



Cultivation, Harvesting and Marketing of Fruit and Berry Shrubs: An Opportunity for Regional and Climate-Friendly Food Production?

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Shepherdia argentea (Buffaloberry) is a climate-resilient shrub valued by pollinators and for its ornamental appeal. In addition, it produces edible berries with a relatively high protein content.

Berry-producing shrubs offer an excellent way to diversify agroforestry systems in Germany and Europe while promoting sustainable food production and strengthening climate adaptation. Such systems increase profitability and ecosystem services while creating ideal conditions for promoting a regional, climate-friendly, and resilient form of agriculture.

The main climate-resistant fruit shrubs are (i) sea buckthorn (*Hippophae rhamnoides*) which is drought-tolerant, high-yielding, and a superfood; (ii) elderberry (*Sambucus nigra*) that thrives even on nutrient-poor soils and has versatile uses; (iii) honeyberry (*Lonicera kamtschatica*) which is frost-resistant, can be harvested early and is rich in antioxidants; (iv) elaeagnus (*Elaeagnus* spp.), a nitrogen-fixing and drought-tolerant species, considered as a superfood and (v) buffaloberry (*Shepherdia argentea*) which is extremely drought-resistant and has berries with relatively high protein content.

The main traditional and emerging very species are (i) currants (*Ribes* spp.) which is ideal for intercropping (6–10 Mg ha⁻¹), (ii) blueberries (*Vaccinium* spp.) that prefer acidic soils and has a current growing demand, (iii) chokeberry (*Aronia melanocarpa*), adaptable to various soils and rich in polyphenols (4–6 Mg ha⁻¹ and (iv) serviceberry (*Amelanchier* spp.) with sweet berries and multiple uses such as fruit, ornamental and supporting pollinators.

Harvesting is usually manual to preserve fruit quality, but mechanized harvestingsuits large-scale cultivation. Processing juice, jams, and dried fruit from these species can greatly increase added value. Direct and cooperative marketing increases profits and reduces costs. These plants have strong local and regional sales opportunities in the organic market, while EU organic certification opens up export opportunities.

Integrating fruit trees and berry shrubs into agroforestry systems is a profitable and climate-resilient strategy, especially considering the increasing demand for regional superfoods. New species and optimized supply chains unlock additional potential for agroforestry sustainable land use and food systems in Europe.



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