Weed Management in Bean and Pea (Bush, Pole, Lima Bean, English Pea, and Southern Pea)[1]

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Weeds are a major problem in bean and pea production in Florida. Weeds can reduce yields through direct competition for light, moisture, and nutrients, as well as harbor insects and diseases that attack these crops. Early season weed control is extremely important, and a major emphasis on control should be made during this period. Weeds present at harvest reduce harvest efficiency and increase mechanical damage to the pods.

Beans or peas are planted year-round in Florida. Variable climatic conditions and soil types influence the severity and diversity of weed species. Growers should plan a total weed control program that integrates chemical, mechanical, and cultural methods to fit their weed problems and production practices.

Herbicide performance depends on weather, irrigation, soil type and proper product selection for weed species to be controlled, and accurate applications and timing. Obtain consistent results by reading the herbicide label and other information about proper application and timing.

There has been some confusion about the labeling of certain beans and peas. The southern pea is a *Vigna* species. *Vigna* species are considered beans. Therefore, if the term "beans" appears on the label, the material may be applied to both *Phasealus* and *Vigna* species. These include snap beans, lima beans, and southern peas. If a label states "green beans," it may only be applied to green-colored beans, while the term "snap bean" may also be applied to the wax types. "Peas" do not include the southern pea, but they do include English peas and pigeon peas. Make sure you read the label carefully for each commodity.

When applying an herbicide for the first time in a new area, use on a small trial basis first.

Before applying an herbicide, carefully **read** and **follow the label.**

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Table 1. Preemergence chemical weed control in bean and pea

Common name lb. a.i./A	Trade name amount of product/A	MOA code	Crops	Weeds controlled/remarks
Carfentrazone Up to 0.031	(Aim®) 2 EC Up to 2 fl. oz. Mineral and muck soil	14	Bean (all), pea (all)	Apply as a preplant burndown for emerged broadleaf weeds. Use crop oil concentrate, methylated seed oil, or nonionic surfactant at recommended rates. Maximum rate of 0.096 lb. a.i./A per season. No pretransplant interval.
EPTC 2–4	(Eptam®) 7 E 2.25–4.5 pt.	8	Bean (green, dry)	Broadleaf and nutsedge weeds. Incorporate in the same operation to reduce volatilization. Do not exceed 9 pt./A per crop.
Fomesafen 0.25–0.38	(Reflex®) 2 EC 1.0–1.5 pt.	14	Bean (dry, snap)	Annual broadleaf and grass weeds and nutsedge. Not for use in Miami-Dade County. Do not apply more than 1.5 pt./A per year.
Glyphosate	(Various formulations) Consult label	9	Bean (all), pea (all)	Emerged broadleaf and grass weeds. Consult individual labels for restrictions.
Halosulfuron 0.02	(Sandea®) 75 DF 0.5 oz.	2	Bean (blackeyed, cowpea, southern pea)	Broadleaf weeds and nutsedge. Apply after planting but before crop emergence. May cause significant, temporary stunting and delay maturity of peas, resulting in delayed harvest.
Imazethapyr 0.14	(Pursuit®) 2 L 1.5 oz.	2	Bean (snap)	Only one application per year. Preplant incorporate within 1 week of planting or preemergence application within 1 day after planting. PHI 30 days.
Imazethapyr 0.14	(Pursuit®) 2 L 3.0 oz.	2	Bean (dry, lima), bean (southern pea, cowpea), pea (dry, English), chickpea	Only one application per year. Preplant incorporate within 1 week of planting or preemergence application within 1 day after planting. Can apply up to 4 oz./A to southern pea only. Consult label for preharvest interval.
S-metolachlor 0.95–1.27	(Brawl™, Dual Magnum®) 7.62 EC 1.0–1.33 pt.	15	Bean (lima, mung, pinto, snap), bean (southern pea), pea (English)	Annual broadleaf and grass weeds and suppression purple/yellow nutsedge. Consult label for rate based on soil type and specific tank-mix directions.
Paraquat 0.5–1.0	(Gramoxone ® SL) 2 SL 2–4 pt. (Firestorm®) 3 SL 1.3–2.7 pt.	2	Bean (lima, snap), pea (all)	Emerged weeds. Apply prior, during, or after planting but before crop emerges. Only three applications a season. Use a nonionic surfactant.
Pelargonic acid	(Scythe®) 4.2 EC 3%–10%	27	Bean (all), pea (all)	Emerged weeds. Apply before crop emergence. Product is a contact, nonselective, foliar-applied herbicide. There is no residual activity.
Pendimethalin 0.5–0.75	(Prowl®) 3.3 EC 1.2–1.8 pt. (Prowl® H_2O) 3.8 1.0–1.5 pt.	3	Bean (dry, lima, snap, garbanzo), bean (southern pea, cowpea), chickpea	Annual broadleaf and grass weeds. Incorporate 1–2 inches deep within 7 days of application.
Pyraflufen 0.0008–0.003	(ET® Herbicide/Defoliant) 0.5–2.0 fl. oz.	14	Bean (all), pea (all)	Emerged broadleaf and grass weeds. Plant 1 day after application. Apply as a preplant burndown treatment.
Saflufenacil 0.027	(Sharpen®) 3.42 SL 1.0 fl. oz.	14	Bean (garbanzo), bean (dry, chickpea)	Broadleaf weeds. Apply as a preplant/ preemergence burndown. Sequential application can be applied with 14 days between timings. Do not apply more than 2 fl. oz./A per season.
Sulfentrazone 0.07-0.12	(Willowwood sulfentrazone) 4SC 2.25-3.75 fl. oz.		Bean and pea (dry shelled)	Annual broadleaf and grass control. Nutsedge suppression. Do not apply on sands with less than 1% organic matter. Do not apply more than 8 fl. oz./A within a 12 mo. period. Should be trialed on a small area to find suitable rate for the soil type in your area.

Common name lb. a.i./A	Trade name amount of product/A	MOA code	Crops	Weeds controlled/remarks
Sulfentrazone 0.07-0.12	(Willowwood sulfentrazone) 4SC 2.25-3.75 fl. oz.		Succulent pea	Annual broadleaf and grass control. Nutsedge suppression. Do not apply on sands with less than 1% organic matter. Do not apply more than 8 fl. oz./A within a 12 mo. period. Should be trialed on a small area to find suitable rate for the soil type in your area.
Trifluralin 0.5–0.75	(Treflan®, Trust®) 4 EC 1.0–1.5 pt. (Treflan®, Trifluarlin) 10 G 5–7.5 lb.	3	Bean (lima, mung, guar, snap), bean (southern pea), pea (dry, English)	Annual broadleaf and grass weeds. Incorporate 4 inches or less within 8 hours. Results in Florida are erratic on soils with low organic matter and clay content. Consult label for rotation restrictions.

Table 2. Herbicides applied after crop emergence for weed control in pea and bean.

Common name lb. a.i. / A	Trade name Amount of product / A	MOA code	Crops	Weeds controlled/remarks
Bentazon 0.5–1.0	(Basagran®) 4 L 1.0–2.0 pt.	6	Bean (dry, succulent), bean (southern pea), pea (garden and English)	Broadleaf weeds. Apply after the first trifoliate leaf is fully expanded in bean and three pairs of leaves in pea. Yellowing, bronzing, speckling, or leaf burning may occur under certain conditions. This injury is generally outgrown without delaying pod set or maturity. PHI 30 days.
Carfentrazone Up to 0.031	(Aim®) 2 EC, 1.9 EW Up to 2 fl. oz. Mineral and muck soil	14	Bean (all), pea (all)	Emerged broadleaf control. Postdirect hooded application to row middles for burndown of emerged broadleaf weeds. Include crop oil concentrate (COC) or nonionic surfactant (NIS) at recommended rates. PHI 0 days.
Clethodim 0.094–0.25 0.07–0.25	(Arrow®) 2 EC 6–16 fl. oz. (Select Max®) 1 EC 9–32 fl. oz.	1	Bean (dry), pea (dry)	Annual and perennial grass control. Consult label for bean and pea types. PHI 30 days.
Clethodim 0.094–0.125 0.07–0.125	(Arrow®) 2 EC 6–8 fl. oz. (Select Max®) 1 EC 9–16 fl. oz.	1	Bean (succulent), pea (succulent)	Annual and perennial grass control. Consult label for bean types. PHI 21 days.
EPTC 3.1–4	(Eptam®) 7 E 3.5–4.5 pt.	8	Bean (green, dry)	Broadleaf and nutsedge weeds. Apply as layby treatment during the last cultivation of the season. Direct spray solution to the base of the crop. Do not exceed 9 pt./A per crop.
Fluazifop 0.188–0.376	(Fusilade® DX) 12–24 fl. oz.	1	Bean (dry)	Annual and perennial grass weeds. Do not apply to cowpea. Do not apply more than 48 fl. oz./A per season. Include a COC or NIS in the spray solution. PHI 60 days.
Fomesafen 0.25–0.38	(Reflex®) 2 EC 1.0–1.5 pt.	14	Bean (dry, snap)	Annual broadleaf and grass weeds and nutsedge. Not for use in Miami-Dade County. Consult label for rate based on size of specific weed species. Some bronzing, crinkling, or spotting may occur, but the crop will outgrow these effects and develop normally. Do not apply more than 1.5 pt./A per year.
Halosulfuron 0.02–0.05	(Sandea®) 75 DF 0.5–1.0 oz.	2	Bean (dry, snap, lima)	Broadleaf weeds and nutsedge. Row middles only. Avoid contact with planted crop. If crop grown on plastic, keep the application off the plastic. Do not apply more than 1 oz./A per crop.
Halosulfuron 0.02–0.03	(Sandea®) 75 DF 0.5–0.66 oz.	2	Bean (snap, lima)	Broadleaf weeds and nutsedge. Directed sprays. Apply after the two to four trifoliate leaf stage but before flowering.

Common name lb. a.i. / A	Trade name Amount of product / A	MOA code	Crops	Weeds controlled/remarks
Imazethapyr 0.14	(Pursuit®) 2 L 3.0 oz.	2	Bean (dry), bean (southern pea), pea (dry, English)	Do not apply before bean has at least one trifoliate leaf. Apply to peas at least 3 inches in height but prior to the fifth node and before flowering. Consult label for preharvest intervals.
Pelargonic acid	(Scythe®) 4.2 EC 3%–10%	27	Bean (all), pea (all)	Emerged weeds. Row middles only. Use a shielded sprayer directed to the row middles to reduce drift to the crop.
Quizalofop 0.04–0.08	(Assure® II) 6–12 fl. oz.	1	Bean (snap, dry), pea (succulent, dry)	Annual and perennial grass weeds. Allow 7 days between sequential applications to allow for regrowth. Include a COC or NIS in the spray solution. PHI 30 days for succulent pea and dry bean. PHI 60 days for dry pea.
Sethoxydim 0.19–0.47	(Poast®) 1.5 EC 1.0–2.5 pt.	1	Bean (dry, succulent), pea (dry, succulent)	Growing grass weeds. Decreased efficacy if weeds are under stress. Do not exceed 4.0 pt./A per season. Include a COC in the spray solution. PHI 30 days for dry bean and dry pea. PHI 15 days for succulent bean and succulent pea.

Table 3. Harvest aids in bean and pea

Common name lb. a.i. / A	Trade name Amount of product / A	Crops	Weeds controlled / remarks
Flumioxazin Up to 0.1	(Valor®) 51 SX Up to 3 oz.	Bean (dry)	Do not apply more than 3 oz./A during a single growing season. Include a COC or methylated seed oil in the spray solution. Preharvest interval (PHI) 5 days.
Paraquat 0.3–0.5	(Gramoxone SL®) 2 SL 1.2–2.0 pt. (Firestorm®) 3 SL 0.8–1.3 pt.	Bean (dry), pea (dry)	Apply as a split application of 2 pt./A to increase vine coverage. Add a nonionic surfactant (NIS) to the spray solution. PHI 7 days.
Sodium chlorate 6.0	(Defol® 6) 1 gal.	Bean (dry, guar), bean (southern)	Apply 7–10 days before harvest, maybe longer if cooler temperatures are expected. Thorough coverage is essential.