Table 21. Weed management in strawberries during the transplant and establishment years.

TRANSPLANT YEAR			
Weed Problem	**Herbicide**	**Rate/Acre**	**Comments and Limitations**
PREPLANT WEED CONTROL			
Many annual broadleaf weeds	(oxyflourfen) Goal 2XL	1 to 2 pt	Must be applied at least 30 days prior to transplanting. The soil must be worked to a depth of at least 2.5 inches prior to transplanting the crop. The use of a preemergence herbicide after transplanting is also recommended.
Emerged annual and perennial weeds	(glyphosate) Roundup Ultra	1 to 5 pt	Must be applied at least 30 days prior to transplanting. Provides control of most annual and perennial weeds. Application to perennial weeds should take place the fall prior to transplanting for best control.
PREEMERGENCE WEED CONTROL			
Annual grasses and small seeded broadleaf weeds	(DCPA) Dacthal W 75	8 to 12 lb	Weak on ragweed, smartweed, and galinsoga. Apply at transplanting or after cultivating. Irrigation, rainfall, or shallow cultivation after application will improve control. This product is no longer being manufactured.
	(napropamide) Devrinol 50 DF	2 to 4 lb	Apply to weed-free soil after strawberry plants become established. Heavy rate after planting may inhibit rooting of daughter plants. Application in late summer will control winter annuals. Application in late fall will control annual grasses and volunteer grains until harvest. This material must be activated with rainfall, irrigation, or shallow cultivation within 24 hrs. Consider using the 2 to 4 lb rate twice, once in late summer and again just prior to mulching in late fall.
Broadleaf weeds, some grasses, and some suppression of perennial weeds	(terbacil) Sinbar 80 WP	2 to 8 oz	The supplemental label for strawberries has been revised to allow use during the transplant year as well as on soils with between 0.5% and 2% organic matter. During the planting year, Sinbar may be applied at 2 to 3 ounces per acre after transplanting but before new runners start to root. If strawberry plants have developed any new foliage prior to application, irrigation or rainfall (0.5 to 1 inch) is required to wash the Sinbar off the strawberry plants. In late summer or early fall, a second application may be made at 2 to 6 ounces per acre to control winter annual weeds. This application must also be followed by 0.5 to 1 inch of irrigation or rainfall to was the Sinbar off the plants. A third application of 2 to 4 ounces per acrec can be made, as usual, after the strawberry plants are dormant and just prior to mulching. For soils with at least 2% organic matter, there is no maximum amount per application; however, no more than 8 ounces of Sinbar can be applied per year. For soils with between 1 and 2% organic matter, a maximum of 4 ounces of Sinbar can be applied at any one time with an annual maximum of 8 ounces per acre. For soils with between 0.5% and 1 % organic matter, a maximum of 3 ounces of Sinbar can be applied at any one time with an annual maxumum of 6 ounces per acre. Sinbar will also provide early postemergence control of weeds.

TRANSPLANT YEAR

Weed Problem	Herbicide	Rate/Acre	Comments and Limitations
POSTEMERGENCE WEED CONTROL			
Emerged annual grasses and broadleaf weeds. Suppression of emerged perennial weeds between rows after plant establishment	(paraquat) *Gramoxone Max	1.3 pt	Contact herbicide. Use with a non-ionic surfactant. Direct spray between rows using a shield to prevent contact with strawberry plants. Do not apply within 21 days before harvest or more than 3 times in a season.
Emerged annual and most perennial grasses	(sethoxydim) Poast	1 to 2.5 pt	Effective on small actively growing grasses. Do not apply to grasses under stress (e.g. drought). Add 1 qt of crop oil concentrate per acre. Application within 6 weeks of Sinbar may cause leaf injury. Applications on days that are unusually hot and humid will likely cause leaf burn. Avoid applications on these hot and humid days or delay application until late evening.
Emerged annual weeds and suppression of perennial weeds.	(pelargonic acid) Scythe	3-10% solution	Contact herbicidefor burn down only. See Scythe comments below this table. See label for complete instructions.

ESTABLISHED PLANTINGS

PREEMERGENCE WEED CONTROL			
Annual grasses and small seeded broadleaf weeds.	(DCPA) Dacthal W 75	8 to 12 lb	Weak on ragweed, smartweed, and galinsoga. Apply to weed-free soil in early spring after mulch removal or in late fall. Irrigation, rainfall, or shallow cultivation after application will improve control. Do not apply between first bloom and harvest. May be less effective on cool heavy soils.
	(napropamide) Devrinol 50 DF	4 to 8 lb	Apply to weed-free soil. Heavy rate after renovation may inhibit rooting of daughter plants. Application in late summer will provide preemergence control of winter annuals. Application prior to mulching will control annual grasses and volunteer grains until harvest. This material must be activated with rainfall, irrigation, or shallow cultivations within 24 hrs. May be applied more than once per year but do not exceed a total of 8 lbs per acre per year. Do not apply from bloom through harvest. Consider the 4 lb rate twice. Once in late summer and again just prior to mulching in late fall.
Broadleaf weeds, some grasses, and some suppression of perennial weeds.	(terbacil) Sinbar 80WP	2 to 8 oz	Will also provide early postemergence weed control. Apply at renovation, immediately after mowing and tilling but before new growth begins. A second application may be made in late fall, after strawberry plants become dormant, for additional control of winter annual weeds. DO NOT USE AT ANY OTHER TIMINGS AS PLANT DEATH MAY RESULT. Do not apply more than 6-8 oz of Sinbar per acre per growing season depending on soil type. Use only on plants established 6 months or longer. Do not use on soils with less than 0.5% organic matter. Following the establishment year, applications can only be made just after renovation and just prior to mulching. Applications are now allowed, however, on soils with between 0.5% and 2% organic matter using the same guidelines for rates as above. As always, be careful with Sinbar in strawberries, especially with potential overlap of sprayer passes which will double the rate and increase the potential for injury in some varieties. Please consult the new supplemental label for additional information, rates, precautions, etc.

Table 21 continued. Weed management in strawberries during the transplant and establishment years.

ESTABLISHED PLANTINGS			
Weed Problem	**Herbicide**	**Rate/Acre**	**Comments and Limitations**
POSTEMERGENCE WEED CONTROL			
Emerged annual grasses and broadleaf weeds. Suppression of emerged perennial weeds between rows.	(paraquat) *Gramoxone Max	1.3 pt	Contact herbicide. Use with a non-ionic surfactant. Direct spray between rows using a shield to prevent contact with strawberry plants. Do not apply within 21 days before harvest or more than 3 times in a season.
Emerged annual and most perennial grasses	(sethoxydim) Poast	1 to 2.5 pt	Effective on small actively growing grasses. Do not apply to grasses under stress (e.g., drought). Add 1 qt of crop oil concentrate per acre. Application within 6 weeks after Sinbar may cause leaf injury. Avoid applications on days that are unusually hot and humid. Do not apply within 7 days before harvest or use more than 2.5 pints per acre per season.
Most emerged broadleaf weeds including dandelion	(2,4-D) Amine 4	2 to 3 pt	Apply at renovation, immediately after last harvest. Wait 3 to 5 days before mowing. Can also be used in late fall after strawberries are dormant for control of certain winter annual and biennial, and perennial weeds. Be sure that strawberry plants are dormant (i.e., no new growth and reddened leaves).
Emerged annual weeds and suppression of perennial weeds.	(pelargonic acid) Scythe	3-10% solution	Contact material for burn down only. See Scythe comments below this table. See label for complete instructions.

†Where brand names for chemicals are used, it is for the reader's information. No endorsement is implied, nor is discrimination intended against products with similar ingredients. Please consult pesticide product labels for rates, application instructions and safety precautions. Users of these products assume all associated risks.

***Restricted use material; pesticide applicators license required.**

Scythe (pelargonic acid) Note: General - Scythe herbicide is part of EPA's reduced-risk pesticide strategy. Scythe is a contact, non-selective, broad spectrum, foliar-applied herbicide. It controls only actively growing emerged green vegetation. It provides burndown of both annual and perennial grass and broadleaf weeds as well as most mosses. The degree of burndown and the longevity of control is less when the weeds are inactive, mature, or biennial/perennial types. The herbicide is not translocated; it will burn only those plant parts that are coated with the spray solution. Visible effects on most weeds occur within hours. This product does not damage non-green, woody parts of plants. Cool weather following treatment may slow the activity of this herbicide and delay or reduce visual effects. The burndown activity is similar to that of Gramoxone Extra (paraquat). DO NOT contact desirable crop plants or damage will occur.

Crop application timing and registration - For most small fruit crops, applications can be made in a number of ways: Vegetative Burndown: General control of weeds for site preparation, non-crop, and around aquatic sites. Prior to Crop Emergence: Be sure that applications are made before crop emerges from soil or crop injury will occur. Directed and Shielded Sprays: Applications may be made in and around desirable plants as long as contact of foliage and green bark is avoided. Use of a shield is highly recommended. Sucker Control, Pruning, and Trimming: To burn back unwanted foliage growth on vines and excessive cane growth in brambles. Apply only to unwanted vegetative parts. Apply before suckers become woody. The current label for Scythe herbicide allows application in the following small fruit crops: blackberry, blueberry, boysenberry, cranberry, currant, dewberry, grape (all types), loganberry, raspberry, and strawberry.

Rates - Use a 3-5% solution for annual weeds (4-6 oz/gal water), a 5-7% solution for biennial and perennial weeds (6-9 oz/gal water), and 7-10% solution for maximum burndown (9-13 oz/gal water). Delivery rate for boom applications should be 75 to 200 gallons of spray solution per acre. For hand-held equipment, spray to completely wet all weed or plant foliage but not to the point of runoff. Repeat applications as necessary. Tank mixes are allowed with this product. These include tank mixes with glyphosate (Roundup), sulfosate (Touchdown), and residual herbicides. SEE THE LABEL FOR COMPLETE DETAILS!