

### 3 THE «WATER FOOTPRINT» OF EU SUGAR BEET

The link between agriculture and natural resources is two-fold. On one side, agriculture is a water user; on the other, it plays a central role in managing natural resources, such as soil and water, in a sustainable way.

In recent years, awareness about the impact of human activity on the environment has increased. Research has provided a series of methods to analyze such impacts. The water footprint is an academic concept used to estimate the total water consumption for a certain production process.

Sugar beet is a feedstock not only for sugar but also for a range of co-products, such as bioethanol, biogas, animal feed and vinasse. Separate water footprints can be calculated for each final product.

A study from the UNESCO Center for Water Education shows how in comparison with the other two main feedstocks for sugar/isoglucose and biofuel production (sugar cane and maize) **sugar beet consumes less water when used to produce sugar or ethanol.**

Variations in water footprint amongst feedstocks are mainly related to differences in water requirements of the crops and to the crop yield. **Water used for processing the feedstock in the factories only accounts for 10% of the total water footprint.**

As shown before, sugar beet has a comparably lower water need than sugar cane and maize. In addition, the temperate climate provides enough water to almost avoid irrigation. This makes sugar beet a valuable commodity for producing renewable energy in a sustainable manner.



The water footprint of sweeteners and bio-ethanol from sugar cane, sugar beet and maize

	Sugar / Isoglucose	Ethanol
	m <sup>3</sup> /ton	liter/liter
Sugar Beet	985	1.335
Sugar Cane	1.500	2.855
Maize	1.1125	1.910

