

DEPARTMENT OF NATURAL RESOURCES

DIVISION OF AGRICULTURE/PLANT MATERIALS CENTER
... PRACTICAL PLANT TECHNOLOGY FOR THE NORTH

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NOTICE OF NAMING AND RELEASE OF 'CAIGGLUK' TILES Y SAGE

Scientific Name: Artemisia tilesii Ledeb

Common Name: Tilesy Sage

Other Name Used in Alaska: Stinkweed, Wormwood, Sagewort

Cultivar: 'Caiggluk' (Chai-thluk) - This variety name was selected from the Yupik Eskimo word used for the species. This species has been used in traditional remedies and lore by many of the native groups in Alaska.

Other Identification Numbers: T 12052, R-33

Origin: The Alaska Plant Materials Center acquired the original seed used to develop 'Caiggluk' in 1974. The collection site was near Clam Gulch, Alaska on the Kenai Peninsula. James R. Stroh, former manager of the Plant Materials Center, collected the parental material.

Description and Occurrence: Tilesy Sage is a native perennial, herbaceous sagebrush species. The species does not have wood stems although the crown may become woody with age. When managed for seed production, the cultivar will grow from 32 to 45 inches tall. 'Caiggluk' rarely exceeds 30 inches when planted on mine spoil and usually grows to 20-24 inches under these conditions. The cultivar exhibits multi-stem growth patterns when in production and single stem form when used in reclamation activities. The upper surfaces of the deeply divided leaves are dark green while the lower surfaces are silvery white. 'Caiggluk' produces short stout rhizomes when hilled. Rhizomes rarely form on mine site evaluation plots.

Tilesy Sage occurs naturally throughout most of Alaska, the northern Canadian mainland, east to Hudson Bay, and south along the Continental Divide to Oregon. The species has also been reported in extreme northern and eastern Siberia.

Development: 'Caiggluk' Tilesy Sage has been tested at the Alaska Plant Materials Center since 1976. Initial increase occurred in 1979 and the first large-scale planting (one acre) occurred in 1987. The variety has been under continual evaluation at the Palmer site since 1979. Off-site testing started in 1981 with plantings at Kenny Lake and Kodiak. Continued off-site evaluations have occurred through 1989 throughout Alaska and, to a limited extent, in the Yukon Territory. During the evaluation process, the variety has been tested at 29 locations in Alaska.

Use: One of the responsibilities of the North Latitude Revegetation and Seed Project at the Alaska Plant Materials Center, is to develop new plant varieties for erosion control, reclamation and habitat enhancement. Other potential uses for 'Caiggluk' Tilesy sage have not been tested. Therapeutic and medicinal values have been reported, but because the species has the ability to translocate potentially harmful and toxic elements, any human use should be discouraged. While the Alaska Plant Materials Center is aware of published claims relating to the species' medicinal value, neither the Plant Materials Center, Division of Agriculture, or the Department of Natural Resources of the State of Alaska endorses or supports the plant's use for any purpose other than revegetation and reclamation.

This variety will enhance reclamation activity in Alaska as it will be the first native broadleaf, herbaceous species placed in large-scale commercial production. The addition of Tilesy sage in a reclamation seed mix will aid in achieving diversity standards. This relatively tall, broadleaf species will also impart a more natural appearance to reclamation seedlings by disrupting the homogenous appearance of traditional grass seedlings.

Areas of Adaptation: Results from off-site evaluations, the species characteristics and the natural range of Tilesy sage, indicate that 'Caiggluk' should perform well throughout mainland Alaska south of the Brooks Range, with the exception of southeast Alaska. Additional evaluation will need to occur before 'Caiggluk' can be recommended for southeast. The variety has also performed well in Kodiak, Adak and Shemya, strongly suggesting that the variety would be acceptable as a reclamation or revegetation species in coastal regions.

Within its range of adaptation, 'Caiggluk' Tilesy sage can be expected to perform well on a variety of sites. The species tends to perform best on mineral soils although it will provide satisfactory results on organic soil. Canadian research with *Artemisia tilesii* indicates that it will tolerate a broad pH spectrum (pH 2 - 9). Research also suggests the species has a high degree of tolerance to zinc, cadmium, lead, copper, nickel and arsenic; phytotoxic metals sometimes associated with mine spoil.

Seed Characteristics and Production: In general, seed production and processing of 'Caiggluk' Tilesy sage can be accomplished with standard harvesting and cleaning equipment. Based on harvest at the Plant Materials Center, a seed producer should expect 100 pounds of clean seed per acre. It is suggested that production fields be planted in rows three feet to one meter apart. A recommended planting rate for seed production purposes is 1 1/2 to 2 pounds of seed per acre.

'Caiggluk' is a relatively late maturing crop. Seed grown at Palmer has usually matured in mid-September. This late maturation date often subjects the crop to seasonal rains and high winds. Wind can be a major problem in 'Caiggluk' production because the seed shatters easily.

The species has broad leaves which can make weed control difficult. During a seedling year, chickweed is usually the most significant weed. During the second and subsequent growing seasons, the plants grow tall enough to out-compete most of the commonly occurring broadleaf weeds.

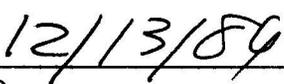
At Palmer, the main problem weeds in mature production fields are timothy and other tall grasses. However, if these weed seeds are found in the crop, they can be removed in the cleaning process.

Increase and Distribution: 'Caiggluk' Tilesy sage seed will be recognized in breeder, foundation, registered and certified seed classes. Breeder and foundation seed will be grown and maintained for the present time at the Alaska Plant Materials Center. Foundation class seed will be available to seed growers through the Alaska Seed Growers, Inc. (formerly the Alaska Crop Improvement Association). Interested growers should contact either the Alaska Plant Materials Center or Alaska Seed Growers, Inc.

Approved by:



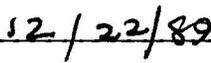
Frank Mielke, Director
Division of Agriculture



Date



Lennie Gorsuch, Commissioner
Alaska Department of Natural Resources



Date