

UNITED STATES DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE  
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CONSERVATION TECHNICAL NOTE – Range No. 3 (Rev. 2006)

CHECK LIST AND IDENTIFYING CHARACTERISTICS  
OF SOME RANGE PLANTS OF MONTANA

by  
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Ecology Key: Growth habit: T – tall grass; M – mid grass; S – short grass  
Propagation: A – annual; B – bunchgrass perennial  
R – rhizome perennial; S – stolon  
Seasons: W – warm season; C – cool season  
Response to overgrazing  
by cattle: D – decreaser; Ic – increaser; Iv – invader  
Only general response in area can be shown.  
For specific climates and sites, see local  
Field Office Technical Guide.

<u>Scientific Name</u>	<u>Common Name</u>	<u>Ecology</u>
<i>Aegilops cylindrica</i>	Jointed goatgrass	MAWIV

Spikelet cylindrical, placed flatwise at each joint of the rachis and fitting into it. The joints thicken at the summit. At maturity the spike falls entire. Strongly barbed fruit is injurious to livestock. A weedy grass that has recently appeared in Montana wheat fields.

<i>Elymus albicans</i>	Montana wheatgrass	MRCID
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Long, lax auricle. No ligule. Awn of lemma about one-half inch long and divergent when dry. Very similar to bluebunch wheatgrass, except that albicans is rhizomatous. Plains and dry hills in the eastern half of the State.

<i>Agropyron desertorum</i>	Crested wheatgrass	MBC
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A drought resistant bunchgrass introduced from Russia. Spikelets distinctly flatwise to the rachis. Dark green color before maturity. Minute auricle.

<i>Elymus lanceolatus</i>	Thickspike wheatgrass	MRCIc
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Similar to western wheatgrass except the lemmas are pubescent on the back. Rather long lax auricle. No ligule. Plains and light textured mountain slopes.

*Thinopyrum ponticum* Tall wheatgrass TBC

Introduced from southern Russia. Reproduces by seed and short rootstocks at the edge of the mature plant. Long, coarse, light green basal leaves. Spikelets do not overlap. The spikelets and the four to ten enclosed seeds grow away from the stem like a sickle. Glumes are square across the top. Does well on moist alkaline soils.

*Thinopyrum intermedium* Intermediate wheatgrass TRC

Introduced from eastern Europe. Long dark green basal leaves. The edges of a large number of the leaves have short hairs. Glumes bluntly pointed.

*Elymus repens* Quackgrass TRC

Introduced from Eurasia. Its scaly, yellow creeping underground stems spread rapidly causing quackgrass to be a rather serious weed in croplands. Leaves are green to yellowish-green. Compact heads with overlapping spikelets. Glumes are long pointed. Prominent auricle.

*Agropyron riparium* Streambank wheatgrass MRC

Resembles thickspike wheatgrass. Blades are firm and narrow, glumes narrow and pointed. Lemmas smooth or somewhat hairy along the lower edges of the lemma. Prominent auricle. Very short jagged topped ligule. Moist meadows and slopes.

*Pascopyrum smithii* Western wheatgrass MRC1c

Prominent auricle and no ligule. Leaves rigid, bluegreen color with prominent nerves. Lemma awnless or short straight awns. Favors clayey sites.

*Pseudoroegneria spicata* Bluebunch wheatgrass MBCD

Fine leaves that branch off of the stem. Top side of leaves are gray-green and underside is dark, waxy green. Spike slender. Awns on lemma one-half to three-quarters inch long that diverge at about a 45° angle when matured. Auricle very small. All upland sites.

*Elymus subsecundus* Bearded wheatgrass MBCD

Similar to slender wheatgrass except lemmas have three-eighths to one and one-eighth inch straight awns. Spikelets often twisted to one side of the spike. Moist meadows and open woods.

*Elymus trachycaulus* Slender wheatgrass MBCD

Glumes and lemmas awnless or nearly so. Glumes nearly as long as spikelet. Slender spike. Grows on wide variety of sites and elevations.

*Agropyron trichophorum* Pubescent wheatgrass TBCD

Introduced from Europe. Very similar to intermediate wheatgrass except that spikelets are hairy.

*Agrostis gigantea* Redtop MRIv

Introduced from Europe. Leaves are short and basal. The spreading panicle bears many tiny reddish colored flowers. One floret to a spikelet. No hair at base of lemma. Glumes nearly equal. Auricles absent. Ligule membranous, 1 to 5 mm. long, rounded and split at the tip. Subirrigated and overflow sites.

*Agrostis scabra* Rough Bentgrass MBCIc

Wide panicle that is many branched and very fine and delicate appearing. Pedicels very rough. Short membranous ligule that is jagged or split on top. Edges of sloughs and moist meadows in low condition rages.

*Alopecurus alpinus* Alpine foxtail MRCD

Stems erect, one to two and one-half feet tall. Seed head somewhat resembles alpine timothy except that alpine foxtail appears to have a more hairy seed head because of woolly glumes. Lemma awned near the base. Mountain meadows.

*Alopecurus pratensis* Meadow foxtail MSCD

Stems erect, one to two feet tall. Glumes hairy on keel. Awn projects a little above glumes. Somewhat resembles timothy in appearance. Subirrigated.

*Andropogon gerardii* Big bluestem TRWD

Large tufts with short rhizomes. Its seed heads have from two to six branches all arising from one point and somewhat resembles a turkey's foot. Numerous white hairs between the seeds. Twisted awns. Short fringe topped ligule. Long hairs around collar. Grows three to six feet tall.

*Schizachyrium scoparium* Little bluestem MBWD

Tufted perennial that is often reddish--especially after a frost. Leaves folded in bud shoot. Short pointed ligule. A single branched panicle tops each stem. Hair covered and awned seeds typical of bluestems. Dry hills and open woods in eastern half of Montana.

*Aristida purpurea* Purple threeawn MBWic

One floret or seed to spikelet. Three awns about two or three inches long from each lemma. Usually reddish cast. Leaves fine and inrolled. Long hairs at collar. Densely tufted. Plains, foothills and dry mountain slopes throughout Montana.

*Beckmannia syzigachne* American sloughgrass MAC

In some cases this plant may be perennial. May be three to four feet high. Long sharply pointed ligule that is rather wavy edged and often lacerated at the tip. Spikelets closely overlapping in two rows along one side of the rachis. Glumes equal. Shallow sloughs and marshes. Favors clay soils with a shallow layer of organic matter.

*Bouteloua curtipendula* Sideoats grama MRWD

Scaly rhizomes, but grows like a bunchgrass. Leaves flat (sometimes inrolled), taper to a sharp point, little twisted, distinctly veined with scattered hairs. Long sparse hairs at collar. Spikes, twenty to fifty, hanging down from one side of rachis. Plains and rocky slopes in eastern Montana.

*Bouteloua gracilis* Blue grama SR

Short, flat, lax leaf that tapers to a sharp point. Leaf light to medium green, sparsely pubescent on upper surface. Auricle absent. Hairy at collar and ligule. Eyebrow type seed head. Dry hills and plains.

*Buchloe dactyloides* Buffalograss SSWIc

Male and female flowers produced on separate plants (dioecious). Leaf blades gray-green, rather short and narrow and sparsely hairy. Hair around collar and minute ligule of hairs. Dry plains and heavy soils in the eastern part of Montana.

*Bromus inermis* Smooth brome MRC

Leaf blades long, flat, tapering to a sharp point and dark green. Sheath closed nearly to the top. Ligule minute and membranous. No auricle. Leaf blade is crimped where it leaves the collar blade.

*Bromus marginatus* Mountain brome MBCD

Spikelet quite strongly flattened. Lemmas hairy, compressed and ridged on back. Minute membranous ligule. Sheaths with downward growing hairs. Wide leaf blade. Grows one and one-half to three feet tall. Usually at high elevations, or annual precipitation over 15 inches.

*Bromus tectorum* Cheatgrass brome MACIv

Closed hairy sheath. Fairly small jagged ligule. Panicle open and drooping and reddish or purplish after maturing. Lemma narrow, gradually tapering to a point and awned from a bifid apex. Disturbed upland sites.

*Calamagrostis canadensis* Bluejoint TRCD

Rather heavy seeded opened panicle. One floret to a spikelet. Hair on base of lemma abundant and about as long as the lemma. Awn delicate, straight and extends slightly beyond the tip of the lemma. Leaf blades one to two feet long, flat and lax. Prominent ligule. Wetlands and subirrigated sites.

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| <i>Calamagrostis stricta</i>  | Northern reedgrass | TRCD  |
| <p>Stems tufted one to four feet tall with rather firm rigid leaf blades. Relatively few stems produce seed heads. Fairly tight panicle. Hairs on the lemma about as long as the seed. Delicate straight awn about as long as the lemma. Ligule rather prominent and rounded. Wetlands and subirrigated sites.</p>  |                    |       |
| <i>Calamagrostis montanensis</i>  | Plains reedgrass   | MRC1c |
| <p>Stems stiff and erect. Resembles western wheatgrass except for the prominent pointed ligule. Seed head similar to prairie Junegrass except that the lemma is hairy from the base and has a slightly bent awn about as long as the lemma. Favors clayey sites.</p>  |                    |       |
| <i>Calamagrostis purpurascens</i>   | Purple reedgrass   | MRC D |
| <p>Awns longer than the glumes, and bent abruptly. Tuft of hairs form base of lemma. Panicle dense, usually pinkish or purplish. Upland sites 15 inches P. Z.</p>   |                    |       |
| <i>Calamagrostis rubescens</i>  | Pinegrass          | MRC   |
| <p>Leaf blades long, flat and lax and dark green. Collar divided by midrib and pubescent with soft hairs. Ligule less prominent than on most of the reedgrasses. Callus hairs about one-third as long as lemma. Awn slightly longer than the lemma and abruptly bent. Few seed heads produced. Open moist woods in the western half of Montana.</p>   |                    |       |
| <i>Calamovilfa longifolia</i>   | Prairie sandreed   | TRWD  |
| <p>Long, scaly, sharply pointed rhizomes. Long hairs at the collar and ligule consists of a fringe of hairs. Leaves light green color and distinctly veined, flat or inrolled wide near the base and tapering to a long fine point. One seed to a spikelet. Seed covered with hairs about half as long as the lemma. Grows on sandy sites.</p>  |                    |       |
| <i>Danthonia intermedia</i>   | Timber oatgrass    | MBC1c |
| <p>Leaf blade has fairly long soft hairs. Hair around the collar. Ligule composed of minute hairs. Panicle narrow, few flowered and often purplish. Stout, flat, twisted, bent awn. Hair on edge of lemma. Self fertilized spikelets are hidden within the leaf sheath at the base of the stems and after ripening the stems break off and distribute the seed. Mountain meadows and slopes above 15 inch P. Z.</p> |                    |       |
| <i>Danthonia unispicata</i>   | Onespike danthonia | SBCI  |
| <p>Short, dense, rosette-like tufted perennial. Long soft hairs on both sheath and blades. Only one seed head on a stem. Stout, twisted, bent awn. Usually grows on shallow or very shallow sites in low condition.</p>   |                    |       |

- Deschampsia caespitosa* Tufted hairgrass MBCIc
- Panicle resembles redtop at first glance but has two or more florets to spikelet. Spikelet has pale or purple tinge. Short callus hairs on lemma and awn from base of lemma. Ligule very long and pointed. Sheaths shredding. Subirrigated and wetland sites.
- Distichlis stricta* Saltgrass SRWIc
- Blades rarely more than four inches long, flat and sharp pointed. Lower leaves much shorter than the upper leaves. Leaves are pale green before maturity and after maturity a characteristic yellow often with dark spots. Leaves usually taste salty. Collar narrow and distinct tuft or long hairs at margin. Scaly, yellowish, creeping rootstocks. Male and female flower heads on different plants. Spikelets crowded and compressed. Grows on saline sites.
- Dactylis glomerata* Orchardgrass MBC
- Spikelets in close cluster looking somewhat like a rabbit's foot. Leaf blade V-shaped when young and flat when mature. Leaf sheaths very much flattened. Auricle present. Ligule prominent and split pointed.
- Elymus canadensis* Canada wildrye MBCD
- Spike thick, nodding and bristly with fairly long awns. Auricle present. Very short ligule. Deep soil pockets and overflow sites.
- Leymus cinereus* Basin wildrye TBCD
- Grows three to seven feet tall. Rhizomes when present are short and thick. Spikelets often three to five at each node. Blades strongly nerved, flat, as much as three-fourths inch wide. Prominent auricles and ligule. Deep soil pockets and saline overflow and saline subirrigated sites.
- Festuca idahoensis* Idaho fescue MBCIc
- Bluish green, fine-leaved densely tufted perennial. Margin of collar forms a smooth shoulder. No auricle or ligule. Leaves tightly inrolled. Roots black. Short awn or lemma. Upland sites over 14 inches P. Z.
- Festuca campestris* Rough fescue MBCD
- Dense, dark green, rough basal leaves. Shoulder at collar that often has slight fringe of hairs. No ligule or auricle. Base of stems pinkish-red color. Upland sites in good to excellent condition.
- Leucopoa kingii* Spike fescue MBCD
- Very similar to rough fescue. Leaves not as inrolled as rough fescue. Plants are dioecious (male and female flowers on separate plants). Fairly prominent jagged topped ligule. Lower sheaths reddish brown in age. Generally found above 6500 feet elevation in rather rocky areas.

- Hordeum jubatum* Foxtail barley SBCIv
- An erect, fine-leaved, densely tufted perennial with light bluish-green leaves. Lower sheaths pubescent. Ligule very short and follows contour of the collar. Auricle absent. Spike is nodding and bluish like a foxes tail. Spike has three spikelets at each node, each containing a single seed. Spreading barbed awns grow from the tip of each seed. Glumes are also awned and barbed.
- Koeleria macrantha* Prairie Junegrass MBCIc
- Tufted perennial. Leaves basal and usually two to four inches tall. Panicle erect, spikelike, dense. No auricle. Ligule generally absent or very minute. All upland sites. Plants vary considerably in their appearance under different growth conditions and at different stages of growth.
- Melica spectabilis* Purple oniongrass MBCD
- Stems one to three feet tall, bulbous at the base. Blades flat or inrolled and sometimes purplish. Spikelets purplish tinged. Several florets to the spikelet. Glumes broad and papery. Meadows and rocky slopes above 15-inch P. Z.
- Muhlenbergia asperifolia* Scratchgrass MRCIc
- Long, slender rhizomes. Auricle absent. Very short, jagged topped ligule. Panicle wide, fine and breaks away at maturity. Saline subirrigated sites in low condition.
- Muhlenbergia cuspidata* Plains muhly SBCIc
- Fairly short, flat topped, fringed ligule. Auricle absent. Erect, fine-leaved, densely tufted perennial with hard, bulb-like scaly bases. Upland sites in the eastern half of Montana.
- Muhlenbergia richardsonis* Mat muhly MRCIc
- Dense tufts of short, dull green leaves surrounding the one to many seed stems. Stems grow in a zig-zag fashion node to node. Very slender panicle with tiny dark colored seed heads. No auricle. Ligule long with blunt tip. Dry or moist open, often saline, soils throughout Montana.
- Achnatherum hymenoides* Indain ricegrass MBCD
- Long, dark colored, tightly inrolled leaf blades. No auricle. Long ligule split at tip at minutely hairy along margins. Short hairs at collar. The wide feathery panicle has a whitish color caused by the light colored chaff. Single round, black colored seed per floret which is surrounded by white hairs. Grows on light textured soils.
- Phalaris arundinacea* Reed canarygrass TRCD
- Two to five feet tall. Wide, heavy veined, light green leaves. No auricle. Shiny, brown, flax-like seed. Panicle looks somewhat like orchardgrass. Wetland and subirrigated sites.

*Phleum alpinum* Alpine timothy MRC D

Seed head much shorter than the common timothy. Seed head usually one-half to three-fourths inch long. Glumes equal, bristly on the back and awned. Basal leaves abundant, soft and light green in color. No auricle. Short, flat slightly jagged topped ligule. Mountain meadows and wetlands.

*Phleum pratense* Timothy MRC Iv

Seed head is a tight cylindrical panicle which may be as much as six inches long. Glumes equal, bristly on back and awned. Stems swollen or bulblike at the base. Leaf blades fairly wide and light green. Ligule membranous. Leaf often crimped at the collar. Found as an exotic in moist sites.

*Poa* species Bluegrasses

Leaf tip boat shaped. Double midrib down the center of leaf blade resembles railroad track. Spikelets compressed and awnless. Auricles absent. Spikelets two to several-flowered.

*Poa ampla*\* Big bluegrass MBC D

Lemmas without hairs. Ligule quite long and obtuse. Sheaths smooth. Blades flat. Panicle narrow, four to six inches long, usually rather dense. Meadows and slopes throughout Montana.

*Poa canbyi*\* Canby bluegrass MBC D

Stems fairly stout--average more than one and one-half feet tall. Basal leaves not numerous. Often has greenish blue color. Ligule shorter than *secunda* with some jaggedness. Previous year's crown usually evident. Upland sites.

*Poa compressa* Canada bluegrass MRC Iv

Stems strongly flattened. Leaves folded in bud shoot. Ligules very short and flat topped.

*Poa cusickii* Cusick's bluegrass MBC Ic

Numerous erect, very slender, bluish green basal leaves. Several nearly leafless stems. During the short flowering stages in early June, the head enlarges considerably and becomes almost silvery in color. Panicle much wider and more compressed than Sandberg bluegrass. Ligule very short and square topped.

*Poa pratensis* Kentucky bluegrass SBC Ic

Lemma hairy and cobwebby at base. Ligule very short and nearly flat topped.

\* 2005- taxonomically reclassified as *Poa secunda*

- Poa secunda* Sandberg bluegrass SBCIc
- Numerous basal leaves that are usually folded and seldom more than two inches long. Greens up very early in the spring but matures about the same time as Cheatgrass brome. Stems very slender and less than one foot tall. Stems and seed heads often have brownish red cast during ripening stage. Straw colored and shiny when mature. Fine, very short, stiff hairs on back of lemma. Fairly long pointed awn. (Longer than *Poa canbyi*.) Upland sites.
- Puccinellia nuttalliana* Nuttall's alkaligrass MBCD
- Stems usually erect, slender, rather stiff and firm at the base, mostly one to two feet tall. Blades flat. Panicle pyramidal and open, branches clustered and spreading. Spikelets three to six flowered. Ligule quite prominent. No auricle or no hair at the collar. Saline subirrigated and saline overflow sites.
- Schedonnardus paniculatus* Tumblegrass SBWIV
- Stems four to eight inches tall or often nearly prostrate on the ground. Leaves crowded at the base. Blades flat, one to two inches long. Spikes one to four inches long, branching off of the stem. Lateral spikes break off at maturity and rolls before the wind as a tumbleweed. Short conspicuous lingual. No auricle.
- Elymus elymoides* Bottlebrush squirreltail MBWIC
- Sheaths and blades light green and softly pubescent. Flat topped very short ligule. Small auricles. Glumes very narrow. Awns about two inches long. Rachis breaks easily at the base of each joint. Dry hills and plains and saline soils.
- Spartina gracilis* Alkali cordgrass TRWD
- Tall, erect, stiff and leathery leaved perennial. Ligule a dense fringe of very short hairs. No auricles. Plants less than three feet tall. The flower head consists of from four to eight spikes which cling to the wavy stem. Glumes awnless. Each spike consists of up to forty pairs of closely packed spikelets, all growing on one side of the spike and away from the stem. Saline subirrigated.
- Spartina pectinata* Prairie cordgrass TRWD
- Very similar to alkali cordgrass, except usually more than three feet tall. Glumes awned. Collar minutely hairy at the throat. Grows in subirrigated sites.
- Sporobolus airoides* Alkali sacaton MBWD
- Large, tough branches. Blades flat and dark green color, soon becoming inrolled. Panicle long and wide spreading pyramidal. One floret per spikelet. Long hairs at the throat of the collar. Ligule very short fringe of hairs. Saline subirrigated and saline overflow sites.

*Sporobolus cryptandrus*

Sand dropseed

MBW1c

The seed head is a closed panicle when it emerges from the boot but opens into a pyramidal panicle at flowering. Ligule consists of minute hairs. Long hairs around the collar. Margin of the sheath rather conspicuous with soft, tangled, long hairs. Leaf blades flat and lax. Sandy sites.

*Stipa species\**

Needlegrasses

Spikelets one flowered disjoining above the glumes and in such a manner as to leave a sharp point attached to the seed. Lemmas tightly wrapped around seed with a prominent awn. No auricle.

*Achnatherum nelsonii*

Columbia needlegrass

MBCD

Resembles green needlegrass except no hair at throat and collar and seeds more narrow and slightly longer than green needlegrass. Very short, slightly wavy topped ligule.

*Aesperostipa comata*

Needleandthread

MBC1c

Leaves usually inrolled. Rather long, delicate ligule. Upper ligule often bilobed. Three to four-inch twisted awn on needle sharp seed. Upland sites but favors sandy soils. Often dominant on "go back" land.

*Nassella viridula*

Green needlegrass

MBCD

Tall growing bunchgrass with waxy green leaves. Leaves are flat and lax, usually about as long as the rest of the plant. Short tuft of hair at throat of collar. Very short smooth topped ligule. Awn about one to one and one-half inches long. Deep soil and overflow sites. Favors clayey textures.

*Achnatherum richardsonii*

Richardson's needlegrass

MBCD

Leaves basal and inrolled. Panicle open, the branches slender, distant and spreading or drooping. Awn about one inch long. Ligule minute. Deep soils above 15-inch P. Z.

\* Broken into different genera including *Stipa*, *Achnatherum*, *Nassella*, and *Aesperostipa*.