

## Grodan — Properties and Use

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### INTRODUCTION

Current trends in the pot plant industry still indicate that production methods should aim at uniformity and high quality ("A" products) if nurseries are to survive the intensified competition of the future. In the future, quality will be determined not only by the nursery but also by customers, for whom decorative value and long life are important quality parameters. The production processes must also use fewer growth-retarding chemicals. To meet these demands a wide range of cultivation parameters must be carefully controlled; the most important of these are connected with the development of robust, compact plants which have plenty of lateral shoots and flower buds. In other words, cultivation practices should aim at high plant activity to ensure optimum water and nutrition uptake leading to a high transpiration rate which will result in robust and compact plants.

The environment in which plants grow influences their rate of transpiration. High humidity conditions will reduce transpiration and thereby reduce the transport of water and nutrients from the root zone. But the root zone environment is probably the most important factor with regard to plant activation, and this is where non-absorbing Grodan granulate proves its great worth in modern pot-plant production. Grodan granulate works like an air pump, thus providing roots with the oxygen they need to keep plants constantly active and growing optimally. Grodan granulate also makes sure that plants have a better root-top ratio. This air pump effect of Grodan granulate is a result of the following product properties:

- Maintains good peat structure, and thus structural stability.
- High air : water ratio.
- Faster draining.
- Works like an air pump in connection with watering.
- Forms a natural part of the pot substrate.
- Makes saturation easier after pot substrate has dried out.

Grodan granulate is particularly valuable when:

- Cultures are produced under conditions where it is difficult to maintain high transpiration rate.
- Plants are grown under natural short-day conditions.
- Plants have a poor root system.
- Culture period is long.
- Cultures are produced partially or wholly in the open air.
- Cultures are irrigated with ebb-and-flood systems.

### GRODAN GRANULATE IS VERY EASY TO HANDLE AND USE

To achieve the full effect of Grodan, experience shows that 20% to 30% Grodan granulate should be added to the peat. If less is added, the effect of Grodan granulate is reduced considerably. The amount of Grodan granulate to be added should be calculated based on the volume of the peat.

Grodan granulate can be added to the final mix by your peat supplier, or you can mix it in yourself. If you choose to mix it in yourself, make sure that the mixing time is as short as possible to keep the structure of the peat and granulate.

Grodan granulate is made from a mineral wool fibre which has been shown not to be harmful to health. However, since January 1999 it has been labelled “locally irritating” due to a well known and temporary mechanical irritation of the skin on direct contact with the fibres. When working with Grodan granulate, you should minimise the dust level (e.g., by spraying with water or by dust extraction). We also recommend the use of suitable working gloves. More detailed recommendations about working with Grodan are available from Grodania.

Fertilisation after addition of 25% Grodan granulate is the same as normal, but the amount of lime must be reduced by 25% when the peat is treated with lime. The same irrigation system can also be used, although you should expect irrigation to be necessary slightly more frequently than normal. This is a clear advantage, since it provides the basis for an increased activity in the root zone.

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## Cocopor® a Cocofiber- and Peat-Based Soil Additive

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Cocopor® is a special, low-salt containing coconut-fiber additive consisting of 80% nut fibers and 20% sphagnum peat. This product is used for all types of containerized plants and is particularly advantageous in connection with automatic irrigation systems for ornamental plants including perennials. Cocopor® is part of almost all standard substrates made by Stender. For improvement of the structure of substrates mixed by growers 15% to 30% of Cocopor® is added.

Besides improving the optimum air to water ratio, Cocopor® clearly increases the capillarity and water-transport properties in the substrate. The rewetability of the substrate and the important drainage of excess water is clearly improved. Compared to other coconut-based additives on the market Cocopor® has a particularly low salt content, does not affect the pH of the substrate, and is very suitable for automatic pot filling due to its well defined fiber length. An important characteristic compared with other structure-improving additives is the slow decomposition of the fibers, which is expressed by a very low biological activity. This improves the stability of the substrate, making it suitable for long production periods.