A Conservation Plant Released by the Natural Resources Conservation Service
Bridger Plant Materials Center, Bridger, Montana

Great Northern Germplasm
western yarrow

*Achillea millefolium* L. var. *occidentalis* DC.

Great Northern Germplasm western yarrow is a selected class germplasm released from the USDA-NRCS Bridger Plant Materials Center in 2004.

**Description**
Western yarrow is a native, herbaceous perennial in the Aster family. It is a very common wildflower that grows erect from creeping rootstocks to a height of 10 to 36 inches. Leaves of western yarrow are lacy and fern-like in appearance, as they are finely dissected into numerous short and narrow divisions not over 0.04 inch wide—*millefolium* means a thousand leaves in Latin. Basal foliage is up to 10 inches long with leaves along the flowering stalk becoming shorter toward the plant top. The entire plant is densely covered in long, soft, wooly hairs. Western yarrow has a very distinct aroma, similar to chamomile or dog fennel, that is especially noticeable when crushed. The somewhat rounded terminal clusters of flower heads are normally white to cream-colored and have an extended bloom period from May to September. The extremely small fruit is a whitish, flattened achene with compressed margins that are grayish in color.

Western yarrow is not to be confused with the introduced, invasive plant, common yarrow *Achillea millefolium*. Common yarrow has origins in Eurasia, the European continent, and Scandinavia. This introduced species is considerably different from native western yarrow in that it has a much taller stature, aggressive vigor and weediness characteristics, and initiates a later sequence of flowering and seed ripening.

**Source**
Great Northern Germplasm was originally collected in 1988 in Flathead County, Montana. The original collection site is a subalpine fir/queencup beaddily habitat type with a gravelly soil texture located near Glacier National Park on the Flathead National Forest at 3,800 feet elevation. Great Northern Germplasm western yarrow was selected for top performance in vigor, height, seed head production, and survival from among 29 accessions of native yarrows from Montana and Wyoming.

**Conservation Uses**
Western yarrow is commonly found as a minor component in many native plant communities and is considered a nondominant species. It is a forage source for bighorn sheep, pronghorn antelope, and deer. Sage grouse and other upland birds rely heavily on the foliage of western yarrow as a food source. Domestic sheep and goats derive a fair amount of forage value from western yarrow, while cattle and horses mostly graze the flower head. It is an early successional species that readily establishes on disturbed sites. Great Northern Germplasm was selected primarily to add species diversity in seed mixtures for revegetation of disturbed sites such as rangelands, minelands, roadsides, park and recreation areas, prairie reconstruction projects, and Farm Bill program conservation plantings. Secondary use is for ornamental application in low maintenance or naturalized landscapes.

**Area of Adaptation and Use**
Great Northern Germplasm is adapted for use in northern Idaho and all of Montana and Wyoming, except the Red Desert and Bighorn Basin of Wyoming. Western yarrow is a very drought-tolerant native species that is one of the most widely recognized and adaptable wildflowers in the western United States. It prefers full sun conditions along roadsides, hills, canyons, pastures, and disturbed areas. It is found scattered in sagebrush shrublands, open forests, and subalpine zones.
and occurs at elevations ranging from 2,400 feet in Montana to 12,000 feet in Colorado. Western yarrow exhibits good survival in drought conditions on gravelly loam and thin or sandy soils.

**Establishment and Management for Conservation Plantings**

Seed should be planted into a firm, weed-free seed bed, preferably with a drill seeder that will ensure uniform seed placement at 1/8 to 1/4 inch depths or broadcast seeded, then harrowed or raked, and firmed with a packer or roller. Processed seed of Great Northern Germplasm western yarrow has approximately 4.4 million seeds/lb. The full seeding rate is ¼ to ½ lb/acre pure live seed (PLS), but it would seldom be seeded in a pure stand. It is recommended that Great Northern Germplasm be included as a component of a native seed mixture where the seeding rate is adjusted to match the desired potential of the plant community. Spring seeding is preferred over a dormant fall planting date. Periodic mowing during the establishment year is one option for weed suppression.

**Ecological Considerations**

Western yarrow is rarely considered a problem weed except on heavily disturbed, arable sites with favorable environmental conditions. Growth performance is reduced with competition or in shady areas. Pest insects found among western yarrow are common leaf bugs and flea beetles. Root rot and mildew can occur in poorly drained soils.

**Seed and Plant Production**

Seed production fields should be seeded at a rate of 25 PLS per linear foot of row. Between-row spacing is dependent on the type of planting and cultivation equipment, and ranges from 24 to 36 inches. Adequate between-row space should be provided to perform mechanical cultivation. At 24-inch. row spacing, the recommended seeding rate is 0.12 PLS lb/acre and at 30- and 36-inch. row spacing, the seeding rate is 0.09 and 0.08 PLS lb/acre respectively. There are presently no herbicides specifically labeled to control broadleaf weeds in western yarrow seed production fields. Seed harvest can be accomplished by swathing and combining the cured windrows or direct combining. The indeterminate ripening may necessitate periodic mechanical stripping as seed heads mature. Seed is processed over a 2- to 3-screen fanning mill (slotted mesh screens), with final cleaning over an indent cylinder or gravity table. Seed production of 100 to 150 lb/acre can be expected under irrigated conditions. Seed viability is high, and longevity can be expected for at least 5 years when stored at moderate temperatures and low humidity.

**Availability**

*For seed or plant increase:*
G1 seed (equivalent to foundation seed) will be maintained by the USDA-NRCS Bridger Plant Materials Center and is made available to commercial growers through the Montana Foundation Seed Program at Montana State University-Bozeman and the University of Wyoming Seed Certification Service at Powell, Wyoming. Commercial production is limited to two generations beyond G1.

*For conservation use:*
Great Northern Germplasm Selected Class Western yarrow is available from the commercial seed market. A list of commercial seed producers can be obtained by contacting the Montana Seed Growers Association, Montana State University, P.O. Box 173146, Bozeman, Montana 59717-3146, Phone: 406-994-3516, the Wyoming Seed Certification Service, P.O. Box 983, Powell, Wyoming 82435-9135, Phone: (307) 754-9815, and in USDA-NRCS Plant Materials Technical Note PM-33. Plant and Seed Vendors for Idaho, Montana, Nevada, Eastern Oregon, Utah, Eastern Washington, and Wyoming. Available at: [http://www.plant-materials.nrcs.usda.gov](http://www.plant-materials.nrcs.usda.gov).

**Citation**


**For more information, contact:**
Bridger Plant Materials Center 98 South River Rd, Bridger, MT 59014
Phone: 406-662-3579

*Helping People Help The Land*

USDA IS AN EQUAL OPPORTUNITY PROVIDER, EMPLOYER AND LENDER.