

# Beat the drought!

## Grass with less water



**WaterSaver**<sup>®</sup>  
Grass with less water



# Saving water is our social obligation

**W**ater of good quality is our most valuable asset on earth. In our modern society, we wouldn't be able to survive a single day without water. This is something of which we at Barenbrug are acutely aware. Water is for drinking, that's absolutely essential. Without drinking water, there would be no life on earth. Water is also important for irrigation, but this can be restricted to a certain extent.

The past decade our weather conditions have become increasingly extreme. Periods of extreme rain were succeeded by periods of extreme drought. Grass plants need water for optimum germination, establishment and growth. The varying weather conditions consequently also led to more stringent requirements with respect to the properties of grass.

Water of high quality is a scarce commodity that cannot be taken for granted. Water that must be of top quality involves high costs. That's why water is one of Barenbrug Research & Development's key concerns. We have developed new grass varieties and products that tolerate heat and drought without requiring large amounts of water.

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#### What makes Water Saver so unique?

Many grass mixtures available on the market contain the same components as Barenbrug's

Water Saver: tall fescue, smooth stalked meadow grass and/or perennial ryegrass. Almost all those mixtures contain randomly chosen varieties of these grass species. However, many years' research carried out by Landlab in Italy has shown that a mixture's specific varietal composition does actually influence the quality of the grass! The combination of smooth stalked meadow grass, tall fescue and perennial ryegrass results in a sward of high quality that tolerates drought and heat well in summer, helps the weaker tall fescue survive the winter and ensures early growth in spring. Thanks to the perennial ryegrass, the grass soon establishes after seeding, while offering plenty of room for the slower smooth stalked meadow grass and tall fescue.

# Beat the drought!

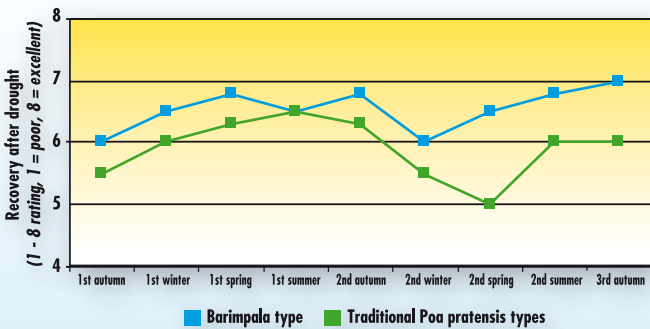
Prolonged drought may seriously damage your lawn. Water Saver prevents this problem. While other grass plants dry out, Water Saver remains green. The Barenbrug Research varieties included in Water Saver have excellent drought and heat tolerance.

Water Saver contains Barenbrug's tall fescue, perennial ryegrass and smooth stalked meadow grass. Barenbrug's smooth stalked meadow grass varieties are known for their great resilience and ability to recover after dry periods. While other varieties are defeated by dry or hot conditions, a variety such as Barimpala will soon become green again.

### Smooth stalked meadow grass decisive in Water Saver

Smooth meadow grass is the most influential grass in Water Saver. The range of smooth meadow grass varieties is very large, but Water Saver contains only those that Barenbrug Research selected as being best in terms of drought tolerance, winter hardiness and wear tolerance. Barimpala is such a smooth meadow grass variety that performs well both under dry conditions and during winter.

*The chart below shows the resilient characteristics of Barimpala Poa pratensis types in spring and autumn compared with traditional types.*

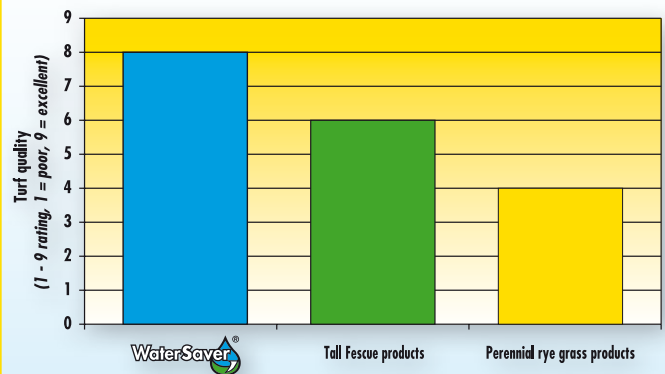


### Barenbrug's unique tall fescue varieties!

Barenbrug's specific tall fescue varieties form a very deep root system, have a finer leaf texture and greater drought tolerance than traditional tall fescue varieties. The perennial ryegrass contained in Water Saver moreover ensures rapid establishment and was also specifically selected for its drought tolerance.

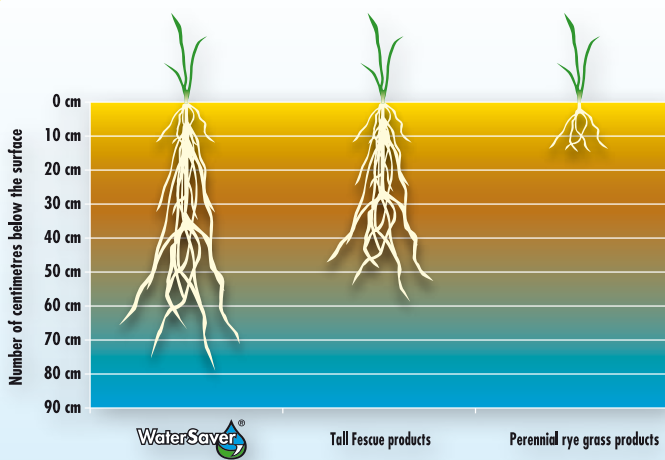
The balanced combination of the best Barenbrug tall fescue, perennial ryegrass and smooth stalked meadow grass varieties in Water Saver ensures excellent drought and heat tolerance.

*The following graph shows the quality of Water Saver seeded in autumn in comparison with that of a traditional tall fescue mixture and a mixture containing perennial ryegrass. The irrigation level was 50% of the Evapotranspiration (ET). The measurements were taken over a period of two years.*



## Deep rooting: another benefit

Thanks to its deep rooting, the Water Saver grass obtains water from deeper soil layers. Standard grass plants root less deep and can only obtain water from the top layer (*the upper 10 to 15 cm*). Such plants will soon die under dry conditions, even before a stage of extreme drought is reached. The tall fescue contained in Water Saver can root to depths of more than 60 cm and stores water and nutrients (*sugars*) in its roots, creating a buffer for dry periods, as it were. Smooth stalked meadow grass ensures horizontal growth, resulting in an extensive network of underground rhizomes and roots.



### Landlab Research Centre

Landlab is a firm of agronomists and landscape planners offering advice on environmental issues. The "land" part of the company's name refers to earth, territory and landscape, while the "lab" stands for a laboratory in the sense of a place for developing ideas and projects, an area for thinkers. Landlab has an almost unique position in Italy: a consultancy focusing on conventional and organic horticulture and the cultivation of fruit trees and turfgrass for various applications, with its own trial fields in Vicenza plus several trial fields managed by farmers. Landlab also follows developments

in the fields of land planning, environmental assessments and landscape design for private Italian entrepreneurs and municipal authorities.

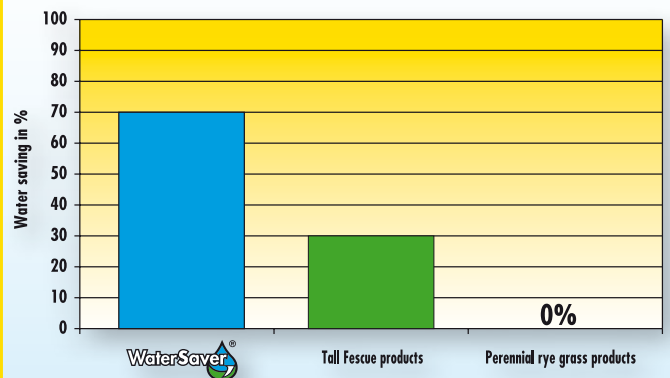


Advanced Drought Check system at Landlab, 2013

## Water & cost savings

Water Saver can help you save up to 70% on your total amount of irrigation water. In Italy, where the average consumption is 120 litres of water per m<sup>2</sup> per month, this soon leads to an overall reduction of 0.70 x 600 litres = 420 litres per m<sup>2</sup> in the growing season, which ranges from May until October. That corresponds to 42 m<sup>3</sup> water per 100 m<sup>2</sup>! In euros the savings may amount to € 73.50 per 100 m<sup>2</sup>, depending on the region.

Irrigation level	30 mm/week	litres/m <sup>2</sup>	m <sup>3</sup> /100 m <sup>2</sup>			
	120 mm/month	120	12			
	Costs / m <sup>2</sup>	€ per 100 m <sup>2</sup> /month	per 2 months	per 3 months	per 4 months	per 5 months
AVG water price € / m <sup>3</sup>	€ 1.75	21	€ 42.00	€ 63.00	€ 84.00	€ 105.00
Water Savings (%)	Cost Savings (€)					
	€ per 100 m <sup>2</sup> /month	per 2 months	per 3 months	per 4 months	per 5 months	
Traditional mix with Lp	0%	€ 0	€ 0	€ 0	€ 0	€ 0
Traditional mix with Fa	30%	€ 6	€ 12.60	€ 18.90	€ 25.20	€ 31.50
Water Saver	70%	€ 15	€ 29.40	€ 44.10	€ 58.80	€ 73.50



Water Saver circular trial conducted by Landlab, 2010

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## Green Earth label



Economically and ecologically sound use and management of grass are primary concerns in Barenbrug's product-development efforts. With its Green Earth quality label, Barenbrug helps green space managers to achieve a more sustainable use and management of grass. Extensive research and many years' experience grant Barenbrug unique knowledge of which cultivars and mixtures can ensure sustainable use and management of grass.

All the cultivars and mixtures bearing the Green Earth quality mark have been independently tested by research institutes in the Netherlands and other countries. With its Green Earth label, Barenbrug hopes to contribute towards a green planet on which future generations will also be able to enjoy sports and other recreational activities.

Barenbrug has formulated four concrete requirements that grass mixtures need to meet in order to be eligible for this sustainability quality mark. The Green Earth label means that the grass concerned scores better than that of the previous generation in terms of at least one of the following aspects:

- Reduced water use.
- Reduced use of fertilisers.
- Reduced use of herbicides and fungicides .
- Reduced mowing.

## Product characteristics

### Morphological characteristics

Growth habit	tufted perennial with rhizomes
Height	40 mm
Leaf width	medium broader leaved amenity cultivars
Shoot density	medium
Leaf colour	mid - green
Rooting capability	down to below 60 cm
Seeds per gramme	500
Disease tolerance	good
Thatch build up	low
Environmental conditions	pH 5.0 - 7.8
Soil type	any
Wear tolerance	excellent
Shade tolerance	good
Germination temperature	preferably high (from 18 °C soil temperature)
Establishment	medium

### Mixture composition

Festuca arundinacea (2 varieties)	80%
Poa pratensis Barimpala	10%
Lolium perenne	10%

### Maintenance conditions

Average maintenance requirements	low to average
Minimum mowing height	40 mm
Mowing frequency	low to medium
Water requirements	low
Nitrogen requirement	average
Sowing rate	35 - 50 g/m <sup>2</sup>
Sowing depth	between 15 and 20 mm depth
Package	15 kg

"I started developing Barimpala at Landlab fifteen years ago. At the time, Barimpala seemed to perform best in the Water Saver trials, and it still performs best today! Users feel very confident and relaxed knowing that their lawns have been seeded with Water Saver containing Barimpala."

**Dott. Adriano Altissimo,**  
CEO and Research Director at LandLab srl  
Quinto Vicentino (VI) Italy

"We have used Water Saver for years now for our turf production. Thanks to Water Saver we irrigate less and have healthy turf with less cost for irrigation."

**Gianfranco Martinelli ,**  
Owner Tara Prati, (Turf producer Northern Italy).



# WaterSaver®

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## Why choose ?

- Less water required for your turf, so you Save Water!
- Less work required for irrigation, so you Save Labour!
- Less cost for your water, so you Save Money!
- Less water means no Poa annua, so you Save your Grass!
- Less potable water means more for human use, so you Save People!

 **BARENBRUG**

*Great in Grass*