KANSAS DEPARTMENT OF AGRICULTURE

OFFICIAL

FIELD BINDWEED CONTROL PROGRAM
Revised November 1, 2006

DESCRIPTION

Field bindweed, a perennial, reproduces by seeds and rootstocks. The root system is extensive, extending to a depth of 20 to 30 feet. The smooth, slender stems twine or spread over the soil and vegetation. Leaves up to 2 inches long are alternate, simple, petioled, quite variable in size, and highly variable in shape. The leaf blade may be oblong to elliptical or may be rounded to pointed with spreading basal lobes. Flowers are white, pink, or white with pink. Funnel shaped, they are about 1 inch across and usually borne singly in the axils of leaves. The flower stalk has two bracts 1/2 to 2 inches below the flower; the bracts, along with leaf shape and small flower size distinguish this plant from hedge bindweed. Seeds are dark, brownish- gray, are about 1/8 inch long, and have one rounded and two flattened sides.

HOW TO REDUCE NEW BINDWEED INFESTATIONS

Field bindweed is spread both by seed and by roots. New field bindweed infestations result from planting crop seed contaminated with bindweed seed or from portions of bindweed roots transported by tillage machinery. Harvesting equipment, manure from livestock fed contaminated feed, and grazing animals moved from infested to clean areas also cause new bindweed infestations. Seed is carried by birds, on feet of animals, or on wheels of machinery; and seeds or plant parts can be spread by road machinery. Bindweed seed is also carried in drainage water.

Small grain, forage, and legume seed should be cleaned before planting to remove seed of bindweed and other weeds. For livestock feed, one should use grain, hay, and other feedstuffs not infested with bindweed or other weeds difficult to control. If bindweed infested feed is fed to livestock the manure should not be spread on bindweed free land. Harvesting, tillage, and other machinery should be cleaned before it leaves a bindweed infested field.

BINDWEED CONTROL PRACTICES

Control of field bindweed shall mean preventing the production of viable seed and destroying the plant's ability to reproduce by vegetative means.

Bindweed seed is viable after remaining dormant in the soil for many years. Seeds brought near the soil surface by tillage, rodents, or other means will germinate under favorable conditions, resulting in new bindweed infestations.

Effective field bindweed control can be achieved by applying appropriate control practices. In developing a bindweed control program, one should consider the various alternative control practices and use one or more appropriate control practices for a particular cropland or noncropland area.

FIELD BINDWEED CONTROL PRACTICES FOR CROPLAND

Practices approved for controlling bindweed on cropland are: (1) Plant competitive crops, (2) Appropriate and timely cultivation, and (3) Application of herbicides registered for use in infested crops or on crop land with no growing crop. Often a combination of control practices results in a more effective program than does a single practice.

Competitive Cropping - Close-drilled sorghum or sudan grass seeded about July 1, after a period of intensive cultivation, provides effective competition for field bindweed. Narrow row grain sorghum may also be used.

The effectiveness of all competitive crops depends on intensive cultivation during the bindweed growing season when land is not in crop.

Appropriate and Timely Cultivation - Intensive cultivation, if properly used, is effective in killing established bindweed. Intensive cultivation alone, however, is not usually practical because no crops can be grown during the cultivation period. Cultivation used with competitive crops can control bindweed. With small grains, the most favorable times for beginning cultivation are in the spring after bindweed growth has started, or in the fall after the grain has been harvested. The depth for cultivation in medium heavy soil is 4 inches. Bindweed cannot be controlled satisfactorily if cultivation is delayed as long as 20 or 28 days after bindweed emergence.

FIELD BINDWEED CONTROL PRACTICES FOR NONCROPLAND

Practices approved for controlling bindweed on noncropland are: (1) hoeing and (2) application of appropriate herbicides.

Hoeing - In noncropland areas such as home gardens and flower beds and for horticultural or forestry plants, thorough hoeing every 10 days to 2 weeks during the growing season can control bindweed effectively. It is essential to cut off all plants at each hoeing. Bindweed plants missed in hoeing replenish their reserves, which delays killing time. Results will not be satisfactory if bindweed plants are left outside the hoed area because those plants will supply food to the roots for a distance of about 10 feet, preventing the killing of established bindweed in the hoed area.

HERBICIDES APPROVED FOR CONTROLLING FIELD BINDWEED

The following herbicides may be used for cost-share with landowners. Other products labeled and registered for use on this noxious weed in Kansas may be used in accordance with label directions but are not available for cost-share. Be sure to follow all label directions and precautions. For additional information consult the current KSU publication of “Chemical Weed Control for Field Crops, Pastures, Rangeland, and Noncropland”.

2,4-D Amine or LV Ester
Dicamba (Banvel, Clarity, Vanquish and others)
Dicamba + 2,4-D (Banvel + 2,4-D)
Dicamba + Glyphosate (Banvel + Roundup)
Diflufenzopyr + Dicamba (Overdrive)
Glyphosate (Roundup and others)
Glyphosate + 2,4-D (Roundup + 2,4-D)
Glyphosate + Diquat (QuickPro)
Imazapic (Plateau)
Imazapic + Glyphosate (Journey)
Imazapyr (Arsenal)
Picloram (Tordon)
Picloram + 2,4-D (Tordon + 2,4-D)
Quinclorac (Paramount, Drive)

BIOLOGICAL CONTROL PRACTICES

There are no biological controls approved for field bindweed at this time.

KANSAS DEPARTMENT OF AGRICULTURE

OFFICIAL

BULL THISTLE CONTROL PROGRAM

Revised November 1, 2006

DESCRIPTION

Bull thistle is a biennial that reproduces solely by seed. The lance-shaped rosette leaves are green on the upper side and light green on the lower side. The woolly character of the lower side may give it an almost grayish appearance. Mature leaves are moderately to coarsely lobed, with 3 to 4 points per lance-shaped lobe. Each point ends in a long stout, yellow spine, with numerous shorter spines between. Short, stiff hairs and frequently spines are found on the upper leaf surface. Leaves are short and broad, usually less than 12 inches in length, and very wavy or crinkled. Mature leaves are alternate and growing down the stem beyond their bases, causing the stalk to be "winged" and prickly, lobed leaf-like structures. The stems are stout, erect, branched and leafy to the heads.

Considerable branching may be found in very young flower stalks. One to several small to intermediate sized purple flowers terminate the short, prickly-winged branches. Bull thistle flowers from July to September. Seeds are light, straw colored and oblong. The seeds are attached to parachute-like hairs (pappus) which allow for their dispersal by wind currents.

PREVENTION OF SPREAD OF BULL THISTLE

Bull thistle may be found throughout the State but occurs most frequently in the central and south central counties. Bull thistle reproduces only by seed. The likelihood of new infestations will be reduced by any action to prevent the production and movement of seed. Planting weed free seed, feeding hay free of bull thistle seed and cleaning equipment before leaving infested areas are methods which will prevent the spread of bull thistle.

BULL THISTLE CONTROL PRACTICES

The control of bull thistle shall mean preventing the production of viable seed.

CULTURAL CONTROL

Mowing - Mow with a rotary mower between the first appearance of color and the first appearance of brown on the pappus of the earliest heads. Mow cleanly and closely and repeat as needed for control.

Hand Cutting - Digging - Dig the root at least two inches below ground level and remove all soil from the roots. Pick heads that are beyond the bud stage and place in a tight container. Bury the container at a landfill or other site that will not be unearthed.

HERBICIDES APPROVED FOR CONTROLLING BULL THISTLE

The following herbicides may be used for cost-share with landowners. Other products labeled and registered for use on this noxious weed in Kansas may be used in accordance with label directions but are not available for cost-share. Be sure to follow all label directions and precautions. For additional information consult the current KSU publication of “Chemical Weed Control for Field Crops, Pastures, Rangeland, and Noncropland”.

2,4-D Amine or LV Ester
Aminopyralid (Milestone)
Chlorsulfuron (Telar)

Clopyralid (Stinger)
Clopyralid + 2,4-D (Curtail)
Clopyralid + Triclopyr (Redeem R&P)
Dicamba (Banvel, Vanquish, Clarity and others)
Dicamba + 2,4-D (Banvel, Vanquish, Clarity + 2,4-D)
Diflufenzopyr + Dicamba (Overdrive)
Diflufenzopyr + Dicamba + 2,4-D
Diflufenzopyr + Dicamba + Metsulfuron methyl
Diflufenzopyr + Dicamba + Picloram
Imazapic (Plateau)
Imazapic + Glyphosate (Journey)
Metsulfuron methyl (Escort XP, Cimarron)
Metsulfuron methyl + 2,4-D (Escort XP + 2,4-D)
Picloram (Tordon)
Picloram + 2,4-D (Tordon + 2,4-D)
Triasulfuron + Dicamba (Rave)

BIOLOGICAL CONTROL PLAN

Any biological plan must meet the requirements of K.A.R. 4-8-41

KANSAS DEPARTMENT OF AGRICULTURE

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BUR RAGWEED (BURSAGE) CONTROL PROGRAM

Revised January 1, 2004

DESCRIPTION

A perennial, reproducing by underground root-stocks and seeds. Plant erect, 1 to 2 feet high, somewhat bushy, usually branching from the base and covered with fine, woolly hairs. The plant is purplish-white in appearance and grows from a well developed root system. Leaves alternate, or opposite, broadly ovate, pinnately 3-5 parted or entire, long-petioled, dusty white in color. The end segment of the leaves much larger than the other segments.

Male flowers are in small drooping heads at the top of the plant and female flowers are in the axil of the leaves, usually one per leaf. Flowers in composite heads in short racemes. Seed cone shaped in heads 3-7 mm. long, with hooked spines or curved at tip. Seeds, September through November.

PREVENTION OF SPREAD OF BUR RAGWEED

The occurrence of new infestations of bur ragweed can be reduced by cleaning harvesting and tillage equipment before leaving infested areas.

BUR RAGWEED CONTROL PRACTICES

Control of bur ragweed shall mean preventing the production of viable seed and destroying the plant's ability to reproduce by vegetative means.

CULTURAL CONTROL

Intensive cultivation following application of 2,4-D applied in the ester form in early summer (May 25 to June 20) gives good control. This is followed by seeding a winter small grain and the following year intensive cultivation is started immediately after harvest. Except for the first cultivation after harvest, 2,4-D may be substituted for some of the tillage operations provided soil moisture is ample, and bur ragweed is growing rapidly.

Rapid stand reduction can be obtained by using alternate crop and fallow, but one year of fallow followed by two small grain crops may be used.

HERBICIDES APPROVED FOR CONTROLLING BUR RAGWEED (BURSAGE)

The following herbicides may be used for cost-share with landowners. Other products labeled and registered for use on this noxious weed in Kansas may be used in accordance with label directions but are not available for cost-share. Be sure to follow all label directions and precautions. For additional information consult the current KSU publication of A Chemical Weed Control for Field Crops, Pastures, Rangeland, and Noncropland@.

2,4-D LVE
Dicamba + 2,4-D (Banvel, Vanquish, Clarity + 2,4-D)
Dicamba (Banvel, Vanquish, Clarity)
Glyphosate + Dicamba (Roundup + Banvel + nonionic surfactant)
Picloram (Tordon 22K)
Picloram + 2,4-D (Tordon 22K + 2,4-D)
Imazapic (Plateau)

BIOLOGICAL CONTROL

There are no biological controls approved for bur ragweed at this time.

KANSAS DEPARTMENT OF AGRICULTURE

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CANADA THISTLE CONTROL PROGRAM

Revised November 1, 2006

DESCRIPTION

Introduced perennial from Eurasia. Reproduces by seeds and whitish, creeping rootstocks which send upnew shoots every 8 to 12 inches. Plants 2 to 4 feet tall, branched above, with a well-developed, freely branching, fibrous root system. Leaves alternate, simple, oblong or lanceolate, irregularly lobed and spiny toothed, hairy when young, dark green. Flowers white or rose-purple in composite heads grouped at ends of top branches. They are usually dioecious, i.e. male and female flowers on different plants. For viable seed to be produced both male and female plants need to be present. Seeds about 1/8 inch long, smooth, light to dark brown color, oblong, slightly flattened and slightly curved, bear a white hairy pappus (parachute) at the top which helps support the seed in the air.

PREVENTION OF SPREAD OF CANADA THISTLE

The occurrence of new infestations of Canada thistle can be reduced by planting weed free seed, using livestock feeding materials free of Canada thistle seed and cleaning equipment before leaving infested fields. Close attention should be placed on any feed or seed materials imported from the northern and northwestern states. Quick identification and eradication of Canada thistle plants is essential to prevent its spread.

CANADA THISTLE CONTROL PRACTICES

Canada thistle control shall mean preventing the production of viable seed and destroying the plant's abilityto reproduce by vegetative means.

CULTURAL CONTROL PRACTICES

First plants to appear should be destroyed by pulling or hoeing before becoming securely rooted. Canada thistles usually appear above ground in early spring. The decline in total food reserves in underground parts proceeds rapidly, then is slower until early summer when the plants bloom and are in their weakest stage. Cultivation begun then is usually most effective. Persistent cultivation, which destroys roots and rootstocks and exhausts food reserves, is effective in eradication. Avoid continuous small grain or row crops.

Combination of cultivation, crops and chemicals - One season of intensive cultivation followed by winter wheat or winter rye will eradicate a high percentage of Canada thistle. Bromegrass, established in a thistle infested area, sprayed with 3/4 pound of actual 2,4-D acid per acre over a two-year period is an effective control.

HERBICIDES APPROVED FOR CONTROLLING CANADA THISTLE

The following herbicides may be used for cost-share with landowners. Other products labeled and registered for use on this noxious weed in Kansas may be used in accordance with label directions but are not available for cost-share.

Be sure to follow all label directions and precautions. For additional information consult the current KSU publication of “Chemical Weed Control for Field Crops, Pastures, Rangeland, and Noncropland”.

2,4-D Low Volatile Ester or Amine)

Aminopyralid (Milestone)
Chlorsulfuron (Telar)
Clopyralid (Stinger)
Clopyralid + 2,4-D (Curtail)
Clopyralid + Triclopyr (Redeem R&P)
Dicamba (Banvel, Clarity, Vanquish and others)
Difufenzopyr + Dicamba + Picloram
Glyphosate (Roundup)
Glyphosate + Diquat (QuickPro)
Picloram (Tordon)

BIOLOGICAL CONTROL PRACTICES

There are no biological controls approved for use on Canada thistle at this time.

KANSAS DEPARTMENT OF AGRICULTURE

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HOARY CRESS CONTROL PROGRAM
Revised November 1, 2006

DESCRIPTION
Introduced perennial from Eurasia. Reproduces by extensive root system, rhizomes and seeds. Plants grayish-green. Leaves 1 to 3 inches long, alternate, simple, oblong, toothed, the upper leaves are without petioles and attached directly to the stem with a broad clasping base. Flowers white and produced May to July, 1/8 inch across in showy compact racemes. Seed pods heart shaped, flattened, 3/32 inch long. Seeds, one in each valve, slightly flattened, granular, reddish brown, mature June to August.

PREVENTION OF SPREAD OF HOARY CRESS
New infestations of Hoary Cress may be reduced by planting weed free seed, feeding materials free of Hoary Cress seed and cleaning machinery prior to leaving infested areas.

HOARY CRESS CONTROL PRACTICES
Control of Hoary Cress shall mean preventing the production of viable seed and destroying the plant's ability to reproduce by vegetative means.

CULTURAL CONTROL PRACTICES
Cultural control practices have not been developed at this time.

HERBICIDES APPROVED FOR CONTROLLING HOARY CRESS
The following herbicides may be used for cost-share with landowners. Other products labeled and registered for use on this noxious weed in Kansas may be used in accordance with label directions but are not available for cost-share.

Be sure to follow all label directions and precautions. For additional information consult the current KSU publication of “Chemical Weed Control for Field Crops, Pastures, Rangeland, and Noncropland”.

2,4-D LV Ester
Dicamba (Banvel, Clarity, Vanquish and others)
Metsulfuron methyl (Escort)
Metulfuron methyl + 2,4-D + Dicamba (Cimmaron Max)

BIOLOGICAL CONTROL PRACTICES
There are no biological controls approved for the control of Hoary Cress at this time.

KANSAS DEPARTMENT OF AGRICULTURE

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KUDZU CONTROL PROGRAM
Revised January 1, 2004

DESCRIPTION
Kudzu, (Pueraria lobata), is a long-lived, coarse, viney legume that covers the ground with long runners. The leaflets are found in groups of three (5-20 cm. in length). The leaflets are 2-3 lobed and abruptly taper to a pointed tip. The stems have rough bark-like covering. Large flowers, 15-20 cm., lavender to purple, set on seeds sparingly, because of sparse blooming. The seed pods, 4.5 to 5 cm. in length are papery and covered with fine hair. The long runners root at the nodes to form new plants. Crowns taken from old stands are used for planting.

PREVENTION OF SPREAD OF KUDZU
The occurrence of new infestations of Kudzu can be reduced by preventing the movement of root crowns or seed from infested areas.

KUDZU CONTROL PRACTICES
Kudzu should be eradicated as quickly as possible by approved chemical. Control of Kudzu shall mean preventing the production of viable seed and destroying the plant's ability to reproduce by vegetative means.

CULTURAL CONTROL PRACTICES
Cultural control methods for Kudzu are not developed at this time.

HERBICIDES APPROVED FOR CONTROLLING KUDZU
The following herbicides may be used for cost-share with landowners. Other products labeled and registered for use on this noxious weed in Kansas may be used in accordance with label directions but are not available for cost-share.

Be sure to follow all label directions and precautions. For additional information consult the current KSU publication of AChemical Weed Control for Field Crops, Pastures, Rangeland, and Noncropland@.

Dicamba (Banvel, Clarity, Vanquish)
Glyphosate (Roundup)
Picloram (Tordon)
Triclopyr (Remedy, Garlon)

BIOLOGICAL CONTROL PRACTICES
There are no biological controls approved for Kudzu control at this time.

KANSAS DEPARTMENT OF AGRICULTURE

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JOHNSONGRASS CONTROL PROGRAM
Revised November 1, 2006

DESCRIPTION
Upright perennial grass, reproducing by large rhizomes and seeds. Well adapted to hold its own in competition with crop plants. Stems up to 6 to 8 feet high or more, from a freely branching, stout, rhizome possessing, fibrous root system. Leaves alternate, simple, relatively wide and long. Spikelets 1-flowered, in groups of 3, in rather open large panicles. Fruit a caryopsis or grain, finely striate, reddish-brown. Flowers from May till frost and seed to frost.

PREVENTION OF SPREAD OF JOHNSONGRASS
New infestations of Johnsongrass may be reduced by planting Johnsongrass free seed, using livestock feed that is free of Johnsongrass seed and cleaning machinery before leaving infested fields.

JOHNSONGRASS CONTROL PRACTICES
Control of Johnsongrass shall mean preventing the production of viable seed and destroying the plant's ability to reproduce by vegetative means.

Procedures to be used to control Johnsongrass shall include cultural control practices and chemical control or a combination of these two controls.

CULTURAL CONTROL PRACTICES
Cultivation may begin any time during the growing season and shall be done in such a manner as to cut off the entire plant at each operation (use a duckfoot or blade type implement). Cultivations shall be 3 to 5 inches deep at intervals of 14 to 18 days. When the plants have been so weakened that they emerge more slowly, the cultivation intervals may be extended to such time as will permit the plants to grow not more than 10 days after each emergence of first plants, but not to exceed intervals of 3 weeks. Cultivation shall be continued until the plants have been eradicated or have been suppressed to such extent that remaining plants may be more economically destroyed by the application of approved chemicals to individual plants or by hand cultivation.

In yards, flower gardens, lawns and among trees and shrubbery, hoeing and other effective means of thoroughly cutting the Johnsongrass at regular intervals, not to exceed 14 days during the growing season, shall be construed as intensive cultivation.

A combination of small grains and intensive cultivation may be used. Close grazing or mowing at 2 or 3 week intervals through the growing season and followed by late fall plowing, to expose the root stalks through the winter, is an accepted control practice.

HERBICIDES APPROVED FOR CONTROLLING JOHNSONGRASS
The following herbicides may be used for cost-share with landowners. Other products labeled and registered for use on this noxious weed in Kansas may be used in accordance with label directions but are not available for cost-share.

Be sure to follow all label directions and precautions. For additional information consult the current KSU publication of “Chemical Weed Control for Field Crops, Pastures, Rangeland, and Noncropland”.

Glyphosate (Roundup and others)
Sulfometuron (Oust XP + nonionic surfactant)

Trifluralin (Treflan)
Fluazifop-P-butyl (Fusilade)
Sethoxydim (Poast, Poast Plus)
Fluazifop-P-butyl + Fenoxaprop-ethyl (Horizon 2000, Fusion)
Primisulfuron (Beacon)
Nicosulfuron (Accent)
Imazapic (Plateau)
Quizalofop (Assure)
Sulfosulfuron (Outrider)
Imazapic + Glyphosate (Journey)
Nicosulfuron + Rimsulfuron (Steadfast)
Foramsulfuron (Option)

BIOLOGICAL CONTROL PRACTICES

There are no biological controls approved for Johnsongrass control at this time.

KANSAS DEPARTMENT OF AGRICULTURE

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LEAFY SPURGE CONTROL PROGRAM
Revised November 1, 2006

DESCRIPTION

Introduced perennial from Europe. Reproduces by seed and underground rootstocks. The creeping rootstocks give rise to roots and shoots every few inches. Plants are bright green, 2/3 to 2 feet high, in bunches from wide-spreading roots, with milky juice. Stems are branched at top, very stiff and woody when mature. Leaves oblong, scattered, except the whorl of lanceolate or oblanceolate bractlike yellow leaves at the base of the umbel. Flowers very small, greenish-yellow or with brownish spots, have a dark line down one side and a yellowish appendage at the point of attachment, seeds are borne in a three-lobed capsule (3 seeds per pod). Flowers May to September and seeds June to August.

PREVENTION OF SPREAD OF LEAFY SPURGE

The occurrence of new infestations of leafy spurge can be reduced by planting weed free seed, feeding livestock materials free of leafy spurge seed and cleaning equipment before leaving infested fields. Close attention should be placed on any feed or seed materials imported from the northern and north western states. Quick identification and destruction of leafy spurge plants is essential to prevent its spread.

LEAFY SPURGE CONTROL PRACTICES

Control of leafy spurge shall mean preventing production of viable seed and destroying the plant's ability to reproduce by vegetative means.

CULTURAL CONTROL PRACTICES

Cultivate every two weeks from the beginning of spring growth to August 1 and every three weeks thereafter until fall. Intensive cultivation between harvest and sowing of winter wheat or rye will reduce the stand of leafy spurge. Leafy spurge roots are easily transplanted. Clean the equipment before moving from the infested area to prevent spreading the infestation.

HERBICIDES APPROVED FOR CONTROLLING LEAFY SPURGE

The following herbicides may be used for cost-share with landowners. Other products labeled and registered for use on this noxious weed in Kansas may be used in accordance with label directions but are not available for cost-share.

Be sure to follow all label directions and precautions. For additional information consult the current KSU publication of “Chemical Weed Control for Field Crops, Pastures, Rangeland, and Noncropland”.

2,4-D LV Ester
Picloram (Tordon)
Picloram + 2,4-D (Tordon + 2,4-D)
Imazapic (Plateau) Follow label directions and precautions.
Imazapic + Glyphosate (Journey)
Diflufenzopyr + Dicamba + Picloram
Glyphosate (Roundup and others)

BIOLOGICAL CONTROL PRACTICES

There are no biological control practices approved for leafy spurge control at this time. A potential nation-wide leafy spurge biological control program is being considered by the USDA. Kansas will consider participation in such a program if it is implemented.

KANSAS DEPARTMENT OF AGRICULTURE

OFFICIAL

MULTIFLORA ROSE CONTROL PROGRAM
Revised November 1, 2006

DESCRIPTION

Multiflora rose is a perennial shrub, reproducing by seeds and sometimes rooting at the tips of drooping side canes. The stems are up to 10 feet long, in clumps and are arching or trailing, usually growing about 6 feet erect with the tips drooping almost to the ground. The stems are covered with many stiff thorns. The leaves are pinnately compound, usually with 7 or 9 leaflets. The leaflets are 3/4 to 1 1/2 inches long, elliptic, nearly smooth on the upper surface and paler with short hairs on the underside. The flowers are mostly white, sometimes pinkish, about 3/4 to 1 1/2 inches broad, and borne in a many-flowered panicle. The fruits (hips) are bright red, nearly round, and about ¼ inch in diameter. The seeds are angular achenes.

PREVENTION OF SPREAD

Multiflora rose spreads primarily by seeds. Birds readily spread the seeds that germinate after passing through the digestive tract. Multiflora rose may also reproduce by rooting at the tips of drooping side canes. There is no practical action that can be taken to prevent the spread of multiflora rose.

MULTIFLORA ROSE CONTROL PRACTICES

Control of multiflora rose shall mean preventing the production of seed and destroying the plants ability to reproduce by vegetative means.

CULTURAL CONTROL PRACTICES

Mowing pastures several times a year will prevent multiflora rose seedlings from becoming established. Mowing may be difficult, however, in the rough, wooded pastures where the rose is most apt to be a problem. Once large bushes become established, a bulldozer may be the only practical control. However, even after bulldozing, some resprouting may occur, and seeds that have been spread readily germinate in the disturbed soil.

HERBICIDES APPROVED FOR CONTROLLING MULTIFLORA ROSE

The following herbicides may be used for cost-share with landowners. Other products labeled and registered for use on this noxious weed in Kansas may be used in accordance with label directions but are not available for costshare.

Be sure to follow all label directions and precautions. For additional information consult the current KSU publication of “Chemical Weed Control for Field Crops, Pastures, Rangeland, and Noncropland”.

2,4-D LV Ester
Dicamba (Banvel, Clarity, Vanquish)
Glyphosate (Roundup).
Picloram (Tordon)
Imazapyr (Arsenal)
Tebuthiuron (Spike 20P)
Triclopyr + 2,4-D (Crossbow)
Metsulfuron methyl (Escort XP, Cimarron)
Metsulfuron methyl + dicamba +2,4-D (Cimarron Max)

BIOLOGICAL CONTROL PRACTICES

There are no biological controls approved for Multiflora rose control at this time. Rose rosette, a disease of multiflora rose native to Kansas continues to reduce the incidence of multiflora rose. Look for branches that display the “witches broom” effect and are reddish in color. The disease thought to be spread by mites is fatal to multiflora rose.

KANSAS DEPARTMENT OF AGRICULTURE

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MUSK THISTLE CONTROL PROGRAM
Revised November 1, 2006

DESCRIPTION

Musk thistle is primarily a biennial or winter annual but may occur as a summer annual. The leaves of musk thistle are deeply lobed, hairless, and are dark green with a light green mid-rib. A silver gray leaf margin is characteristic of each spine tipped lobe.

The leaf base extends down the stem to give the plant a winged appearance. Musk thistle is the first of the Kansas thistles to bloom in the spring. The terminal flower is large (1 2 to 3 inches in diameter), solitary and usually nodding or bent over slightly. The plant is freely branched and each branch may have one flower or more in addition to the terminal flower. The flowers are purple and are "powder puff" shaped. Seed dispersal begins 7 to 10 days after blooming. Seeds are straw-colored, oblong, and 1/8 inch in length.

The seeds are attached to parachute-like hairs (pappus) which allow for their dispersal by wind currents.

PREVENTION OF SPREAD OF MUSK THISTLE

Musk thistle may be found throughout the State with heaviest infestations found in the north eastern one third of the State.

Musk thistle reproduces only by seed. The likelihood of new infestations will be reduced by any action to prevent the production and movement of seed. Planting weed free seed, feeding hay free of musk thistle seed and cleaning equipment before leaving infested areas are methods which will prevent the spread of musk thistle.

MUSK THISTLE CONTROL PRACTICES

The control of musk thistle shall mean preventing the production of viable seed.

CULTURAL CONTROL

Mowing - Mow with a rotary mower before the first appearance of pink on the flowers. Mowing at full bloom will prevent seed production Mow cleanly and closely and repeat as needed for control.

Hand Cutting - Digging - Cut between the first appearance of pink and the first appearance of brown on the pappus of the earliest heads. Cutting 2 inches below ground level at any stage should kill the plant. **Pick heads that are beyond the bud stage and place in a tight container.** Bury the container at a landfill or other site that will not be unearthed.

HERBICIDES APPROVED FOR CONTROLLING MUSK THISTLE

The following herbicides may be used for cost-share with landowners. Other products labeled and registered for use on this noxious weed in Kansas may be used in accordance with label directions but are not available for cost-share.

Be sure to follow all label directions and precautions. For additional information consult the current KSU publication of “Chemical Weed Control for Field Crops, Pastures, Rangeland, and Noncropland”.

2,4-D Amine or LV Ester
Chlorsulfuron (Telar)
Dicamba (Banvel, Clarity, Vanquish, and others)
Dicamba + 2,4-D (Banvel + 2,4-D)

Picloram (Tordon)
Picloram + 2,4-D (Tordon + 2,4-D)
Metsulfuron methyl (Escort XP, Ally, Cimarron)
Metsulfuron methyl + 2,4-D (Escort XP + 2,4-D)
Imazapic (Plateau)
Clopyralid + Triclopyr (Redeem R&P)
Triasulfuron + Dicamba (Rave)
Dicamba + Diflufenzopyr (Overdrive)
Imazapic + Glyphosate (Journey)
Aminopyralid (Milestone)
Metsulfuron methyl + 2,4-D + Dicamba (Cimarron Max)
Clopyralid (Stinger)
Clopyralid + 2,4-D (Curtail)
Dicamba + Diflufenzopyr + 2,4-D
Dicamba + Diflufenzopyr + Picloram
Dicamba + Diflufenzopyr + Metsulfuron methyl

BIOLOGICAL CONTROL

Two insects for biological control of musk thistle are approved but must meet the requirements set forth in K.A.R. 4-8-41. Consult with your County Noxious Weed Director for more information.

KANSAS DEPARTMENT OF AGRICULTURE

OFFICIAL

PIGNUT CONTROL PROGRAM

Revised January 1, 2004

DESCRIPTION

The plant has deep roots on which develop nut-like tubers 10 to 15 inches below the surface and are difficult to remove from the soil. This plant is a legume, the stems of which are 8 to 12 inches high, with a tuft of leaves at the base. The leaves are twice divided, 3 to 5 inches long, and there are usually 3 to 5 pairs of leaflets. The leaflets are oblong in shape, and from 1/12 to 1/4 inch long. The leaves have characteristic glandular dots. The flowers are of the pea-type, yellow or orange-red, and about one half inch long. The ovary of the flower is covered with peculiar tack-shaped glands. The pods are flat, about 1 to 1 1/2 inches long, and few to several seeded.

PIGNUT CONTROL PRACTICES

Control shall mean preventing the production of viable seed and destroying the plant's ability to reproduce by vegetative means.

CULTURAL CONTROL PRACTICES

Cultivation - Cultivate three to five inches deep at intervals so as to permit the weeds to grow not more than 10 days after each emergence of first plants, but not to exceed intervals of three weeks. Cultivation shall be continued until the plants have been eradicated or have been suppressed to such an extent that remaining plants may be more economically destroyed by other treatment, as the application of approved chemicals to individual plants or by hand cultivation.

Grubbing - Small infestations should be grubbed out, taking care to remove all the tuberous nut-like roots.

HERBICIDES APPROVED FOR CONTROLLING PIGNUT

The following herbicide may be used for cost-share with landowners. Other products labeled and registered for use on this noxious weed in Kansas may be used in accordance with label directions but are not available for cost-share.

Be sure to follow all label directions and precautions. For additional information consult the current KSU publication of “Chemical Weed Control for Field Crops, Pastures, Rangeland, and Noncropland.”

Picloram (Tordon)

BIOLOGICAL CONTROL PRACTICES

There are no biological controls approved for use on Pignut at this time.

KANSAS DEPARTMENT OF AGRICULTURE

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QUACKGRASS CONTROL PROGRAM
Revised November 1, 2006

DESCRIPTION

Quackgrass is a perennial, reproducing by seed and underground rhizomes. Rhizomes are pale yellow or straw colored, cord-like about 1/8 inch in diameter and vary from 2 to 18 inches in depth, depending on soil type and treatment. Roots arise only at the nodes. Stems grow up to 3 feet tall with 3 to 6 joints. Leaves are wide, shiny, and dark green in color. The lower dry sheaths, leaves, and stems are distinctly hairy. Upper sheaths glabrous or nearly so. Terminal spikes are 2 to 4 inches long and have 3 to 7 short-awned florets in a spikelet. The seed, with infesting glumes, is elongated toward the slender, short-awned tip, broadest below the middle and tapered to the blunt base.

PREVENTION OF SPREAD OF QUACKGRASS

The occurrence of new infestations of quackgrass can be reduced by planting weed free seed, transplanting nursery stock free of quackgrass rhizomes, using livestock feed materials free of quackgrass seed and cleaning equipment before leaving infested fields. Particular attention should be given to grass seed or grass seed mixtures imported from the northern states.

QUACKGRASS CONTROL PRACTICES

Control of quackgrass shall mean preventing production of viable seed and destroying the plant's ability to reproduce by vegetative means.

CULTURAL CONTROL PRACTICES

Cultivation - Roots and rhizomes are killed by drying on the soil surface. Tillage with a heavy duty springtooth cultivator should be at a depth of 3 to 4 inches. The shovels of such an implement should be operated at a slightly lower depth for each successive cultivation. The first operation should be when growth starts in April. Succeeding cultivations should be made at intervals of about 1 week even though no growth of quackgrass is apparent.

Shallow cultivation or plowing in the late fall will expose rhizomes to freezing and drying during winter and reduces the stand and rapidity of spring growth. Intensive grazing before cultural operations are started is beneficial.

Competitive Crops - to be most effective, should be planted only after the quackgrass has been partially weakened by tillage. Closely drilled stands of sudan-grass or forage sorghum may be used. In gardens, a relatively close spacing of squash or pumpkins is effective.

CHEMICAL CONTROL PRACTICES

The following herbicide may be used for cost-share with landowners. Other products labeled and registered for use on this noxious weed in Kansas may be used in accordance with the label directions but are not available for cost-share.

Be sure to follow all label directions and precautions. For additional information consult the current KSU publication of “Chemical Weed Control for Field Crops, Pastures, Rangeland, and Noncropland”.

Glyphosate (Roundup and others)
Fluazifop-P-butyl (Fusilade)
Diquat + Glyphosate (QuickPro)
Nicosulfuron (Accent)

Nicolulfuron + Rimsulfuron (Steadfast)
Primisulfuron (Beacon)

BIOLOGICAL CONTROL PRACTICES

There are no biological controls approved for use on quackgrass at this time.

KANSAS DEPARTMENT OF AGRICULTURE

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RUSSIAN KNAPWEED CONTROL PROGRAM
Revised November 1, 2006

DESCRIPTION
Introduced from Asia. Perennial, reproducing by roots, rhizomes and seeds. Plants up to about 3 feet in height, from a particularly well-developed branching root system. Stems branched at base, striate, covered with downy-white hairs. Leaves of new shoots alternate, broadly lanceolate, a little toothed, somewhat whitish underneath. Lower leaves of plant rough; leaves of the flowering stems similar but much shorter. Flowers numerous, all tubular, rose to purple or blue, in composite heads which are flask-shaped, about 1-2 cm. long, solitary on the ends of leafy branches. Seeds are an ivory to light brown color, 2-3 mm. long, flattened, ovate shaped, longitudinal ridges, basal scar not oblique, with capillary pappus. Flowers, June - August. Seeds, August - September.

PREVENTION OF SPREAD OF RUSSIAN KNAPWEED
New infestations of Russian Knapweed may be reduced by planting weed free seed, feeding materials free of Russian Knapweed seed and cleaning equipment before leaving infested fields. Close attention should be placed on any feed or seed materials imported from the northern and north western states. Quick identification and destruction of Russian Knapweed plants is essential to prevent its spread.

RUSSIAN KNAPWEED CONTROL
Control of Russian Knapweed shall mean preventing production of viable seed and destroying the plant's ability to reproduce by vegetative means.

CULTURAL CONTROL PRACTICES
Cultural control methods have not been developed at this time.

HERBICIDES APPROVED FOR CONTROLLING RUSSIAN KNAPWEED
The following herbicides may be used for cost-share with landowners. Other products labeled and registered for use on this noxious weed in Kansas may be used in accordance with label directions but are not available for cost-share.

Be sure to follow all label directions and precautions. For additional information consult the current KSU publication of “Chemical Weed Control for Field Crops, Pastures, Rangeland, and Noncropland”.

2,4-D Low Volatile Ester
Dicamba (Banvel, Clarity, Vanquish and others)
Picloram (Tordon)
Imazapic (Plateau)
Imazapic + Glyphosate (Journey)

BIOLOGICAL CONTROL PRACTICES
There are no biological controls approved for use on Russian Knapweed at this time.

KANSAS DEPARTMENT OF AGRICULTURE

OFFICIAL

SERICEA LESPEDEZA CONTROL PROGRAM

Revised January 1, 2004

DESCRIPTION

Perennial, stems erect, to 5 ft. tall, appressed hairy only along the ridges on the stem, leaves with 3 leaflets, leaflets less than 1 in. long and less than 1/4 in. wide, wedge-shaped (cuneate), flowers few (1-4) in the axils of the leaves from mid or late July to October, petals yellowish or tinged with purple, about 1/4 in. long, fruit (pod) about 1/8 in. long, roundish with pointed ends in outline, flattened.

PREVENTION OF SPREAD OF SERICEA LESPEDEZA

Sericea lespedeza spreads primarily by seeds. The method of seed dispersal is probably by animals. Persons planting mixtures of seeds for erosion control and for wildlife habitat should ensure sericea lespedeza is not included in the mix.

SERICEA LESPEDEZA CONTROL PRACTICES

Control of sericea lespedeza shall mean preventing production of viable seed.

CULTURAL CONTROL PRACTICES

Rangeland - Prescribed burning at the proper time (late spring) followed by intensive-early stocking (double stock until July 15 and then remove cattle) may reduce the occurrence of sericea lespedeza. Mature cattle grazing early in the season are more apt to utilize sericea lespedeza.

Tame pastures - Proper fertilization and grazing during April and May may reduce the occurrence. Late grazing or no grazing will increase sericea lespedeza.

Grazing infested areas with sheep and goats will provide effective control of sericea lespedeza.

Mowing in the late bud stage for 2 to 3 consecutive years from mid-July to late summer should reduce the vigor of the stand.

HERBICIDES APPROVED FOR CONTROLLING SERICEA LESPEDEZA

The following herbicides maybe used for cost-share with landowners. Other products labeled and registered for use on this noxious weed in Kansas may be used in accordance with label directions but are not available for cost-share.

Be sure to follow all label directions and precautions. For additional information, consult the current Kansas State University publication of “Chemical Weed Control for Field Crops, Pastures, Rangeland, and Noncropland.”

Pasture and Rangeland -

Metsulfuron methyl (Escort XP, Ally, Cimarron)
Triclopyr (Remedy, Garlon)
Triclopyr + Fluroxypyr

BIOLOGICAL CONTROL PRACTICES

There are no biological controls approved for sericea lespedeza at this time.