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*IX Finnish Symposium on Plant Science,  
May 17–19, 2010, Joensuu, Finland*

*Abstracts*



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## **Cloudberry (*Rubus chamaemorus* L.) cultivar 'Nyby' – an example of domestication of wild plant species to cultivation**

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Throughout history, human has domesticated wild plant species into cultivation. In Finland, berry species have been a fruitful target for this work. Mostly, domestication occurs by finding an interesting plant individual or population in the nature and transferring this finding to home-garden or field conditions. Because field conditions differ from the natural ecosystems, domestication is not always successful. In Norway, the domestication strategy of cloudberry was to cultivate plants in the bogs, in surroundings where cloudberries have adapted. Domestication was done by cultivation of natural vegetation or planting propagated wild or bred material to natural bog surroundings. Both female and male clones were selected for the purpose.

In Finland a hermaphrodite cloudberry clone was found in 1991 at Nyby, Petolahti in Maalahti, 40 km south of Vaasa. The original plant was cloned by micropropagation and the clone has been under observation and in field experiments at MTT Laukaa since 1992. The mutation has proved to be stable and the clone was named as a cultivar 'Nyby', after the place of the original location. This cultivar has been in field trials also at MTT Sotkamo. Cultivar 'Nyby' has been in commercial propagation since 2005.

Micropropagation of cloudberry was started in 1994. The critical stage in the protocol was survival of microplants in the greenhouse after transferring to the soil. In the first experiments the survival rate was less than 25 %. After modifications the micropropagation protocol has been successful and survival rate has varied from 88,5 % to 95 %. Micropropagated cloudberry plants had a well developed root and shoot system 3 months after transferring from the laboratory to the greenhouse

Cultivar 'Nyby' can be grown both in the greenhouses and in the open field. Because of self-pollination ability, about 90 % of the flowers were pollinated and produced a berry. In the greenhouse the plants flowered and produced the first berries by self pollination after one year. Neither hand pollination was done nor pollinating insects were brought into the greenhouse. In the field experiments about 80 % of flowers developed a 1<sup>st</sup> class berry. Flowering at Laukaa has started about the 10<sup>th</sup> of June and harvesting time was at the end of July. The berries ripened within 10 days (20.7.–30.7.2004). 'Nyby' has not been susceptible to late night frosts.

Berries in the greenhouse had 9.25 seeds on an average and in the field the average number of seeds per berry was 14.1. The berries were flat rounded, the mean berry size was 15 mm x 12 mm. The average berry weight was 1.15 g varying between 0.55 and 2.22 g. The average cropping was from 101.6 g/m<sup>2</sup> up to 334 g/ m<sup>2</sup>.