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Beneficial health substances from berries and minor crops –

- How to increase their concentration in cultivated species, eliminate losses in processing and enhance dietary use

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Effects of fertilizers, mulches and land contours on the growth of sea buckthorn cultivars in organic farming

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The effects of different organic cultivation methods on the growth of two Finnish sea buckthorn (*Hippophae rhamnoides* L. ssp. *rhamnoides*) cultivars "Terhi" and "Tytti" was studied in an experimental field at coastal area in Merikarvia, western Finland for two years. Cultivation methods included different fertilizers (designed for organic cultivation), mulches (organic and plastic) and land contours (flat vs. low hill surface). Two experiments were done, the first one allowed the estimation of the effects of cultivar, fertilizer, land contour and all their interactions, while the other allowed the estimation of the effects of mulches, land contours and their interactions for the cultivar "Tytti". Results showed significant differences between two cultivars, cultivation methods and growing seasons. During the first growing season "Terhi" formed longer shoots than "Tytti". Shoot length was greater on the low hills than on the flat surface in both cultivars. After the second growing season shoot number increased significantly in both cultivars and stem diameter was significantly higher in "Terhi" than in "Tytti". The results of mulch experiment indicated that seedlings grown with plastic mulch had more shoots compared to other mulch treatments. Furthermore shoot growth, stem diameter and shoot number increased from the first to the second growing season. The selection of cultivation methods may strongly modify the growth of sea buckthorn and consequently, its economic importance for farmers.

Keywords: *Hippophae rhamnoides*; organic farming; growth; fertilizers; mulches; land contours.