

## Scanning report [Geza Bujdosó, NARIC]

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Y2 report due May 2017 for the period 06-16 to 05-17  
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### Source materials and methodology

Juhász Á. (2012): Intenzív cseresznyeültetvény vízfelvétel dinamikájának meghatározása nedvaram mérések alapján [Determination of dynamics of water uptake in an intensive sweet cherry orchards based on flow]. PhD Thesis ([http://phd.lib.uni-corvinus.hu/608/1/Juhasz\\_Agota.pdf](http://phd.lib.uni-corvinus.hu/608/1/Juhasz_Agota.pdf))

### Best practice findings

Cherry breeding program has been running at NARIC Fruitculture Research Institute since 1950. The Hungarian bred sweet cherry cultivars (Rita, Vera, Carmen, Annus, Aida, and Paulus) are tested and grown not just in Hungary but in many European countries. The cultivars having large fruit size, firm flesh, shiny, dark red fruit skin, good sweet taste, medium or long stem, very early or late ripening time are preferred on the market. Some characteristics of our cultivars fit well to the different expectations, so they play an important role in the production.

To ensure the production fruit site of a commercial orchard must be checked by the experts from the Research Institute dealing with fruit site research. This is a complementary step (based on law CXXIX. in year 2007. in 58-69 §) before establishing a new commercial orchard with at least 1 000m<sup>2</sup> surface for all fruit species except small fruit cultures (minimum unit for the commercial small fruit crop orchard is 3 000 m<sup>2</sup>). This check means soil check and check of the location of the fruit site. This process supports all growers with fruit sites having at least suitable possibilities to start fruit production.

The average Hungarian sweet cherry orchards aren't irrigated, because the natural precipitation (550 to 700 mm annual yearly precipitation) might be enough for growing this crop among extensive conditions. The intensive orchards are irrigated, the growers use drip irrigation or micro sprinklers to water them. Based on the research data watering is very effective if it is during the early morning hours, not later than 10 a.m., before the total sun radiation is the maximum. During the hot hours, the stomas are closed, so the water uptake is not possible. Other solution is to water the orchards after 6 p.m., when the sun radiation is decreasing. The morning water uptake is 5 to 10 % bigger than the water uptake in the evening. If there was a sunny day, the flow is very intensive during the night-time right after the sunny day. The water uptake during the night is just 5% of the uptake measured during the morning (Juhász 2012).

The annual water demand of sweet cherry depends on the phenological stage. Irrigation is suggested especially during the fruit development period, because the water uptake is very intensive during it. After this period sustainable irrigation can be made.

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<sup>1</sup> Please see [ec.europa.eu/eurostat/ramon/nomenclatures/](http://ec.europa.eu/eurostat/ramon/nomenclatures/) for details on NUTS regions, level 3

Fruit thinning is not used in the Hungarian sweet cherry production. If the crop load is heavy the leaf – fruit ratio must be reach 8 to 9 leaves per fruit to have optimal fruit size. Thinning can be made after the petal fall with hands.