

Applications of Grodan in Hardy Ornamental Nursery Stock

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INTRODUCTION

Grodania A/S, Manufacturers of Grodan stonewool products for horticulture, has in recent years been diversifying into new sectors of horticulture, in addition to the traditional glasshouse salad markets. Many horticultural substrates and additives have tended to be waste products from other industries (bark, coir, etc). Grodan stonewool is made from a natural raw material, diabase rock, and is fabricated into various shapes of slabs, blocks, multi-blocks, and granulates.

Some of the new products which have been developed include:

- Single Block System (SBS) for rooting cuttings
- Water repellent granulates for peat mixes
- Water absorbing granulates for peat mixes
- Stonewool Mix—total growing medium for nursery stock, interior planters, orchids, pot plants
- Special slabs for roof gardens, sound-absorbing walls
- Stonewool for hardy ornamental nursery stock
- Granulates as an ingredient of growing media mixes

Stonewool can be made water repellent or water absorbent, and in two different grades—fine and medium (Table 1).

Table 1. Grodan granulates.

Product	Code	Approx. loose volume (litre)	Final pot size
Fine, water repellent	BU 10	300	Less than 1 litre
Medium, water repellent	BU 20	450	1 to 3 litres
Fine, water absorbent	GU 10	300	Less than 1 litre
Medium, water absorbent	GU 20	450	1 to 3 litres

Water repellent granulates will increase air-filled porosity (AFP) in peat mixes. The AFP of a mix containing peat and water repellent granulate increases as the proportion of the granulate increases. At an incorporation rate of 30% (by volume), AFP has increased by 7% compared to an increase of 5% with bark (Cambark 100) and a decrease of 5% with sand (Fig. 1).

The benefits of a growing medium with a high AFP (15% to 20%) include: better root growth, increased winter survival of less hardy subjects, and quicker spring growth.

Water repellent granulates can be added to a peat mix at a cost of about 2.5 pence per loose litre which makes the additive cost effective when compared to other

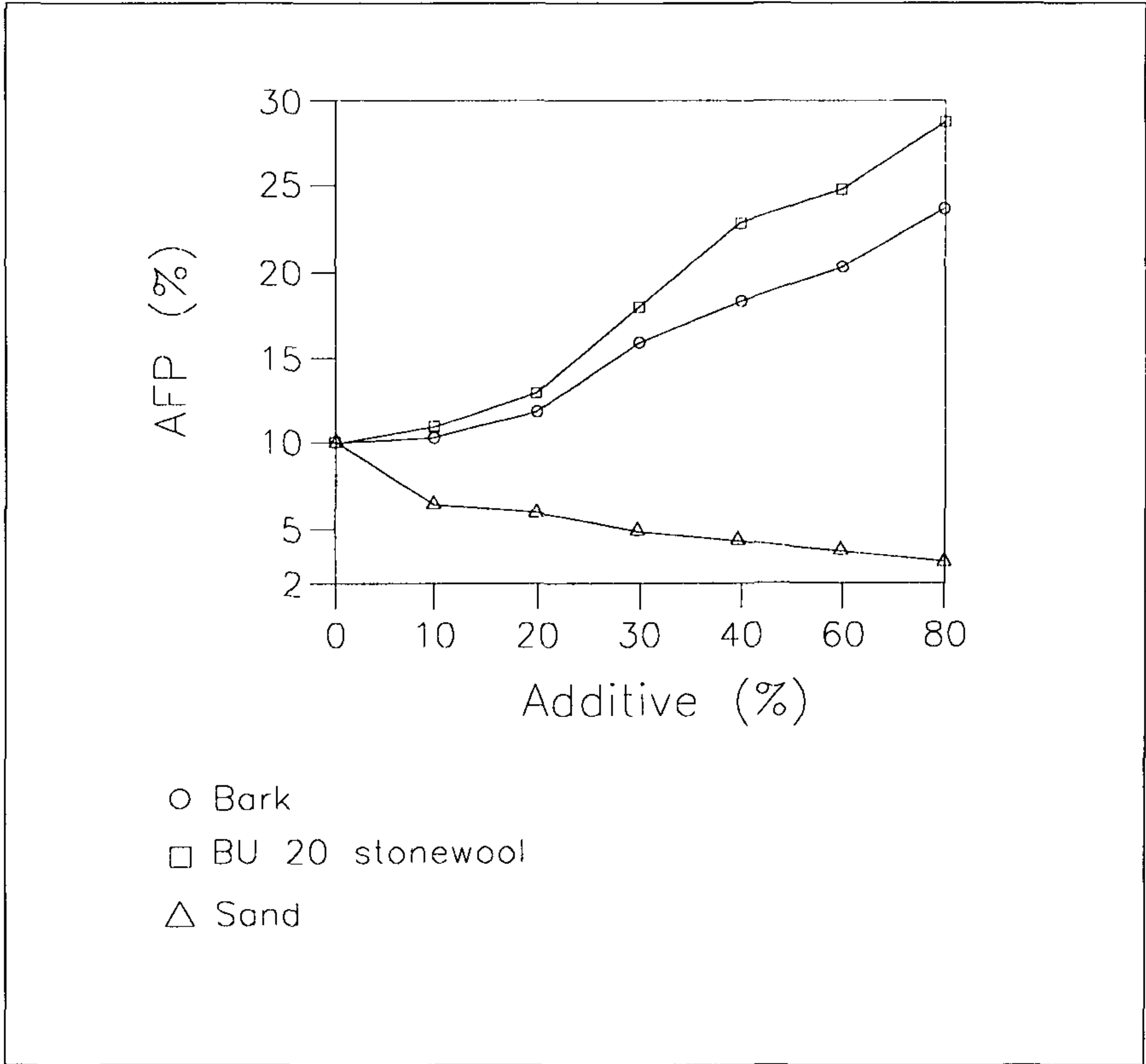


Figure 1. AFP of peat media amended with stonewool, bark and sand.

amendments such as perlite and bark.

When water absorbent granulates are added to peat, there will be an increase in water holding capacity (Table 2). In addition, more water in the mix is available for plant uptake since the water in the granulate fraction is only weakly held.

Some of the more general properties and features of granulates in mixes are described in Table 3.

Table 2. Water holding capacities (%) of a medium sphagnum peat amended with stonewool granulates.

Peat	30% BU 20/peat	30% GU 20/peat
60.4%	56.2%	66.2%

Table 3. Features of Grodan granulates in hardy ornamental nursery stock growing media.

Repellant granules increase AFP (%)	Absorbent granules increase WHC (%)
High out-turn volume Inert—no fertilizer lock up Produced under ISO 9001 100% rooting volume	Granulates visible in mix Lime only for peat fraction Compact bale/palletized Homogeneous flock size
