

Weed Management in Sweet Potato¹

Peter Dittmar and Nathan S. Boyd²

Sweet potatoes are a long-season crop. Weed control during production can be difficult. Early-season competition from weeds is extremely critical. A major emphasis on control should be made during this period. Growers must plan a total weed control program that integrates mechanical and cultural methods with the use of herbicides.

At the present time, there are only four herbicides that provide preemergence control of weeds in sweet potato. Cultivation is also an effective way to manage weeds early in the season. Rolling cultivators either by themselves or behind hilling blades can uproot many annual weeds that have escaped the herbicide or have emerged since the last cultivation. Cultivation and hilling, while useful, disrupt the efficacy of soil-applied herbicides. Fusilade® may be applied at any time until 55 days of harvest, and Poast® or Select® may be applied up to 30 days of harvest to control emerged grass weeds. These herbicides do not provide preemergence control.

Herbicide performance depends on weather, irrigation, soil type, proper selection for weed species to be controlled, and accurate application and timing (Tables 1 and 2).



Figure 1. Palmer amaranth in sweet potato.
Credits: Peter Dittmar

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2. Peter Dittmar, assistant professor; and Nathan S. Boyd, Horticultural Sciences Department, UF/IFAS Extension, Gainesville, FL 32611.

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Table 1. Pretransplant chemical weed control in sweet potato.

| Active Ingredient lb. a.i./A | (Trade name) amount of product/A | MOA code | Weeds controlled/remarks |
|---------------------------------|---|-------------|--|
| Carfentrazone Up to 0.031 | (Aim®) 2 EC or 1.9 EW Up to 2 fl. oz. | 14 | Apply as a preplant burndown for emerged broadleaf weeds. Use crop oil concentrate or nonionic surfactant at recommended rates. Maximum rate of 0.096 lb. a.i./A per season. No pretransplant interval. |
| Clomazone 0.49–0.75 | (Command®) 3 ME 1.3–2.0 pt. | 13 | Annual broadleaf and grass weeds. Use lower rates on coarse soils. Apply within 5 days of transplanting. |
| DCPA 4.5–6 | (Dacthal®) W-75 6–8 lb. (Dacthal®) 6 F 6–8 pt. | 3 | Annual broadleaf and grass weeds. Apply immediately after transplanting. May be applied as a layby later in the season for preemergence control. |
| Flumioxazin 0.096 | (Valor®) 51 WDG 3 oz. | 14 | Annual broadleaf weeds. Do not use transplants that were harvested 2 days before application. Severe injury occurs if applied after transplanting. Apply 2–5 days before transplant and minimize soil disturbance after application. |
| Glyphosate | (Various formulations) Consult label | 9 | Emerged broadleaf and grass weeds. Apply as a preplant burndown. Consult label for individual product directions. |
| Napropamide 1.0–2.0 | (Devrinol® DF-XT) 50 DF 2–4 lb. | 15 | Annual broadleaf and grass weeds. Apply immediately after transplanting. If rainfall does not occur within 24 hours after application, incorporate or irrigate 2–4 inches deep. |
| Pelargonic acid | (Scythe®) 4.2 EC 3–10% v/v | 27 | Emerged broadleaf and grass weeds. Apply as a preplant burndown treatment. Product is a contact, nonselective, foliar-applied herbicide with no residual control. May be tank mixed with soil residual compounds. |
| Pyraflufen 0.001–0.003 | (ET Herbicide) 0.208EC | 14 | Emerged broadleaf and grass weeds. Apply as a preplant burndown. |

Table 2. Posttransplant chemical weed control in sweet potato.

| Active Ingredient lb. a.i./A | (Trade name) amount of product/A | MOA code | Weeds controlled/remarks |
|-------------------------------------|--|-------------|--|
| Carfentrazone Up to 0.031 | (Aim®) 2 EC or 1.9 EW Up to 2 oz. | 14 | Emerged broadleaf weeds. Apply as hooded application to row middles only. Use crop oil concentrate (COC) or nonionic surfactant (NIS) at recommended rates. Contact with the leaves will cause injury. PHI 0 days. |
| Clethodim 0.09–0.25 0.07–0.25 | (Select®, Arrow®) 2 EC 6–16 fl. oz. (Select Max®) 1 EC 9–32 fl. oz. | 1 | Perennial and annual grass weeds. Use higher rates under heavy grass pressure or larger grass weeds. Do not apply more than 0.5 lb. a.i./A. Consult label for required adjuvant. PHI 30 days. |
| Fluazifop 0.1–0.25 | (Fusilade® DX) 2 EC 6–16 fl. oz. | 1 | Perennial and annual grass weeds. Include an NIS or COC in the spray solution. PHI 55 days. |
| Pelargonic acid | (Scythe®) 4.2 EC 3–10% v/v | 27 | Emerged broadleaf and grass weeds. Apply as a hooded application to row middles only. Contact with the leaves will cause injury. |
| S-metolachlor | (Dual Magnum) 7.62 EC | 15 | Grass, broadleaf, and nutsedge. Label is a Third-Party Registration (TPR, Inc.). Use without a signed authorization and waiver of liability is a misuse of the product. |
| Sethoxydim 0.19–0.47 | (Poast®) 1.5 EC 1.0–2.5 pt. | 1 | Grass weeds. Maximum use of 5.0 pt./A applied per season. Include a COC. Unsatisfactory results may occur if applied to grasses under stress. PHI 30 days. |