

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
PULLMAN, WASHINGTON

NOTICE OF RELEASE OF A SELECTION OF COMMON SNOWBERRY
(*Symphoricarpos albus* L. Blake) FROM OKANOGAN COUNTY, WASHINGTON

The Natural Resources Conservation Service, U.S. Department of Agriculture announces the release of a selected ecotype of common snowberry (*Symphoricarpos albus*).

As a “selected” release, this plant will not be given a name, but will be referred to as “the Okanogan selection” of common snowberry to document its original collection location.

Species: *Symphoricarpos albus*
Common Name: common snowberry
Plant Symbol: SYAL
Accession Numbers: T20475, 9020475

Origin: From native plants near Tonasket, Okanogan County, Washington, at 2200 feet, Major Land Resource Area B-8.

Description: 9020475 is a deciduous shrub up to 4.5 feet in height and 4 feet in width. It produces numerous stems, leaves and fruit. New shoots are produced from rhizomes in the year following planting under favorable conditions. Plants are upright and stems tend to be stiff rather than lax and drooping.

9020475 is a single clone chosen from 20 original plants

It was selected from a Pullman Plant Materials Center study of 40 common snowberry accessions, 38 of which survived beyond the establishment year. The common snowberry study was evaluated from 1977 to 1990. 9020475 was rated excellent in vigor and rhizome production, and very good in fruit production, foliage and stem abundance.

Propagation: 9020475 has been propagated by leafy softwood cuttings and hardwood cuttings. Seed propagation has not been evaluated with this selection. Softwood propagation is the preferred method of plant increase. Root cuttings are not recommended.

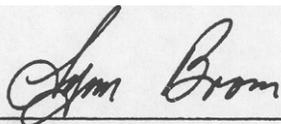
Common snowberry produces seed during the second year of growth. The fruit is a white drupe, up to 1.5 cm in diameter. Seed is scarified and sown in spring or early summer, and will germinate in one year.

Areas of Adaptation: Common snowberry's natural habitat is at elevations from sea level to 8000 feet on sites with at least 16 inches of annual precipitation. Its native range is from the Alaska panhandle to Quebec, south to California, central Idaho, Nebraska and Virginia. It occurs in thickets, woodlands and open slopes from lowlands to mid-montane areas, but not in extreme shade. Deep loamy soils are preferred but it has been found on moderately shallow and gravelly soils, and also on sandy soils in coastal areas of Washington

Anticipated Conservation Use: The potential uses of 9020475 are for wildlife habitat, erosion control along roadways and hillsides and for plant diversity in natural landscapes. It is low-growing and rhizomatous, making it an excellent shrub for site stabilization and diversity when used as an understory plant with other shrubs and trees. Conservation practices that may use common snowberry plantings include Critical Area Planting, Filter Strip, Upland Wildlife Habitat and Riparian Forest Buffer.

Maintenance of 9020475: The USDA Natural Resources Conservation Service, Plant Materials Center, Pullman, Washington will maintain the genetic material and provide to nurseries and plant researchers limited stock of rooted parent plants for further softwood increase.

Signature page for Release of a selection of common snowberry (*Symphoricarpos albus*)
from Okanogan County, Washington.



LYNN A. BROWN
state conservationist
Natural Resources Conservation Service
Spokane Washington

5-1-97

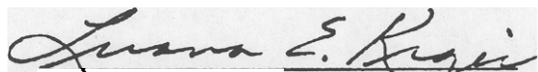
Date



ROBERT J. GRAHAM
state conservationist
Natural Resources Conservation Service
Portland Oregon

5/1/97

Date



LUANA E. KIGER
State Conservationist
Natural Resources Conservation Service
Boise Idaho

5-1-97

Date



GARY R. NORDSTROM
Division Director
Biological Conservation Sciences
Natural Resources Conservation Service
Washington, D.C.

7/7/97

Date

Documentation for the “Selected” Release of
Okanogan selection
Snowberry

Scientific Name: *Symphoricarpos albus* (L) Blake

Common Name: common snowberry

The Natural Resources Conservation Service has given due consideration to the National Environmental Policy Act in the release of this plant for commercial use

Individuals who have concerns for native plant restoration in a particular environment or ecosystem may need to address these concerns on a case by case basis

Identification Used: T20475, 9020475

Snowberry is a softwood propagated release for riparian and critical areas, Palouse hilltop snowfence, wildlife food and cover and roadbank stabilization

Origin: 9020475 snowberry originated as a seed collection by Gordon Franklin (of the former Soil Conservation Service) from native plants collected in the fall of 1973. The collection site near Tonasket, Washington was in Major Land Resource Area **B-8** and at an elevation of 671 meters (2200 feet).

Plant Description: 9020475 produces numerous stems, leaves and fruit. New shoots are produced from rhizomes in the year following planting (second year) under favorable conditions. It can be propagated with leafy softwood cuttings, hardwood cuttings or seed. Root cuttings are not recommended. Plants are upright and stems tend to be stiff rather than lax and drooping. Mature plant height is 130 cm (51 in) and canopy width is 115 cm (45 in) at Pullman, Washington. Fruit is produced in the second year of growth in the field.

Flowers are pink, perfect and .5 cm in diameter.

Leaves are simple, entire, opposite and average 3.5 cm long and 2.7 cm wide. Leaves produced on new shoots tend to be lobed and much larger in size than those on older wood.

The fruit is a white drupe and can reach up to 1.5 cm in diameter.

9020475 plants are tolerant to cold, heat and drought. No disease or toxicity problems to animals have been noted.

Method of Development: 9020475 was selected from among a collection of 40 accessions, 38 of which survived beyond the establishment year. This collection was evaluated from 1977 through 1984. Four accessions were selected for further evaluation. 9020475 was the final selection. 9020475 performed well in the initial evaluation planting. Survival was 90% over the evaluation period. Foliage abundance rating was 2 or better (1 - 9, with 1 best). Stem abundance was 2 or better in each of three years rated. The second vigor rating was 1 in four of five years rated. 9020475 was rated 1 in 1982 for rhizome produced shoot numbers.

The Pullman PMC selected plant #7 of 9020475 in the initial evaluation planting for release via vegetative propagation. This single clone selection is upright, reasonably strong stemmed, has significant and rapid rhizome development and basal spread. Fruit production is good with maturity occurring in mid to late September.

Areas of Adaptation: 9020475 is adapted to silt loam soils with 40.6 cm (16 inches) or more annual precipitation. It has grown well at the Pullman PMC with 50.8 cm (20 inches) annual precipitation at 777 m (2550 feet) elevation. It has also been grown successfully at the Washington Conservation District Nursery near Bow, WA (Skagit County). It is not adapted to alkaline soils and does not occur in extreme shade.

Native snowberry in Washington State occurs from sea level to 2440 meters (8000 feet) elevation on a variety of sites from dry to moist soils. Usually 40.6 cm (16 inches) or more annual precipitation is required. Deep loamy soils are preferred but plants can be found not only on moderately shallow and gravelly soils, but also on sandy soil sites in coastal areas of the state.

Snowberry is a facultative upland plant. Preliminary observations indicate snowberry might be adapted to zones 2 and 3 of riparian areas (capillary zone and upland zone).

Common snowberry is adapted to a wide variety of soil types. Its native environment ranges from the Alaska panhandle to Quebec, south to California, central Idaho, Nebraska and Virginia. It occurs in thickets, woodlands and open slopes from lowlands to moderate elevations in mountainous areas. but not in extreme shade.

Propagation: 9020475 is vegetatively propagated with softwood cuttings. Cuttings should be about 4 inches long and 1/16 - 3/16 inch in diameter with leaves removed on the bottom inch. Cuttings then treated with 0.1% Indole-butyric acid (**IBA**) hormone will root in about 21 days in a mist chamber with bottom heat. Parent plants can provide cutting material year round if kept in good growing conditions in indoor facilities (greenhouse, etc.).

Rooted softwood cuttings are then transplanted to a suitable container, hardened in a hardening mist facility and held in indoor growing facilities for adequate root development. Field ready transplants can be developed in about 60 days

Seed Snowberry seed if sown outside should be scarified (either acid or mechanical) and sown in spring or early summer. The seed need a warm moist stratification period followed by a cold

moist stratification period in order to germinate. Spring sown seed will not germinate the same year sown, therefore will germinate the second year.

Seed sown outside in the fall will not germinate until the second spring after being sown

NOTE: Seed propagation of 9020475 has not been evaluated. Since it is a single clone, a pollen source other than itself may be required to produce viable seed,

Hardwood Cuttings Based on data from two separate studies on fall cuttings and spring cuttings, spring hardwood cuttings treated with either .1 % or .3 % Indole-butyric acid are recommended. Both treatments had transplants in Ray Leach containers ready in 62 days. Cuttings should be taken while dormant.

Root Cuttings Root cuttings are not recommended based on two fall trials and one spring trial by the PMC. Results indicated 20 %, 29% and 5 % success rates for developing transplantable plants from September, November and March plantings, respectively.

Establishment: Plants establish fairly easily from containerized materials. The seedbed should be clean-tilled and weedfree. Existing sod or competing plants should be controlled the year prior to planting, either by tillage or chemical means. Consideration should be given to rodent control if necessary. Voles and mice can be a problem on some sites. Fairly good control can be achieved via removal of existing food supply and mowing to limit escapement cover availability.

Initial Evaluation Performance at the Pullman PMC: The planting was established in the spring of 1977 with 40 accessions. Thirty-eight accessions survived and persisted through the evaluation period which ran through 1984. The 9020475 accession had the following average development dates: spring recovery, March 28; bloom, July 3; fruit maturity, September 19; dormant, October 30 and leaf fall, November 5. Stem and foliage abundance were consistently above the planting average, Fruit amount was rated at 1.5 with the planting average at 4.4. Basal area measured almost 10 cm larger in diameter, canopy cover was 22 cm larger and height was 10 cm larger than the planting average.

Plantings at Other Locations:

Skagit Conservation District Nursery A planting was made at the Skagit Nursery near Mount Vernon, WA in 1987 with 9020475 and two other accessions. Plants were irrigated each summer as needed, since soils were very permeable and sandy.

On September 10, 1990, plants were evaluated by the PMC staff. 9020475 had 29 plants which averaged 87.1 cm in height. Selected plant #7 averaged 95 cm in height. Plant #7 had a rhizome rating of "1" and developed fruit in quantity which was above average for the three accessions evaluated.

Wildlife Potential: Between 1940 and 1946 a cooperative study (Miller, et. al., 1948) was done at the Pullman Plant Materials Center to determine the comparative value of woody plants as food

for upland game birds. Birds were harvested in various seasons and the crop and gizzard contents examined.

Snowberry ranked second only to hawthorns for Chinese pheasants when a comparison of most important woody species was made. Snowberry was of relative minor importance as food for Hungarian partridge.

Fruit of snowberry was produced the first year after planting and persists about five months.

Other reference material indicates snowberry is also utilized by quail, elk and deer. It is an important native browse plant in the West, being used by sheep, goats and sometimes cattle. No known loss or sickness occurred due to poisoning. (Miller, et. al., 1948; USDA Forest Service, 1937, USDA Soil Conservation Service, 1976.)

Roadbrnk Stabilization: During 1996 after a particularly erosion prone spring, NRCS and University of Idaho personnel observed many roadbank sites in eastern Latah County, Idaho. These sites were primarily in cropland. Some sites observed were transition sites bordering on forest land.

Many of the slopes observed had annual or perennial grasses as cover. These sites had a much higher tendency for soil slips or sloughing to occur than did those with perennial shrubs such as snowberry and wild rose.

Weediness: Snowberry does not seem to be weedy in observations made at the Pullman PMC in plantings in existence for 20 or more years. Some concern has been expressed about forested areas, however snowberry seems to be no more of a problem than other deciduous hardwood shrubs.

Maintenance of 9023475: The USDA Natural Resources Conservation Service, Plant Materials Center, Pullman, WA will maintain the genetic material and provide limited stock of rooted parent plants to be used for further softwood increase.

Table 1. Snowberry Initial Evaluation Planting Performance Average Compared to T20475 (Average covers 1977-1984).

	-----Average-----	
	<u>Planting</u>	<u>T20475</u>
Development dates		
Recovery	3/26	3/28
Bloom	7/03	7/03
Fruit Mature	9/22	9/19
Dormant	10/29	10/30
Leaf Fall	11/02	11/05
Leaf length (cm)	3.0	3.5
Leaf width (cm)	1.9	2.7
Vigor (average of 2 ratings on separate dates)	3.7	2.3
Stem abundance	3.5	2.3
Stem distribution	3.4	3.0
Foliage abundance	3.6	2.1
Foliage distribution	3.3	1.8
Resistance		
Disease	1.7	1.4
Insects	1.8	1.5
Cold	2.0	1.6
Heat	1.8	1.5
Drought	2.5	1.7
Fruit amount	4.4	1.5
Basal area (cm)	46.1	55.0
Canopy cover (cm)	63.8	86.1
Height (cm)	74.4	84.5

Table 2. Snowberry Initial Evaluation Planting Performance Average Compared to T20475 by year.

	1977		1978		1979	
	Planting	T20475	Planting	T20475	Planting	T20475
No. acc. evaluated			40		1	1
No. p _l ts planted (1977)	390	10	390	10	390	10
(for acc. evaluated)						
No. SURVIVIN	313	9	301	9	297	9
as % of p _l ants planted	80	90	77	90	76	90
Development dates						
Recovery	--	--	--	--	3/20	3/20
Fruit Mature	----	--	--	--	9/20	9/20
Dormant	--	--	--	--	11/06	11/12
No. p _l ts bloomed	82	2	266	9	278	9
as % of survival	26	22	86	100	94	100
No. p _l ts matured fruit	--	--	262	9	--	--
as % of survival	--	--	85	100	--	--
Leaf length (cm)	--	--	--	--	--	3
Leaf width (cm)	--	--	--	--	--	3
No. acc with rhizomes	--	--	6	--	10	1
Vigor (average of 2 ratings on separate dates)	--	--	5	5	3.6	3.0
Stem abundance	--	--	--	--	3.7	3
Stem distribution	--	--	--	--	3.9	3
Foliage abundance	--	--	4.4	4	3.7	3
Foliage distribution	--	--	--	--	4.0	3
Resistance						
Insects	--	--	--	--	1.9	2
Heat	--	--	--	--	2.2	2
Drought	--	--	--	--	2.2	2
Fruit amount	--	--	--	--	3.2	2
Canopy cover (cm)	10.6	9	27	50	39.0	50
Height (cm)	14.8	13	44	50	65.0	70

Table 2. (Continued)

	1980		1981		1982	
	Planting	T20475	Planting	T20475	Planting	T20475
No. acc. evaluated						
No. p _l ts p _l anted (1977)	390	10	390	10	267	10
(for acc. evaluated)						
No. surviving	297	9	296	9	218	9
as % of plants p _l anted	76	90	76	90	82	90
Development dates						
Recovery	3/21	3/18	3/22	3/23	4/16	4/15
Bloom	7/16	7/20	6/21	6/26	6/25	6/24
Fruit mature	9/26	9/26	9/30	9/23	9/18	9/17
Dormant	11/12	11/14	10/13	10/13	10/31	11/05
Leaf fall	--	--	11/05	11/06	11/06	11/12
No. p _l ts bloomed	284	9	290	9	218	9
as % of survival	96	100	98	100	100	100
No. p _l ts matured fruit	274	9	289	9	218	9
as % of survival	92	100	98	100	100	100
Leaf length (cm)	3.6	4	2.4	3.5	--	--
Leaf width (cm)	2.3	3	1.6	2.0	--	--
No. acc. with rhizomes	36	1	38	1	--	--
Rhizomes rating	--	--	--	--	2.3	1
Vigor (average of 2 ratings	4.6	4.0	3.2	1.0	3.7	1.0
on separate dates)						
Stem abundance	4.2	2	3.9	2	2.6	2
Stem distribution	4.2	3	3.1	3	2.9	3
Foliage abundance	4.0	2	3.6	1	2.9	1
Foliage distribution	4.1	3	3.1	1	2.5	1
Resistance						
Disease	2.5	3	1.3	1	1.0	1
Insects	3.1	3	1.0	1	1.0	1
Cold	3.5	2	1.4	1	1.0	1
Heat	2.6	3	1.3	1	1.1	1
Drought	4.3	4	2.3	1	1.2	1
Fruit amount	5.0	--	4.1	1	2.3	1
Basal area (cm)	20.1	30	56.1	60	67.7	75
Canopy cover (cm)	71.6	70	95.1	110	116.3	130
Height (cm)	82.9	90	108.3	108	118.6	115

Table 2. (Continued)

	1983		1984	
	Planting	T20475	Planting	T20475
No. acc. evaluated				
No. plts planted (1977) (for acc. evaluated)	140	10	100	10
No. surviving as % of plants planted	118 84	9 90	86 86	9 90
Development dates				
Recovery	3/14	3/18	4/06	4/09
Fruit mature	9/06	9/09	--	--
Dormant	10/10	10/12	--	--
Leaf fall	10/15	10/28	--	--
Vigor (average of 2 ratings on separate dates)	1.6	1.0	3.0	2.5
Stem abundance	1.9	1	2.8	4
Stem distribution	2.1	2	2.8	4
Foliage abundance	2.4	1	2.8	3
Foliage distribution	2.0	1	1.9	2
Resistance				
Disease	1.0	1	2.6	1
Insects	1.0	1	2.5	1
Cold	1.0	1	3.2	3
Heat	1.1	1	2.0	1
Drought	1.8	1	2.1	1
Fruit amount	2.6	2	--	--
Canopy cover (cm)	125.0	130	130.5	140
Height (cm)	118.6	115	117.5	115

Ratings 1 - 9, 1 = best

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