Plant Data Sheet
White Spirea *Spiraea betulifolia*

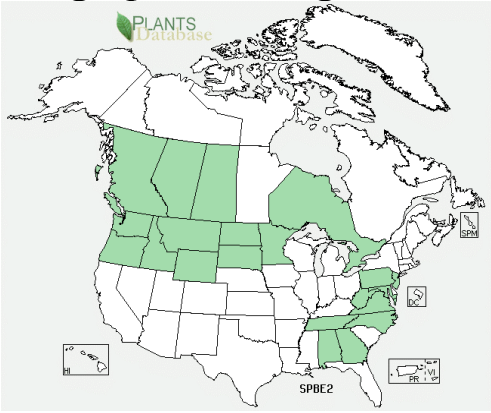
http://commons.wikimedia.org/wiki/Image:Spiraea_betulifolia1UME.jpg

Taxonomy:

Family scientific name: *Rosaceae*
Family common name: Rose
Genus: *Spiraea* L.
Species: *betulifolia*
Species authority: Pall.
Variety: *S. betulifolia* var. *betulifolia*
S. betulifolia var. *lucida*
Sub-species: none
Cultivar: none
Authority for Variety/Sub-species: (Dougl.) Hitchc. (4)
Common synonym(s): *Spiraea lucida* (Dougl. ex Greene) (4)
Common Name(s): white spirea, spirea, shiny-leaf spirea, birchleaf spirea, white meadowsweet (4)
Species Code: SPBE2 (10)

General Information:

Geographical Range:



http://plants.usda.gov/java/profile?symbol=SPBE2

(No Washington state map available because present throughout.)

Ecological Distribution:

Occurs in Douglas-fir, Ponderosa pine, Fir-spruce, Sagebrush, and Mountain grassland ecosystems (4,3).

Climate and elevation range:

Commonly found on open or brushy slopes and in forests from foothills through montane zones. Abundant in a variety of elevations; low elevations of 1,000 to 4,000 foot dry forests and high elevation zones of 10,000 to 3,048 foot wet forests (4).

Local habitat, abundance, and commonly associated species:

Dominant shrub species in forested communities of moderate precipitation. They are indicator species in Douglas-fir, subalpine fir, grand fir, ponderosa pine, and lodgepole pine habitat types (Steele). Also found commonly in moist community types (2). Prefers soils that are sandy, loamy, or clay. Does well in acid, neutral and alkaline soils that are moist (6).

Plant strategy type / successional stage:

Moderately shade-tolerant. Survivor species with surviving root crown or caudex and on-site surviving rhizomes (4).

Plant characteristics:

White spirea is a deciduous, rhizomatous shrub with cinnamon-brown scaly bark on its 1 to 3 foot tall erect stems. It's small flowers form almost flat-topped clusters with a four centimeter diameter. After fertilization, the flowers turn brown and become dry, podlike fruits (8). Root development is far into the soil profile (4). Leaves are coarsely toothed above their middle and are oval to ovaloblong that widen to the tip and taper to the base (1).

Propagation Details:

Ecotype: West Glacier, 1100m elev. Glacier National Park, Flathead Co., MT. (7)

Propogation Goal: plants (7)

Propogation Method: seed (7)

Product Type: container (plug) (7)

Stock Type: 160 ml containers **(7)**

Time to Grow: eight months (7).

Target Specifications: Stock type: container seedling, Height: 15cm, Caliper: 5mm, Root system: firm plug in containers (7).

Propagule Collection: Collect seeds when follicles begin splitting open in mid to late September. Collect follicles in paper bags in keep in a ventilated drying shed before cleaning. At maturity, seeds will be light tan (7).

Propagule Processing/Propagule Characteristics: Crush follicles to extract seeds and screen material to remove chaff. Seeds will be small, thin, and elongated. Seed longevity is unknown and seed dormancy is classified as physiological dormancy. 50% purity and 50-80% germination (7).

Pre-Planting Propagule Treatments:
Place seeds in a cold, moist statification for 60 days. Place them in a moist, rolled paper towel in an opened zip-lock bag and put them in the refrigerator at 3 degrees C. Re-moist seeds during stratification. Germination will also occur without a stratification treatment (7).

Growing Area Preparation: Grown in a greenhouse or outdoor nursery facility. The sowing method is direct seeding. Growing medium is 6:1:1 milled sphagnum peat, perlite, and vermiculite with Osmocote controlled release fertilizer and Micromax fertilizer at the rate of 1 gram of Osmocote and 0.20 grams of Micromax per container. Maintain greenhouse temperatures at 21 to 25 degrees C by day and 16 to 18 degrees C by night. Hand water seedlings and move them to an outdoor nursery for the rest of the growing season. Irrigate seedlings with Rainbird automatic irrigation system in the early morning until the containers are thoroughly leached (7).

Establishment Phase: Germination occurs over a three-week period. Mist containers twice daily after sowing until seedlings have emerged. True leaves will appear two to three weeks after germination and are thinner to one per cell (7).

Length of Establishment Phase: Four weeks (7)

Active Growth Phase: After establishments, plants grow rapidly and are regularly fertilized with 20-10-20 liquid NPK at 100 ppm. Plants will be root tight in containers in four months. Seedlings will reach flowering maturity four months after germination (7).

Length of Active Growth Phase: 16 weeks (7)

Hardening Phase: Fertilize with 10-20-20 liquid NPK at 200 pppm in August and September. Leach pots with clear water in October (7).

Length of Hardening Phase: 8 weeks (7)

Harvesting, Storage and Shipping: Eight months to completely harvest from seed. Begin harvest in September. Storage involves overwintering in outdoor nursery under insulating foam and snow (7).

Length of Storage: 5 months **(7)**

Guidelines for Outplanting / Performance on Typical Sites: Outplanted at Lake McDonald, Glacier National Park, MT. in Spring or Fall with outplanting survival at five years of 100%. Outplanted at Saint Mary, Glacier National Park, MT. in Fall with outplanting survival at four years of 0% (7).

Other Comments: Critically imperiled in Pennsylvania and North Carolina and imperiled in Saskatewan (5).

Information Sources:

Protocol Author: Sophie Pierszalowski
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References:

1. "British Columbia: Ministry of Agriculture and Lands." 16 May 2008. http://www.agf.gov.bc.ca/range/RangeID/Plants/SpirBetu.html.

2. Daubenmire, R. 1952. Forest vegetation of northern Idaho and adjacent Washington, and its bearing on concepts of vegetation classification. Ecological Monographs. 22(4): 301-330. [25238].

3. Dodson, Erich K,. Metlen, Kerry L., Fiedler, Carl E. Common and Uncommon Understory Species Differentially Respond to Restoration Treatments in Ponderosa Pine/Douglas-Fir Forests, Montana. Restoration Ecology, Volume 15 Issue 4 Page 696-708, December 2007.

4. "Index of Species Information." 12 May 2008. http://www.fs.fed.us/database/feis/plants/shrub/spibet/all.html.

5. NatureServe Explorer: An Online Enclyclopedia of Life. 1 February 2008. Version7.0. http://www.natureserve.org/explorer/servlet/NatureServe?sourceTemplate=tabular_report.wmt&loadTemplate=species_RptComprehensive.wmt&selectedReport=RptComprehensive.wmt&summaryView=tabular_report.wmt&elKey=155140&paging=home&save=true&startIndex=1&nextStartIndex=1&reset=false&offPageSelectedElKey=155140&offPageSelectedElType=species&offPageYesNo=true&post_processes=&radiobutton=radiobutton&selectedIndexes=155140&selectedIndexes=134317&selectedIndexes=146701.

6. "Plants for a Future: *Spireae betulifolia aemiliana*." 16 May 2008. http://www.pfaf.org/database/plants.php?Spiraea+betulifolia+aemiliana.

7. "Protocol Information: Glacier National Park, Montana." 16 May 2008. http://www.nativeplantnetwork.org/network/view.asp?protocol_id=200,316.

8. Scotter, George W.; Viti, Dale H. 1992. Bryophytes of the Melville Hills region, Northwest Territories. Canadian Field-Naturalist. 106(1): 100-104. [21175].

9. Steele, Robert; Pfister, Robert D.; Ryker, Russell A.; Kittams, Jay A. 1981. Forest habitat types of central Idaho. Gen. Tech. Rep. INT-114. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Forest and Range Experiment Station. 138 p. [2231].

10. "USDA Plants Profile: *Spiraea betulifolia*." 12 May 2008. http://plants.usda.gov/java/profile?symbol=SPBE2.