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feature is the bright golden-yellow flower clusters from April through May. Plant in full sun in a well-drained soil. The plant is hardy through most of the Great Plains.

Silver mound (*Artemesia schmidtiana nana*) grows to a height of 8 inches with a spread of 12 inches. Most notable feature is its silver blue foliage. Locate in full sun. The plant is tolerant of droughty soils. Use as an accent plant throughout the central plains. In severe sites protect with a winter mulch.

Snow-in-summer (*Cerastium tomentosum*) forms a dense mat 4 to 6 inches high. The light gray foliage is covered with small white flowers in late spring. Growth is rapid and plant can become weedy. The plant tolerates a hot dry soil which is well-drained. This sun-loving plant should be pruned after flowering to maintain form and density. Hardy throughout the central plains.

Lily-of-the-valley (*Convallaria majalis*) grows to a height of 8 inches in full or partial shade. Fragrant bell-shaped flowers occur in May. This green-foliaged coarse groundcover has a rapid rate of growth, but is easily contained. May not be hardy in hotter, drier parts of the central plains.

Pinks (*Dianthus* species) are familiar to every gardener from their fragrant blooms. 'Aqua' forms a dense 8 inch high mat. Fragrant double white flowers form in early spring. Another lower growing cultivar is 'Siberian.' While present cultivars are sparse flowering, the neat compact habit and attractive blue-green foliage make the plant worth considering. Mow off old foliage on both species in early spring. Both plants are adapted over a wide geographical range.

Mock strawberry (*Duchesnea indica*) forms a dense, low mat 4-6 inches high. Unlike strawberry (*Fragaria*), its flowers are yellow and the bright red fruit are upright thus visible to the viewer. This hardy groundcover tolerates full sun or light shade. Use a mass planting among trees or shrubs in the





central plains. Similar to mock strawberry, Barren strawberry (*Waldsteinia fragarioides*) has yellow flowers, but not fruit. Plant tolerates light shade.

Goutweed or bishops weed (*Aegopodium podagraria variegatum*) rapidly forms a dense mat 8 inches high. This groundcover tolerates shady and poor, droughty soils. Due to its invasive habit, goutweed can become a serious pest. Locate where growth habit is readily controlled. Mow two or three times a year to maintain a uniform attractive appearance. Plant is very hardy and adapted throughout Great Plains.

Cinquefoil (*Potentilla* species) — low growing types — spread rapidly to form a dense mat three to six inches high. Where soils are dry and hot, and a colorful, neat, low-growing groundcover is required, consider this group. *P. verna* grows to 3-6 inches high with one-half inch flowers of bright yellow. *P. verna nana* forms 3" mounds. *P. tridentata* has white flowers in midsummer, dark shiny green leaves on the upper surface and is a taller, coarser groundcover than *P. verna*.

Speedwells (*Veronica* species) form a mat four to six inches high. Attractive blue to bluish rose flowers are produced in May. Plant in full sun to partial shade in moist or dry soils. Woolly speedwell (*V. incana*) has attractive silvery gray foliage with deep blue 12-inch flower spikes in summer while creeping speedwell (*V. repens*) has fine, dark, green, narrow foliage (moss-like) with bright, clear blue flowers in June. These speedwells are adapted to the southeastern part of the central plains and are not reliably hardy in the hotter, drier sections of the central and southern Great Plains.

Wild strawberry (*Fragaria vesca* 'Americana') spreads rapidly to form a dense mat 6 to 9 inches high. Plant tolerates sun or shade in a moist well-drained soil. Plant may require winter protection in exposed sites. Gives a woody effect to a landscape.

Hosta or plantain lily (*Hosta* species) is a large diverse group of long-lived herbaceous perennials. They thrive in semi-shade and are comparatively free of disease and insects. Hostas are grown primarily for their rich luxuriant foliage. Many newer varieties have varying degrees of foliage and have larger more fragrant flowers. One cannot rely on the specific names in this genera and many like types go by different specific names. Plant is hardy throughout the Great Plains.

Himalayan fleecflower or Border Jewel (*Polygonum affine*) produces a wide mat 4-6 inches high. Plant is adapted to a wide range of soil types and tolerates full sun or shade. Flowers are rosy in hue, on dense, three-inch spikes in May. This species is more refined and less invasive than other members of this genus.

Fleecflower (*P. Reynoutria*) is a fast and rank growing plant. Showy clusters of red buds opening to pale pink flowers are produced in later summer. Plant is invasive and should not be planted near flower borders. Both of the polygonum species are hardy throughout the Great Plains.

Daylily (*Hemerocallis* species) is a highly diverse group with varieties from 12 inches to 6 feet high. Daylilies are adapted to a wide range of soil

and climatic zones as well as being free of serious disease and insect pests. Highly attractive and fragrant flowers occur from May through September or later. Plant is drought tolerant, but apply moisture before and during bloom improves flower quality, size, and number. Plant in full sun in a well-drained soil.

False salvia (*Lamium maculatum*) and yellow archangel (*L. galeobdolon*) grow 6 to 8 inches high. Both species are fast growing and form a low dense mat. False salvia has marbled foliage and rose-pink flowers occur in spring through early summer. Leaves turn pink or pinkish purple in fall. Yellow archangel has silvery marked foliage and does better in shade. Lamiums are excellent groundcovers and deserve more extensive use. Protect in the more severe areas of the central plains.

St. Johnswort (*Hypericum* species) spreads rapidly to form a mat 6-15 inches high depending on species. *Hypericum calycinum*, a semi-evergreen species, grows 12-15 inches high. Bright, yellow, 3-inch flowers in mid to late summer.

Creeping St. Johnswort (*H. repens*) reaches 6" but dies to the ground in winter. Yellow flowers occur in July. This species more hardy than *H. calycinum* and is adapted to the entire geographical range discussed. Plant in full sun. These groundcover tolerate dry soils although occasional watering is recommended.

### Woody Deciduous Groundcovers

Dwarf Cutlead Stephanandra (*Stephanandra incisa* 'Crispa nana') is grown for its graceful, deeply cut foliage. The June flowers are white and inconspicuous. It prefers a moist soil in a semi-shaded to shady location. In the Plains area it should be cut to the ground each spring, whereupon it will grow to a height of 2' and spread to form a dense mat.

Rose Acacia (*Robinia hispida* 'Macrophylla') is a spreading shrub of 3' or so in height, well-adapted to dry soil and bank plantings. This variety is larger than the species in all its parts. It produces showy, fragrant, dark rose-colored flowers similar to clusters of peat blossoms in June. Because of its rapidly spreading habit it should be planted either where it can be easily contained, or where it will be allowed to naturalize.

Yellowroot (*Xanthorhiza simplicissima*) withstands soil conditions ranging from heavy clay to dry, sandy banks. It tolerates full sun to part shade. It is planted for its handsome foliage, which turns shades of orange in the fall. The brownish purple flower cluster appearing in the spring are not significant. Ultimate height is 2-3'.

Hancock Coralberry (*Symphoricarpos x. chenaulti* 'Hancock') is a good cultivar of the Coralberry, *S. orbiculatus*. It reaches a height of 2-2½' and suckers readily. Pruning in the spring produces an abundance of flowers and fruit. The fruit, which is its primary attribute, is clustered along the stem,

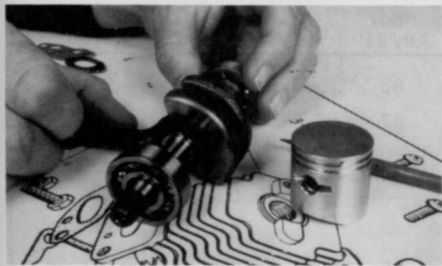
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For instance, The Green Machine



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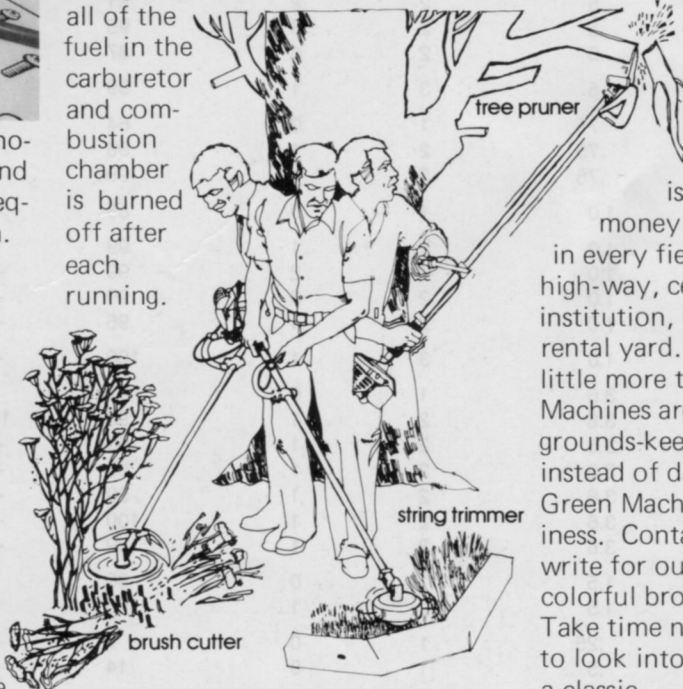
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# The Green Machine®

A yard-care classic.



# POSTEMERGENTS AVAILABLE FOR CONTROL OF NUTSEDGE IN TURF

by John A. Jagschitz, associate professor of plant and soil science, Rhode Island Agricultural Experiment Station.

Yellow nutsedge, a hard to kill weed in turf, is an increasing problem for turf managers primarily because of infestation from agricultural areas.

It is estimated that 10 to 15 percent of the crop acreage in the northeast is infested with this weed. Conversion of crop lands to sod farms and the use of this soil for topsoil and topdressing has accelerated the spread of nutsedge.

Yellow nutsedge (*Cyperus esculentus* L.) is a perennial weed which reproduces by seed,

rhizome, and tuber (nutlet). Tubers start to grow in the spring and each may produce several rhizomes. In Rhode Island, these rhizomes terminate as emerging plants by late May or June and produce more rhizomes.

These plants are easily identified by their single, triangular stem with slender, yellow-green blades which grow faster and taller than mowed turfgrass.

The rhizomes terminate, in August and September, and form a tuber. These tubers are ready to

*Continues on page 51*

**TABLE 1.** Effect of herbicides, rates and treatment number, time interval and dates on nutsedge control and turfgrass injury when applied to developing Kentucky bluegrass sod in 1978.

Herbicide	Rate lb ai/A	Treatment		Percent Nutsedge Control <sup>a</sup>		Maximum Turfgrass Injury <sup>b</sup>	
		Number	Interval in weeks	(treatment started)		(treatment started)	
				June 30	July 21	June 30	July 21
Bentazon	.5	1	0	55	83	0.2	0.0
Bentazon	.5	2	1	99	97	0.2	0.2
Bentazon	.5	2	2	81	—	0.1	—
Bentazon	.5	2	3	95	—	0.1	—
Bentazon	.5	2	4	87	—	0.3	—
Bentazon	.5	3	1	99	—	0.0	—
Bentazon	.75	1	0	64	95	0.1	0.0
Bentazon	.75	2	1	98	99	0.3	0.0
Bentazon	.75	3	1	99	—	0.0	—
Bentazon	1.0	1	0	85	96	0.0	0.4
Bentazon	1.0	2	1	99	99	0.1	0.2
Bentazon	1.0	2	2	99	—	0.2	—
Bentazon	1.0	2	3	99	—	0.3	—
Bentazon	1.0	2	4	96	—	0.0	—
Bentazon	1.0	3	1	100	—	1.9	—
DSMA	3.6	1	0	62	99	0.5	3.3
DSMA	3.6	2	1	99	100	2.1	3.5
DSMA (201)	3.6	2	1	100	—	1.9	—
DSMA (301)	3.6	2	1	99	—	2.3	—
DSMA (401)	3.6	2	1	99	—	2.6	—
DSMA (501)	3.6	2	1	100	—	2.2	—
DSMA (601)	3.6	2	1	99	—	1.7	—
MSMA	1.5	1	0	60	94	0.4	1.9
MSMA	1.5	2	1	100	99	2.5	3.1
Bromoxynil	.25	1	0	0	—	0.0	—
Bromoxynil	.5	1	0	14	—	0.0	—
Bromoxynil + Dicamba	.5+.125	1	0	9	—	0.2	—
Bromoxynil + Bentazon	.5+1.0	1	0	90	—	0.2	—
DSMA	1.8	2	1	—	99	—	1.1
DSMA + Bentazon	1.8+.5	2	1	—	99	—	0.6
DSMA + Bentazon	3.6+1.0	2	1	—	100	—	3.0

<sup>a</sup>based on plant counts June 28 and August 28. Untreated plots averaged 11.5 nutsedge plants per sq. ft.

<sup>b</sup>scale 0 to 10 (10 = brown) maximum through August.

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