

WEEDS	TIME OF APPLICATION	HERBICIDE(S) * USE LABEL RATE	MODE OF ACTION	COMMENTS
Annual grasses and broadleaf weeds	Preemergence	Alion (indaziflam) 0.045-0.85 lb/ai/A	29	Age Restriction: Trees must be established at least three years. Apply to dry soil followed by 48 hours without irrigation or rainfall and then adequate moisture within 21 days prior to germination. Avoid direct or indirect spray contact with crop foliage, green bark, roots, or fruit. Allow at least 90 days between applications. Do not apply within 25 feet of ponds, rivers, streams, or wetlands. Spot spraying is not allowed. PHI=14 days.
Annual and perennial grasses & broadleaves	Preemergence	Casoron 4G (dichlobenil) 4-6 lbs ai/A	20	Apple only. Apply from Nov 15 to Feb 15 as a soil surface application. No need to remove old weed growth. May be incorporated in late fall or early spring before May 1 and incorporated immediately. For annuals, apply in early spring after cultivation before weeds emerge. Rain or irrigation is needed for activation. Shallow incorporation is recommended. Apply 4 weeks after transplanting when soil has completely settled.
Annual and perennial grasses & broadleaves		Casoron CS (dichlobenil) 1.98-3.92 lbs ai/A	20	Apple only. Apply in early spring before weeds germinate or after cultivation and incorporate thoroughly. Do not apply to new plantings less than one year old.
Annual broadleaves and suppression of perennials	Preemergence Postemergence	Chateau SW (flumioxamin) 0.188-0.38 lb ai/A Other names: Tuscany Flumi51	14	Age Restriction: Do not apply to trees established less than 1 year unless protected from spray contact by non-porous wraps. Do not apply after bud break on apples and peaches. Do not apply to fine textured soils. Do not make more than two applications in a growing season or a sequential application within 30 days of first application. Do not apply when plants are under stress. Do not incorporate. Do not allow drift to contact foliage or green bark. Maximum is 24 oz per season. PHI- 60 days.
Annual grasses and broadleaves	Preemergence	Devrinol DF-XT (napropamide) 4 lbs ai/A	15	Pecans only. Apply to weed free soil surface. May be applied to newly planted pecan. Do not allow spray to contact fruit or foliage. Do not apply within 50 days of harvest. Do not graze. If no rainfall within 24 hours, cultivate or irrigate 1 inch to activate. Pecans only.
Broadleaf weeds	Preemergence	Gallery 75DF (isoxaben) 0.5-1.0 lb ai/A	21	Non-bearing only. May only be used on crops that will not be harvested within one year of application. Apply before germination of broadleaf weeds or immediately after cultivation. Can be tank mixed with Surflan to control grasses. Do not apply to newly transplanted trees until rainfall settles soil.
Annual broadleaves	Preemergence Postemergence	Goal 2XL (oxyfluorfen) 0.5-2 lbs ai/A Other names: Goaltender Galigan, Collide	14	Dormant application. Effective as preemergence or postemergence as directed spray on weeds larger than 4 inches. Do not apply after bud swell until harvest completion. Can be mixed with other pre- or post-emergent herbicides. Maximum rate is 8 pt per year. Do not graze.
Annual grasses and broadleaves	Preemergence Postemergence	Karmex (diuron 80%) 1.6-3.2 lbs ai/A Other names: Diuron	7	Age Restriction: Use as a single application directed spray in the spring under trees established one year or more for apples or three years or more for peaches and pecans. Apply to a clean soil before the weeds germinate. Do not apply topsoils with less than 1/2 percent organic matter for pecans or 1 percent for peaches and apples. Do not treat apple cultivars grafted on full-dwarfing rootstocks. Do not use Karmex within 20 days of harvest on peaches or Diuron within 3 months of harvest on peaches. Avoid contact with fruit or foliage. Do not graze. Do not use where subsoil or roots are exposed.
Winter annual grass and broadleaf weeds, some perennials	Preemergence Postemergence	Kerb SC ^r (pronamide) 1-4 lbs ai/A	3	Apples and peaches only. Apply in late fall after the fruit is harvested but prior to leaf drop and soil freeze up. Age Restriction: Do not apply to trees less than one year old or within six months of spring transplanting or within one year of fall transplanting. See label. Do not graze or feed forage.

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Annual grasses and broadleaf weeds	Preemergence	Matrix FNV (rimsulfuron) 0.0625 lb ai/A Other names: Solida, Grapple, Pruvlin,	2	Age Restriction. Apply only to crops that have been established for one full year and in good health. Weeds are controlled for 60 -90 days after application. Matrix will burn down small actively growing weeds less than 1 inch in height. Avoid direct or indirect contact with crop foliage or fruit, except undesirable suckers. pH solution must be between 4.0 – 8.0. Best results are obtained when the soil is moist at the time of application and ½ inch of rainfall or sprinkler irrigation occurs within 2 weeks of application. PHI=7 days for apple & 14 for peach & pecan.
Annual grasses and broadleaf weeds	Preemergence Postemergence	Pindar GT (penoxslam & oxyfluorfen) See label for rates	(2, 14)	Pecan label only – do not apply to pecan established less than 9 months. Direct sprays to the soil and base of dormant trees. Avoid direct plant contact. Use trunk guards to protect plants until adequate mature bark has developed. Only use on trees in good health and vigor. Make applications after harvest up to budbreak in pecans.
Annual grasses and broadleaf weeds	Preemergence	Princep Caliber 90 (simazine) 1.6-3.96 lbs ai/A Other names: Simazine 4L, Sim-trol	5	One application per year. Age Restriction: Use as a directed spray in the spring to orchards established one or more years for apple and peach; two years for pecan. Do not graze or apply when pecans on ground. Do not apply within 150 days of harvest on apple. Apply before weeds germinate, or tank mix with paraquat to kill germinated weeds. Do not use on gravelly, sand or loamy sand soils. Avoid contact with fruit, foliage, or stems.
Annual grasses and some broadleaf	Preemergence	Prowl 3.3 EC (pendimethalin) 1.98-3.96 lbs ai/A	3	Non-bearing only. May only be used on crops that will not be harvested within one year of application. Apply directly to ground under trees. Can be used on newly transplanted trees after ground has settled. Do not apply within one year of harvest. Rate determines duration of control. Do not graze or feed forage. Do not apply on top of tree leaves or buds.
Annual grasses and some broadleaves	Preemergence	Prowl H20 (pendimethalin) 1.9-5.9 lbs ai/A Other names: Satellite Hydrocap, Aquapen 3.8, Stealth	3	Apply to ground as a single application or after 30 day interval not to exceed 4.3 qts in peach and apple or 6.3 qts in pecan. Do not allow contact with leaves, shoots, or buds. Do not graze or feed forage. Consult label for additional application methods. PHI= 60 days.
Annual grasses and broadleaf weeds	Preemergence	Sinbar WDG (terbacil) Consult label	5	No pecan label. Rates are based on tree age and soil type. Please consult label for directions. May be used on newly planted apple and peach trees when soil is settled around base at lower rates. Higher rates require trees to be established for 3 years. Do not contact foliage or fruit with drift. PHI- 60 days.
Annual grasses and certain broadleaf weeds	Preemergence	Snapshot 2.5TG (isoxaben+trifluralin) 2.5-5 lbs ai/A	3, 21	Non-bearing only. May only be used on crops that will not be harvested within one year of application. Not effective on germinated weeds.
Annual grasses and broadleaf weeds	Preemergence	Solicam DF (norflurazon) 1.97-3.93 lbs ai/A	12	Directed spray in late fall to early spring prior to weed emergence or tank mix with paraquat to control germinated weeds. May be used in newly planted apple orchards. Age Restriction: Pecan and peach trees must be established at least 18 months before use. Avoid contact with fruit or foliage. Do not apply when nuts or fruit are on the ground at harvest or within 60 days of harvest. Must have rainfall or irrigation within 4 weeks of application.
Annual grasses and broadleaf weeds	Preemergence	Surflan AS Agricultural (oryzalin) 2-6 lbs ai/A Other names: Fugitive,	3	Work all trash and established weeds into the soil before applying Surflan. Apply the spray directly to the ground prior to weed emergence or tank mix with paraquat to kill germinated weeds. Do not graze or feed forage. MAY BE USED IN NEWLY PLANTED ORCHARDS. Requires rainfall.

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Annual grasses and broadleaf weeds	Preemergence	Treflan HFP 4EC (trifluralin) 0.5-2 lbs ai/A Other names: Trifluralin, Trust	3	No apple label. Apply and incorporate prior to planting, or after establishment apply as a soil directed spray before weeds germinate. Rate depends on soil texture and amount of rainfall.
Broadleaf weeds	Postemergence	Aim (carfentrazone) 0.031 lb ai/A	14	Apply anytime during the season. Always add non-ionic surfactant or crop oil. Mix with glyphosate or gramoxone for broader weed control. Minimum 14 days between applications. PHI=3 days. Can be used for sucker control. Do not allow spray to contact fruit, foliage or green bark. Trees less than 2 years old should be wrapped or protected before application.
Annual and perennial grasses	Postemergence	Fusilade DX (fluazifop-butyl) 0.094-0.375 lb ai/A	1	For nonbearing apples. May only be used on crops that will not be harvested within one year of application. Peaches can be treated up to 14 days before harvest and pecans up to 30 days before harvest. No grazing. Apply as directed spray with crop oil or non-ionic surfactant. Two applications generally required for control of perennial grasses.
Annual grass and broadleaf weeds, suppression of perennials	Postemergence	Gramoxone Inteon ^r (paraquat) **New training requirements 0.625-1 lb ai/A Other names: Devour, Quik-quat, Paraquat 3SL, Parazone 3SL	22	Use as directed spray with a nonionic surfactant to kill small emerged weeds. Read the label first for special precautions when using this compound. Up to three retreatments may be used in peach and 5 in apple and pecan. May be used as burn down with certain approved preemergents. Avoid contact with green tree stems, fruit, or foliage. Do not apply when nuts are on the ground or within 14 days of harvest on peaches. Do not graze. Restricted Use Pesticide.
Annual and perennial grasses	Postemergence	Poast (sethoxydim) 0.18-0.47 lb ai/A	1	Not within 14 days of harvest for apple or 15 days for pecan and 25 days for peach. Apply as directed spray with crop oil. Two applications generally required for control of perennial grasses. Do not graze.
Annual grasses and broadleaf weeds. Suppression of perennials	Postemergence	Rely 280 (glufosinate) 0.99-1.5 lbs ai/A Other names: Cheetah, Reckon 280L, Surmise, Refer 280SL and many more	10	Only trunks with mature brown bark should be sprayed unless protected from spray contact by non-porous wraps, grow tubes, or waxed containers. Not within 14 days of harvest. Do not graze or hay. Directed spray. Avoid contact with desirable vegetation. Controls suckers on mature trees. Retreatment required to control perennials. Label specifies tank mixes. Label specifies time between sprays and maximum allowed.
Annual and perennial weeds	Postemergence	Roundup (glyphosate) 0.39-3.7 lbs ai/A Other names: Showdown, Buccaneer 5 Extra, Cornerstone Envy, Duramax, Durango, many more	9	Rate and time of application vary so consult the label. Avoid contact with foliage or green bark in apples and pecans. Age Restriction. Peaches must be planted a minimum of 2 years and then avoid contact with any part of the tree in peaches. Shielded boom sprayer or wiper application is advisable. The addition of 2% dry ammonium sulfate by weight or 17 lbs per 100 gal of water may increase performance. Preharvest interval pecan 3 days; peach 17 days; apple 1 day. See label.
Annuals and suppression of perennials	Postemergence	Scythe (pelargonic acid) 4.2 lb ai/A at 3 - 10% spray mix	27	For contact non-selective control or burndown of a broad spectrum of actively growing weeds. Use low rate for annual weed control and high rates for maximum vegetative burndown. Use as a directed or shielded spray.
Annual and perennial grasses	Postemergence	Stinger (clopyralid) 0.125-0.25 lbs ai/A	4	No pecan label. Make one or two applications per crop year. Avoid direct contact with foliage, fruit or tree trunks. Do not apply during bloom. PHI-30 days.

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Broadleaf weeds	Postemergence	Weedar 64 (dimethylamine salt of 2, 4-D) 1.42 lbs ai/A Other names: Saber, Savage, Unison	4	Study label carefully for proper application methods and weather conditions. Age Restriction. Trees must be established for at least one year. Preharvest interval pecan 60 days; peach 40 days; apple 14 days. Do not graze or feed cover crops. Do not cut orchard floor forage for hay within 7 days of application.
Broadleaf weeds	Postemergence	Embed (2, 4-D choline) 0.425 - 1.7 lbs ai/a	4	Apply when weeds are actively growing. Use low pressure to avoid drift. Use lower rates on small susceptible weeds, higher rates on perennial weeds. Age Restriction. Trees established one year and in good condition. PHI - apple: 14; peach: 40; pecan: 60 days. Do not cut for hay within 7 days. Do not allow to contact foliage, fruit, stems or trunk. Do not apply during bloom.

* Read and follow label directions, precautions and limitations. If label information contradicts information presented here, the label information takes precedence. Most herbicides have grazing restrictions and should not be used in pecan orchards that will be grazed. In general, any herbicide may be legally used in a tank mix, as long as the timing, rates, soil conditions, etc. do not violate the label instructions for each of the materials in the tank mix. However, the user assumes all risks associated with tank mixes not specifically mentioned on the labels for the materials in the mix. It is advisable to check the compatibility of materials before application. Other brand names of several listed materials are available.

** Paraquat dichloride training for certified applicators: <https://www.epa.gov/pesticide-worker-safety/paraquat-dichloride-training-certified-applicators>

The following publications may be useful in planning a weed control program:

PSS-2750 Guide to Effective Weed Control