMARANTH IN PEANUTS

Palmer amaranth has become one of the most difficult weeds to control in peanuts and other crops throughout North Carolina. This weed is very competitive with crops and produces an abundant amount of seed if left uncontrolled. Development of herbicide-resistant biotypes including those resistant to glyphosate and ALS inhibitors (Cadre, Impose, Pursuit, Strongarm, Classic) has contributed to the challenge in controlling Palmer amaranth. A comprehensive strategy is necessary to control this weed and includes intensive preplant incorporated and preemergence herbicide applications and multiple and timely postemergence herbicide applications. Specific herbicide programs and limitations of these programs are listed in Table 4-10. The importance of timely application of all postemergence herbicides cannot be emphasized enough. A general recommendation for weed control is provided in Table 4-11.

Table 4-10. Herbicide Programs for Palmer Amaranth Control in Peanuts[1]

Preplant incorporated	Preemergence	Cracking or early postemergence[2] (Palmer < 2 in.)	Postemergence[3,4] (Palmer < 3 in.)	Postemergence[5] (Palmer >10 in.)
Prowl[6] or Sonalan + Dual Magnum[7] or Outlook or Warrant		Paraquat, Paraquat + Basagran, or Paraquat + Storm	Cobra, Storm, or Ultra Blazer + 2,4-DB	2,4-DB followed by 2,4-DB or Gramoxone SL applied using a roller/wiper system
Prowl[6] or Sonalan		Dual Magnum[7] + Paraquat + Basagran or Outlook + Paraquat + Basagran or Warrant + Paraquat + Basagran or Zidua + Paraquat + Basagran or Anthem Flex + Paraquat + Basagran		
Prowl[6] or Sonalan	Valor SX			
Prowl[6] or Sonalan	Strongarm[8]			
	Valor SX + Dual Magnum[7] or Valor SX+ Outlook or Valor SX+ Warrant			
	Strongarm[8] + Dual Magnum[7] or Strongarm + Outlook or Valor SX+ Warrant			

[1] Glyphosate- and ALS-resistant Palmer amaranth are very serious concerns. An aggressive management program is necessary to slow the spread of the resistant biotypes and to reduce selection pressure in areas currently not infested with resistant biotypes. Good control in peanuts rotated with cotton will aid control in cotton.

[2] Apply cracking or early postemergence treatment only if weeds are emerged.

[3] Timing of application is critical. Cobra, Storm, or Ultra Blazer plus 2,4-DB will control Palmer amaranth 3 inches tall or less. Weeds taller than 3 inches will only be suppressed. Anthem Flex, Dual Magnum, Outlook, Warrant, and Zidua can be applied with these herbicides for residual control.

[4] Cadre or Pursuit may be included with Cobra, Storm, or Ultra Blazer. Cadre and Pursuit are ALS inhibitors. Because of concerns with weed resistance to ALS inhibitors, a mixture of Cobra, Storm, or Ultra Blazer with Cadre or Pursuit would be preferred over Cadre or Pursuit alone. However, Cadre and Pursuit have rotational restrictions for cotton.

[5] Sequential applications of 2,4-DB will suppress Palmer amaranth approximately 50%. Gramoxone applied using a roller/wiper applicator will control large Palmer amaranth if 65% or more of the Palmer amaranth plant is wiped. Do not allow Gramoxone to contact peanut foliage.

[6] Generic brands of pendimethalin (Prowl) are available and perform similarly.

[7] Generic brands of metolachlor are available. However, these products may not provide the same length of residual control as Dual Magnum (which contains *S*-metolachlor).

[8] Strongarm is an ALS inhibitor. Because of concerns with weed resistance to ALS inhibitors, Strongarm is suggested only when other non-ALS options are not adequate for the weeds expected.

Table 4-11. General Recommendations on Herbicides to Use in a Comprehensive Weed Management Program for Peanuts

Herbicide	Timing	Should these herbicides be used?
Prowl or Sonalan	Preplant incorporated	**Yes.** These herbicides are relatively inexpensive and provide early season control of grasses and small-seeded broadleaf weeds. Although Prowl can be applied preemergence, it is generally more effective incorporated. Sonalan always needs to be incorporated. These herbicides are an important part of a comprehensive weed management strategy and should always be applied.
Dual Magnum (various formulations), Outlook, or Warrant	Preplant incorporated or preemergence	**Yes.** These herbicides are important in suppressing yellow nutsedge, especially Dual Magnum, and provide control of small-seeded broadleaf weeds including pigweeds. While these herbicides do not control weeds for the entire season, they provide good early-season control and are an important foundation of a comprehensive weed management strategy for peanuts.
Valor SX (various formulations) or Strongarm	Preemergence	**Yes.** Under current situations with increased prevalence of Palmer amaranth and traditional broadleaf weeds such as eclipta, common ragweed, and common lambsquarters, one of these two herbicides is needed in a comprehensive weed management strategy for peanuts. Valor SX provides excellent rotation options for crops grown the following season, while Strongarm will carry over to corn and grain sorghum, and there is some concern about carryover to cotton on some soils. Weeds present, especially Palmer amaranth, that express resistance to Strongarm keep this herbicide from being a complete answer in some fields. Although Valor SX is effective early in the season, the rate used in peanut (2 oz/acre) generally does not control morningglories and will not control other weeds season-long every year.
Paraquat plus Basagran plus Anthem Flex, Dual Magnum (various formulations), Outlook, Warrant, or Zidua	At cracking or early postemergence	**Yes.** Given that Palmer amaranth is present in many fields and that preplant incorporated and preemergence herbicides often are incomplete in control due to weather conditions or poor incorporation, this treatment (paraquat, with Gramoxone SL being the most prevalent commercial product) can often clean up fields when applied on time, taking pressure off of other postemergence options. Basagaran reduces injury from paraquat. In fields with known histories of Palmer amaranth and other problematic weeds, applying Anthem Flex, Dual Magnum, Outlook, Warrant, or Zidua with paraquat plus Basagran will improve early-season weed control. Apply paraquat early in the season, no later than 28 days after peanuts emerge, but preferably within the first three weeks. Anthem Flex causes more injury than other residual herbicides, but injury is transient and research data indicate that it does not adversely affect peanut yield. These herbicides do not control emerged weeds (with the exception of Anthem Flex, which controls morningglory), but they do provide residual control. In general, Palmer amaranth and common ragweed, two of our most problematic broadleaf weeds, are controlled similarly by these herbicides. Texas panicum suppression is greater with Anthem Flex, Dual Magnum, and Zidua than with Outlook or Warrant.

Table 4-11. General Recommendations on Herbicides to Use in a Comprehensive Weed Management Program for Peanuts (continued)

Herbicide	Timing	Should these herbicides be used?
Cobra, Ultra Blazer, Storm, Basagran	Postemergence	**Most likely.** These herbicides should be applied as needed. In fact, many if not most peanut fields will need at least one application of these herbicides. Weed size has a major impact on the degree of control obtained with these herbicides. If weeds exceed 3 inches, control is often incomplete. When preplant incorporated or preemergence herbicides are not applied or are marginally effective, growers often have to apply repeat applications of these herbicides (Cobra, Storm, Ultra Blazer). Multiple applications in some cases can negatively affect peanut yield. For this reason growers are encouraged to have a comprehensive program of preplant incorporated and preemergence herbicides and apply paraquat plus Basagran to take the pressure off of Cobra, Storm, and Ultra Blazer. Note that Storm does not contain sufficient Ultra Blazer to control Palmer amaranth and other weeds in most cases, so adding additional Ultra Blazer to Storm is recommended in some circumstances. Residual herbicides can be added to improve control. (see comments under Paraquat plus Basagran)
Postemergence grass herbicides (clethodim and sethoxydim are active ingredients in these herbicides)	Postemergence	**Most likely.** Preplant incorporated and preemergence herbicides often control annual grasses through midseason and sometimes late into the season. However, many fields need a postemergence application of sethoxydim (several formulations) or clethodim (several formulations). These herbicides should be applied as needed because grasses often cause peanut pod loss during the digging process.
Cadre, Pursuit	Postemergence	**In many cases.** Pursuit is used much less often now than in previous years. Cadre (also formulated as Impose) is a very good herbicide that controls yellow and purple nutsedge, annual grasses in many cases, and a range of broadleaf weeds. The challenge with Cadre is presence of resistant Palmer amaranth and carryover potential to cotton and grain sorghum. Cadre continues to be a good option for peanut growers as long as they realize carryover potential and know whether or not resistance to this herbicide is present in certain fields. Residual herbicides can be added to improve control.
2,4-DB	Postemergence	**Yes.** The broadleaf herbicides mentioned above, with the exception of paraquat, benefit from the addition of 2,4-DB. For example, when Palmer amaranth is slightly larger than the size recommended for complete control by Cobra, Ultra Blazer, or Storm, the inclusion of 2,4-DB can help obtain complete control. 2,4-DB is often effective when applied alone, but this is very species dependent. For example, common cocklebur can be controlled completely by 2,4-DB. 2,4-DB is also a viable option for suppression of escapes of sicklepod and Palmer amaranth when applied sequentially.

MANAGING ALLIGATORWEED AND DOGFENNEL

Alligatorweed and dogfennel are not widespread in peanut fields across North Carolina, but they can be problematic in fields where they are present. Residual herbicides applied at planting and the postemergence herbicides Gramoxone, Basagran, Cobra, Storm, Ultra Blazer, and 2,4-DB do not control alligatorweed. Cadre or Impose can suppress alligatorweed, but control is incomplete. Growers are encouraged to control alligatorweed as effectively as possible in crops rotated with peanuts to reduce populations.

Dogfennel is also problematic in peanut fields, especially in reduced tillage systems. However, this weed can also emerge in the peanut crop in conventional tillage systems. There are no residual herbicides applied at planting that control this weed completely. Postemergence herbicides labeled for peanuts do not control this weed, with the exception of Strongarm applied at the cracking stage of peanuts. Strongarm provides about 50 percent control at best when applied at cracking. It is important to prevent populations of dogfennel from building up in the previous crop and to include multiple applications of glyphosate and paraquat in the spring prior to planting peanuts to minimize the impact of this weed.