

Coir pith: life story of a substrate

Coir pith as an organic substrate was introduced in the eighties. Rose growers were the first to use it professionally. It started with small tests in greenhouses and at research stations with promising results. Within a few years it was accepted widely as a suitable substrate. The quick strike of roots and the fast development have not gone unnoticed. Besides, the specific properties like water containing capacity, pH buffer and stable physical structure were reasons for a successful introduction. Soon discussions started about availability and quality of this organic substrate. In The Netherlands the 'Stichting Regeling Handels Potgronden' (RHP) has made quality demands for coir pith to assure the user a reliable product. By becoming a member of this RHP, coir pith suppliers showed to be dealing seriously with a promising substrate.

Over 15 years of trials, research and experiences have directed to the success of Dutch Plantin coir pith as a substrate for horticulture.

Coir pith; its history

Coir pith is an organic matter. It originates from the tropical hemisphere. All around the tropics coconuts are grown, both professionally and naturally. Especially in south-east Asia coconut oil production is widespread. For the professional oil winning companies the husk of the nut is a waste product. These coconut husks mainly exist of coir and fibres. Fibres were used in car and plane chairs, brooms, drain pipes and so called coconut mats. The coir was used as potting soil in gardens. In the seventies first trials were made in horticultural crops. And with success. Dutch Plantin from The Netherlands introduced coir pith successfully in roses. Rose growers had to change to substrate because of severe infections with soil diseases and the Dutch prohibition of chemical soil sterilisation methods. Coir pith turned out to be a useful alternative substrate for the growth of roses. From this moment other growths were investigated. These days coir pith is used either 100% or as additive in potting soils.

Promising results have been achieved with vegetables and pot-plants. In propagation the use of coir pith is widespread already.

Coir pith; its current status

About 900 hectares of roses are grown professionally in The Netherlands. 300 hectares are grown on coir pith, while the rest is either grown on rockwool (300 hectares), glasswool or in soil. In The Netherlands roses are mainly grown on substrates. In the other areas with professional rose growth, planting in soil is still the main system. Though in these areas too, substrate will be more and more common. As for The Netherlands here coir pith is a useful alternative substrate. In Europe (except NL) 45 hectares of roses is grown on coir pith already. Other areas with increasing use of coir pith are Israel, California (USA), Ecuador and Kenya. Cultivation methods of roses in coir pith are comparable to soil (Van Leest, FlowerTech Vol.2-1), which means an easy change for the grower from soil growth to coir pith. Often the soil system fits for using coir pith. With most other substrates one has to improve the dripulating system because of the dryness of the substrate. With coir pith one has a substrate with a huge water containing capacity. This means a more easy way of adding water to the crop. Coir pith regulates the availability of water for the crop. For these reasons coir pith is used more and more all over the world.

Coir pith; its future

About availability and quality of coir pith one can notice that the number of suppliers of coir pith has increased throughout the years. Quality of the supplied product will be one of the key factors for success. Was Sri Lanka in the beginning the main supplying country, India and The Philippines are getting more important. Other countries are Ivory Coast, Indonesia and Malaysia. Coir pith is won from coconut husks, so the available amount will be replenished yearly. Compared to peat moss which is dug up in peateries, coir pith will be harvested year round continuously. While coconut oil is a main element for the soap- and food industries, this crop will be grown now and in the future. Therefore the availability of coconut husks and coir pith will be guaranteed.

Quality of coir pith is an important issue. With trials Dutch Plantin found out that the airiness of coir pith is one of the main factors for a successful crop development in the substrate.

Physical conditions differ. As these conditions are decisive for the airiness of the coir pith it is important to know the facts. Airiness of coir pith will be more or less either by coarseness or by age of the material. The older the coir pith the finer it will be. Finer coir pith is less aired and can contain more water than coarse material. While some crops demand a huge amount of water, other crops need a high airiness. Therefore it is important to know the material to start the growth with. In general roses like well-aired substrates. This means that roses grow well in fairly young coir pith. Some pot-plants for example demand wetter coir pith. These cultures will be supplied with finer coir pith.

With its own production facilities in Sri Lanka, India and The Philippines Dutch Plantin deals both as producer and supplier of the substrate worldwide. In this way Dutch Plantin controls the entire coir pith chain: from production location to the final user. This improves the quality and success of the product, both for the grower as for the producer / supplier. In times of chain control this means an advantage for all involved. Meanwhile Dutch Plantin further improves the quality of coir pith by research. Its research department continuously looks for ways to improve the production process of coir pith, cultivation advises and use as substrate in (for coir pith) unknown crops. Dutch Plantin Research also cooperates with research stations, colleges and universities to reach the best results.

Coir pith: a substrate with a healthy future.

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To show the difference in water containing capacity of coir compared to rockwool and soil (clay type) the following graph is added. Water capacity as percentage of the entire volume is shown as a result of the vapour pressure. Figures are prepared in laboratorial tests.

pF-curves

