Sag id 898

HedeDanmark
SEED

Picea abies, Norway spruce

Seed orchard –Timeglasmarken, the foundation Hofmansgave FP.240

Objective:

Production of seed of high physical and genetic quality for the production of timber.

Origin:

The plus trees were selected in 20 Danish and 4 South-Swedish Norway spruce stands of presumed west-continental origin.

Selection criteria:

The selection criteria were: stem straightness, production, wood density, branch quality and healthiness.

Tree improvement programme:

The original 100 plus trees in the seed orchard were part of an intensive tree improvement programme. They were selected from 800 plus trees for having the highest wood density. Selection was made according to stem form, fine-branching and growth rate. The 100 selected plus trees' progeny have been tested in progeny trials, and the results of the tests form the basis for a genetic thinning of the seed orchards.

Clone seed orchard:

The seed orchard was established as a clonal seed orchard, which means that progeny of 100 plus trees were grafted and planted out at a planting distance of 6 x 2.5 m.

FACTS

Composition

Year of propagation: 1973-76, 1977-85

Year of planting: 1980-81, 1982-87

Original material for planting: 100 clones

Design: 6 m between the rows and 2.5 m between the plants in the row

Genetic thinning: In 1998 the number of clones was reduced to 46

Isolation to the nearest Norway spruce: Min. 1,500 m

Selection number: FP.240

Selection category: "Qualified"

Selection objective: Wood production

Identification

Species: Picea abies

Ownership: The foundation Hofmansgave, Naturstyrelsen, HedeDanmark a/s

Supervisor: Naturstyrelsen, HedeDanmark a/s

Location: Timeglasmarken, Stiftelsen Hofmansgave, Otterup

Latitude: N55°31.906'

Longitude: E10°28.439'

Altitude: 3 m

Area: 6.0 ha

HedeDanmark a/s
Seed
T: +45 86 87 16 55
seed@hededanmark.dk
www.hdseed.dk

Genetic thinning:

The genetic thinning in the seed orchard will take place based on results of the progeny trials. At the thinning, priority is given to selection for healthiness and wood density – that is that the clones with the healthiest progeny and highest wood density are left in the seed orchard after thinning.

FP.240 was last thinned in the spring of 1998 and the number of clones was reduced to 46. The genetic thinning is carried out over a number of years, and it is expected that the seed orchard will comprise approximately 30 clones following completion of the thinning.

Properties:

The heavy selection for increased wood density is expected to result in an increased relative wood density of approximately + 6%. This selection for wood density and the plus tree selection – especially concerning stem straightness – are expected to increase the quality of the progeny. The genetic thinning is expected to result in improved healthiness of the progeny compared to the original material. The number of healthy trees (that is trees with healthiness above average) is expected to increase by 50 % - 75 % approximately.

Growth/production:

In accordance with the required criteria, no substantial change in production compared to the original material is expected.

Application:

Based on increased wood density, stem straightness and healthiness, progeny of FP.240 will be specifically suitable for production of timber of high quality in Eastern Denmark. The selection for healthiness is expected to make the progeny suitable for use on more exposed locations.

Christmas trees:

Expected to correspond to the original stands.

HedeDanmark a/s
Seed
T: +45 86 87 16 55
seed@hededanmark.dk
www.hdseed.dk