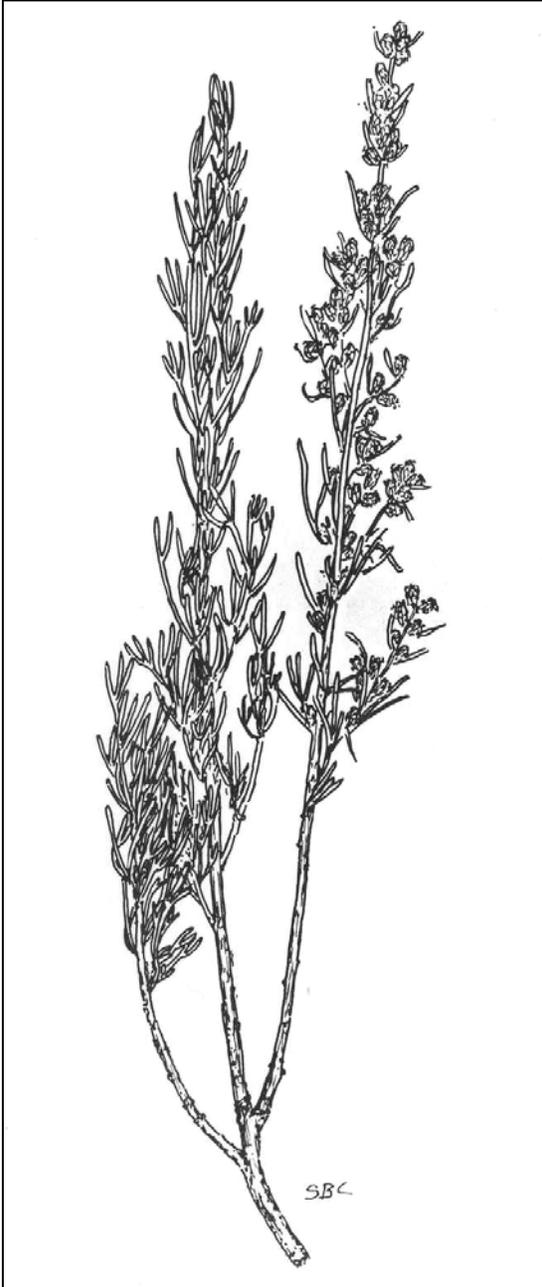


*Artemisia tripartita* Rydb.  
ASTERACEAE

threetip sagebrush

Synonyms: *Artemisia trifida* Nutt.  
*Seriphidium tripartitum* (Rydb.) W.A. Weber



**General Description.**—Threetip sagebrush is a round, evergreen shrub up to 1.8 m tall. It may have a simple, trunk-like stem or several, lesser stems arising from the base. The bark on young

branches is canescent but becomes shredded and grayish, light brown to dark brown or black, on older stems. This species can layer and resprout after fire or herbicide treatment (Beetle 1960, Pechanec and others 1965, Schlatterer 1973, Winward 1980). Leaves on vegetative branches are canescent, 0.5 to 4 cm long, and typically deeply divided into three linear or narrowly linear-lanceolate lobes, which in turn may be three-cleft. Upper leaves are often entire. Crushed foliage emits a pungent odor. Flowerheads contain three to 11 disc flowers typically arranged into panicles. Ray flowers are lacking. Eight to 12 canescent involucre bracts subtend each head. Achenes are resinous-granuliferous (Cronquist 1994, McArthur and others 1979).

**Taxonomy.**—The taxon includes two subspecies: *Artemisia tripartita* ssp. *tripartita* and *Artemisia tripartita* ssp. *rubicola* Beetle. This species, as is quite common for other species in the subgenus *Tridentatae*, includes populations that are diploid,  $2n = 18$  and tetraploid,  $2n = 36$  (McArthur and Sanderson 1999).

Subspecies *tripartita*, also known as tall threetip sagebrush, is a freely-branching shrub up to 1.8 m high. It can layer when conditions are conducive, but it is seldom found layering in the field. It can stump-sprout after fire (Beetle 1960). Leaves on vegetative branches are 1.5 to 4 cm long and deeply divided into three linear lobes, each less than 1 mm wide, that may be further divided (Beetle 1960). Flower heads bear four to eight disc flowers arranged into panicles that may be reduced to a spicate form.

Subspecies *rubicola*, also known as Wyoming threetip sagebrush, is a dwarf shrub usually less than 15 cm tall with decumbent branches. It layers frequently and may have a crown diameter of 30 to 50 cm (Beetle 1960). Leaves on vegetative branches are often 3 cm long and deeply divided into linear lobes, each at least 1 mm wide (Beetle 1959, 1960). Flower heads bear three to 11 disc flowers arranged in leafy, narrowly racemose panicles.

**Range.**—Threetip sagebrush covers approximately 34,000 km<sup>2</sup> in the Northern Rocky Mountains and Great Basin States. It usually grows at elevations between 910 to 2,700 m. It extends from British Columbia south through Montana and Wyoming to Colorado, and west to Washington, Oregon, northern Nevada, and northern Utah (Beetle 1960). Subspecies *rubicola*, however, is limited to areas of central and southeastern Wyoming and southern Oregon (Brunner 1972).

**Ecology.**—Threetip sagebrush grows well on moderate to deep, well-drained, loamy and sandy loam soils (Winward 1980). In some places, particularly in Idaho, this species grows between the lower, hot, dry sites dominated by Wyoming big sagebrush (*Artemisia tridentata* Nutt. ssp. *wyomingensis* Beetle & Young) and the higher, cooler sites dominated by mountain big sagebrush [*Artemisia tridentata* ssp. *vaseyana* (Rydb) Beetle] (Schlatterer 1973). It often grows intermixed, but as separate stands, with mountain big sagebrush, Wyoming big sagebrush, or alkali sagebrush [*Artemisia longiloba* ([Osterh.) Beetle] in areas with 300 to 600 mm of annual precipitation. Wyoming threetip sagebrush grows on rocky knolls at high elevations (2,100 to 2,700 m) adjacent to mountain big sagebrush sites.

**Reproduction.**—Flowers bloom between July and September and seed matures in October. Seeds are wind dispersed and seedlings emerge during the ensuing spring. Plants grow quickly and attain maturity in 3 to 5 years. The seeds are smaller than many *Artemisia* species; there are approximately 5 million cleaned seeds/kg (Meyer 2003).

**Management.**—This species is a vigorous seeder. Some forms are more palatable than others. Threetip sagebrush establishes well by direct seeding, rearing, or transplanting. Seedlings are able to persist with both a dense perennial and annual understory, although it is no more effective at excluding invasive annuals than other sagebrushes. It frequently grows with a number of other shrubs and herbs. It is compatible with many introduced and native grasses including mountain brome (*Bromus carinatus* H. & A.), slender wheatgrass [*Elymus trachycaulus* (Link) Gould ex Shinn], intermediate wheatgrass [*Elymus hispidus* (Opiz) Meld], and orchard grass (*Dactylis glomerata* L.).

Attempts to establish threetip sagebrush on arid sites dominated by Wyoming big sagebrush have been unsuccessful. Some ecotypes, however, can extend into drier sites. Threetip

sagebrush generally recovers well after disturbance, but hot summer fires can kill large stands, inhibit resprouting, and significantly delay natural seedling recovery.

**Benefits.**—Three-tip sagebrush adds structural and biological diversity to the landscape and reduces the effects of wind and soil erosion. Although Beetle (1960) reported it was not palatable to livestock or game, Kufeld (1973) reported that elk used it, and Kufeld and others (1973) also reported that deer use it. A form near Salmon, Idaho, is palatable to deer and may have introgressed into a nearby population of Wyoming big sagebrush (McArthur and others 1979).

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E. Durant McArthur and Jeffrey R. Taylor,  
Research Geneticist and Biological Technician,  
U.S. Department of Agriculture, Forest Service,  
Rocky Mountain Research Station, Shrub Sciences  
Laboratory, Provo, UT 84606-1856.