

Safety Germplasm viviparous fescue

Festuca viviparoidea

Selected Class Release “Natural”

Uses: Revegetation on Rocky Slopes
Arctic to Subarctic and Interior Alpine Alaska

Background Information

Viviparous fescue is often a colonizer in mountainous country.

In the wild, it is found in alpine tundra and on rocky slopes.

It does not produce seed. Instead small plantlets are produced in the same place as the seed heads in other grasses. When these plantlets are sufficiently developed, they separate from the parent to fall to the ground. If the plantlet finds a suitable habitat, it will grow.

Fescue grasses are known to genetically cross with each other. Viviparous fescue reproduces only vegetatively by plantlets, so crossing is not possible. It was first described botanically in 1690 (Wycherley, 1953). It is easy to identify in the wild because of its characteristic plantlets.



Map from Hultén, 1968.
Used with the permission of Stanford University Press.

Distribution

Festuca viviparoidea is found in Alaska in tundra habitats in the interior and subarctic locations. It is also found in Siberia, Northern Europe, and Northern Canada.

Safety Germplasm viviparous fescue propagules are maintained by the Alaska Plant Materials Center for commercial production.

Safety Germplasm

viviparous fescue

Plant Identification Number: 9097729

Safety Germplasm viviparous fescue was collected in 1995 by Stoney Wright near Nome, Alaska (Wright, 2005).

This native grass is a Selected Class Release by the Alaska Plant Materials Center (PMC). This means it has been grown and harvested at the PMC and continues to preserve its excellent performance.



This grass is recommended for use in revegetation because its plantlets are vigorous and provide fast initial plant establishment.

Alaska Plant Materials Center

Serving Alaska's needs in production of Alaska native plants

July 23, 2007



Safety Germplasm viviparous fescue

Safety Germplasm viviparous fescue for Alaska Revegetation Purposes

Safety Germplasm viviparous fescue only reproduces vegetatively. Some grasses in cold climates have a reproduction strategy for survival that does not rely on seeds. The grasses that do this are usually ones that grow in harsh environments with a very short flowering season.

Instead of viviparous fescue producing seeds, plantlets (5-10 mm long) are formed. The plantlets remain attached to the mother plant until leaves are formed by cell division.



Safety in production at the Alaska Plant Materials Center, Palmer.

Because these plantlets derive their nutrition from the parent plant they have been found to have three to four times the nutrient content as compared to other arctic fescue seed (Harmer and Lee, 1978).

Another name for this plantlet is a viviplet. It is formed asexually and contains all the genetic information from its parent. These viviplets are hardy. When completely formed, they fall off from the mother plant and root in the soil (Wright, 2005).

Why use Safety Germplasm plantlets for revegetation?

If the purpose of the revegetation project is to stabilize soil in an arctic to sub-arctic area, then Safety Germplasm viviparous fescue is ideal.

Safety Germplasm was collected in and is adapted to the conditions of

- rocky slopes
- long, cold harsh winters
- short, mild summers
- low rainfall, and
- permafrost.

To Produce Safety Germplasm viviparous fescue

Plant these propagules in a medium wet, loamy soil. Plantlet vigor is fast and hardy.

The parent plant grows about 30 cm tall and has a long lifespan. It grows best with irrigation, cultivation of weeds, and fertilization.

Harvest plantlets when they have leaves roughly 5 mm (1/2 inch) long. It is best to plant them immediately but they can be stored in a damp media for up to 2 weeks.

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References

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