Quality of growing media matters

Annual report 2023

COLOPHON
RHP
Galgeweg 38
2691 MG 's-Gravenzande
The Netherlands

+31 (0)174 - 62 03 60
info@rhp.nl
www.rhp.nl

Chamber of Commerce Haaglanden 41146015

TABLE OF CONTENTS

FOREWORD

We are proud to present you our annual report 2023! I look back with great pleasure on the past year, in which I started my wonderful challenge at RHP on February 1st!

Challenges
Also in 2023, the challenges still existed for our industry. The availability and environmental impact of raw materials also kept us busy last year. With the raw material transition in full swing, there was much need for the expertise which RHP has in the field of (renewable) raw materials and growing media. Safety and quality of raw materials and growing media remain paramount for RHP. RHP supported the worldwide affiliated companies with research and development. Also RHP shared knowledge with for example other research institutes, growers and retail. RHP stands for all raw materials; eventually the market determines what is and what isn't accepted.

Sustainability
As a result of social trends, public opinion and discussions around regulations at the level of national governments, sustainability is becoming increasingly important. Last year, RHP developed a new vision and strategy for the coming years, incorporating sustainability themes such as substrate footprint and responsible production of raw materials. In 2023, RHP initiated the development of a sustainability scheme Responsibly Produced Coir, for responsibly produced coir with attention to social and environmental aspects.

New raw materials
And 2023 also saw the preparation of new products to be certified: plugs and other small preformed growing media (RHP), topsoil substrate (RAG) and spent substrate (RHP Consumer). The latter is a good example of a renewable raw material to first gain experience with in the consumer market.

New certified companies
In 2023, many companies showed interest in our quality marks RHP and RAG. A company from Finland completed the route to certification last year and we were pleased to welcome it as a new certified company.

In short, a year full of interesting developments. In this annual report we would like to tell you more about it. Enjoy reading!

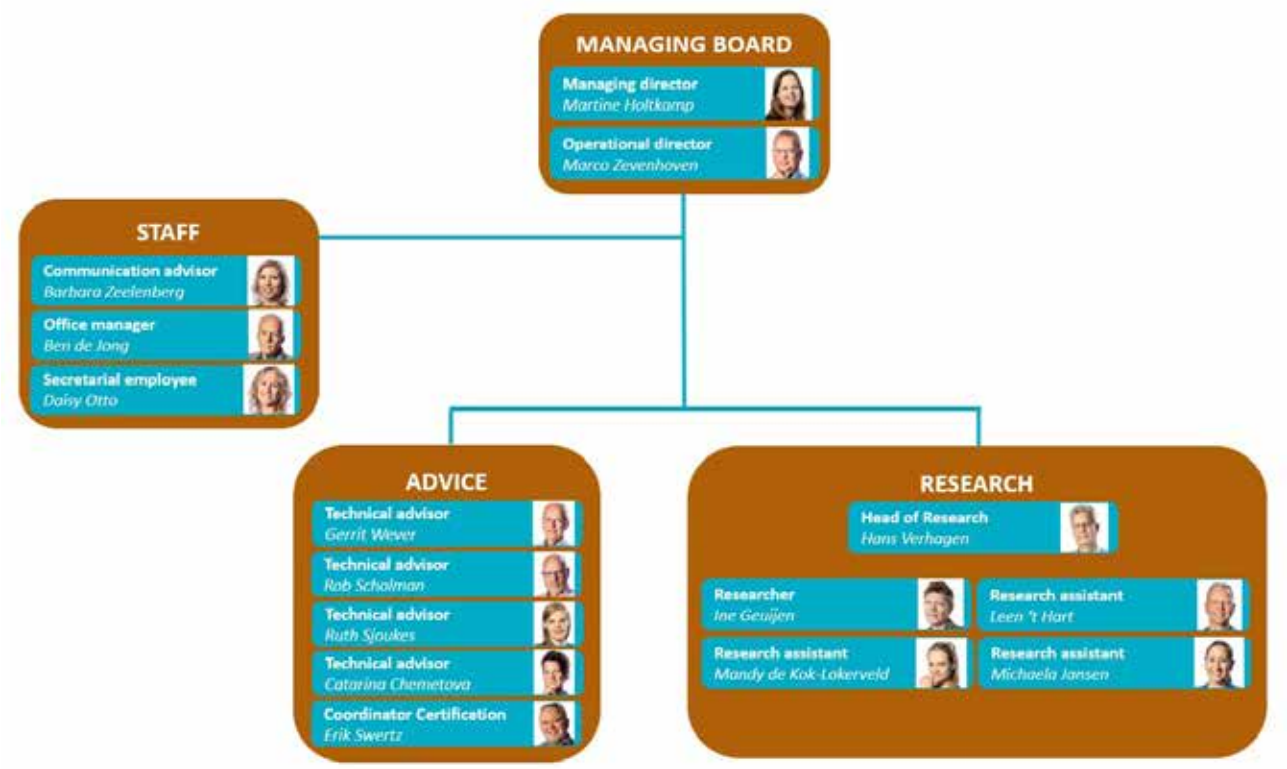
's-Gravenzande, The Netherlands, May 2024

Martine Holtkamp
Managing Director RHP

1. BOARD & ORGANISATION

1.1 The organisation in 2023

RHP is located in 's-Gravenzande in The Netherlands and is a foundation. At 1 January 2023, RHP had 15 employees.



Through an externally hired employee, RHP paid attention to strengthening contacts with trading companies, retailers and other scheme managers in relation to sustainability. This employee was also involved in the Responsibly Produced Coir (RPC) trajectory.

From February until May, a student from the Inholland University of Applied Sciences (Horticulture and Agribusiness) in Delft (The Netherlands) did her graduation internship at RHP. She worked on research regarding the availability of calcium in growing media based on renewable raw materials.

Employees in 2023

Number of employees

15
12,7 FTE

Average age

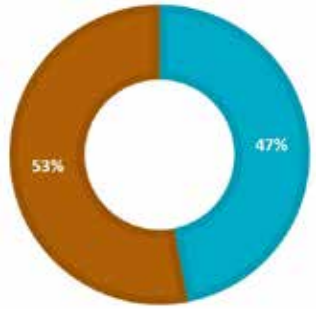
48,6
years

Duration of employment

12
years

Male/female

53% female **47**% male



1.2 Composition of the Supervisory Board

The Supervisory Board is the supervisory body of foundation RHP. The Supervisory Board consists of persons who feel involved with growing media from their function or personal affinity. They represent substrate producers (certified companies), users and the chain. The Supervisory Board meets every quarter, together with the management of RHP. The composition of the Supervisory Board in 2023 was as follows:

Name: Bernard Koeckhoven
Position: chairman
Since: 1 January 2020

Name: Henri van Beerendonk
(Jiffy Products International)
Position: member
Since: 1 January 2017

Name: Jaco Dijkshoorn
(Kekkilä-BVB)
Position: member
Since: 1 January 2020

Name: Ronald Grootscholten
(Florpartners)
Position: member
Since: 22 September 2022

Henri van Beerendonk said goodbye at the end of 2023. His position as a member of the Supervisory Board will be taken over by Daphne Bronckhorst (Klasmann-Deilmann) as of 1 January 2024. There is one vacancy. This will be filled from June 2024 by grower Piet Kuivenhoven in Poeldijk (The Netherlands).

2. STRATEGIC POLICY

2.1 Vision and strategy

In 2023, RHP developed a new vision and strategic plan for 2024-2027. At the start of 2024, in consultation with the Supervisory Board, that direction for the coming years was established and plans for the period until 2027 were set up.

Our vision is:
"RHP is the international centre for knowledge about and certification of growing media in the field of quality, safety and sustainability."

RHP aims to incorporate sustainability in the coming years, making it the only organisation to offer a unique, convenient three-in-one offering for certification of growing media and (an increasing number of) substrate raw materials. This is visualised as follows:

✔ **Product safety and quality**:
RHP serves the growing media and substrate raw material producers (primary) and other parties in the chain (secondary) with advanced knowledge about the safety and quality of traditional and renewable raw materials.
The demand for knowledge about (renewable) raw materials and growing media continues to grow among the current group of certified companies as well as other stakeholders. The current combination of research, consultancy, training and the quality mark for product safety and quality, is the strong foundation that provides opportunities for a solid positioning in the raw materials transition and expansion into sustainability topics. Thereby, it is of great importance that RHP can switch fast and provide the sector with knowledge about and possibilities to work safely with renewable raw materials.

✔ **Substrate footprint**:
RHP is the implementer (advice and validation/certification) of the substrate LCA tool developed by Growing Media Europe.
The development of the substrate footprint was initiated by Growing Media Europe (GME) in 2019. This substrate footprint calculates the environmental impact of growing media on 16 different themes (including CO_2, soil and water pollution, ecotoxicity and fossil fuel depletion). The methodology of the substrate footprint is in line with the European accepted standard for LCA calculations within the floriculture sector (the FloriPEFCR) and the fruit and vegetable sector (Freshfel Environmental Footprint). RHP's ambition, together with GME and other relevant stakeholders, is to take the footprint calculation to the

next level and eventually become the implementer in the field of consultancy, verification and certification.

✔ **Responsible production**:
RHP is provider of a uniform scheme with which responsible production of growing media and substrate raw materials can be guaranteed.
The way products are created and the impact this production has on the local environment is increasingly on the agenda of civil society organisations and NGOs. Responsible production is about the way growing media and substrate raw materials are produced. Hereby, the social aspects (including working conditions) and the impact of the activities on the direct environment (e.g. water consumption and its impact on the local population) are central. RHP has the ambition to guarantee the responsible production of growing media and substrate raw materials with a uniform certification scheme.

2.2 Sustainability

In the Dutch covenant 'Environmental impact of potting soil and growing media' (November 2022), a broad coalition of parties including RHP, agreed with each other, that in 2050 the use of potting soil and growing media in the chain gives no negative environmental impact and is CO_2 neutral. The percentage of renewable raw materials must be at least 90% of the total chain volume in 2050. To this end, the percentage of renewable raw materials will be increased in phases. For 2025, the target is an average of 35% for professional use and 60% for the consumer market. The goal is to double the use of compost to 600,000 m³, compared to reference year 2018. It has also been agreed to use only 100% responsibly sourced peat raw materials, certified with the Responsibly Produced Peat (RPP) label.

For 2030, the ambition for the professional market has now been set at an average of 50% use of renewable raw materials and 85% for the consumer market. To substantiate and understand the target for the professional market, an independent research project on the availability and environmental impact of raw materials took place in 2023. As a knowledge centre for substrates, RHP provided technical expertise in this project. RHP gave an initial technical consideration of new materials that aren't yet in use.

With the raw materials transition in full swing, there is a great need for RHP's expertise on raw materials and growing media. Last year RHP again shared research knowledge with the worldwide affiliated companies. The first results with calculation models in practice were discussed. Also certified companies got information about, for

example, modelling around pH and fertilization, calcium in new growing media, physical research, residue of crop protection products in growing media and inheritance in the crop, human pathogens and fungal growth in and on growing media. The knowledge centre supports producers in the production of RHP-certified growing media from traditional and renewable substrate raw materials, for an optimal start of the culture.
This happens with company visits and advice, meetings, webinars and various communication tools, including fact sheets (on human pathogens, pesticides and fungal growth) introduced in 2023 and continued in 2024 with specific topics related to growing media.

In 2023, RHP again held talks with and gave presentations for various (inter)national organisations: scheme owners, industry associations, research institutions, interest groups, trade, retail and professional growers. These discussions included the needs in the market when it comes to sustainability of raw materials and growing media, related to the RHP quality mark. With growing media containing an increasing percentage of renewable materials, managing the culture for professional growers was also a topic of discussion.

2.3 Collaborations

Hort2theFuture
In 2023, RHP became involved in a European consortium for a grant application for a project under the Horizon program. In this project, under the name 'Hort2theFuture', 28 European universities and organisations are researching scalable, affordable and easy-to-use growing media based on EU raw materials with a low environmental footprint. The European Commission's grant for the project was announced in late 2023. The project will start in mid-2024.

Roadmap and opportunities map
In 2023, RHP – together with the VPN (Association of Potting Soil and Substrate Manufacturers in the Netherlands) and Wageningen University & Research (WUR) – joined forces to bring focus to research into renewable raw materials, in support of the goals in the covenant. At the end of 2023, a budget was made available from the Top Sector Horticulture & Propagation Materials for the preparation of a 'Roadmap and opportunities map'. This offers the opportunity to summarise the vision of the sector and bring it to the attention of the government. The actual development of the 'Roadmap and opportunities map' will take place in 2024 in consultation with a broad representation from the sector.

Public-private partnership project microbiome in growing media
RHP's participation in the Top Sector research project on microbiological quality in growing media was also continued in 2023. Together with other parties, the aim is to eventually realise growing media with guaranteed microbiological activity, including a sound culture advice to maintain the right microbial properties during the culture. The full name of this public-private partnership project is 'Towards a standard for measuring the microbiological quality of growing media based on renewable raw materials'. Project management is in the hands of 'Glastuinbouw Nederland'; Wageningen University & Research is conducting the research. RHP and other private parties contribute with knowledge and expertise. Knowledge and methodologies resulting from this project are important for RHP and its affiliated, certified companies.

Sustainability platform Circles.fm
In 2023, RHP launched a partnership with Circles.fm, a sustainability platform for, among others, growers, trade and retail. With articles for this platform, RHP shares its expertise on raw materials and growing media, the quality marks and the path to incorporating sustainability into certification.

3. KEY FIGURES

CERTIFIED COMPANIES

71

Including 1 new certified company in 2023:
Novarbo Oy from Finland.

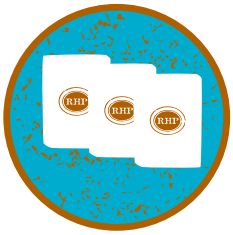
419

CERTIFIED LOCATIONS

15.145

PRODUCT ANALYSES

CERTIFIED RAW MATERIALS AND END PRODUCTS



26

Including the first company in 2023 with RHP-certified **acrotelm**.

10.500.000m³

CERTIFIED PRODUCT

FINANCES

NETTO TURNOVER: € 1,913,514
RESULT: € 12,964

RHP is a non-profit foundation. The result is added to the reserves of the foundation for the continuity of both the organisation and the research and developments for the substrate sector.

MEETINGS

PRODUCT GROUPS 20

TECHNICAL COMMITTEE 3

CENTRAL COLLEGE OF EXPERTS 2

WEBINARS 4 of which:

> for certified companies
- Online Research Updates (June, September) **2**
- hybrid meeting 'The future of well-balanced growing media' (December) **1**

> for plug producers (in route to RHP certification) and laboratories
- online workshop method of volume determination of plugs according to European standard (November) **1**

IMPROVEMENT ANALYSES **292**

RISK ANALYSES **21**

HYGIENE PROTOCOLS **21**

INTERNAL AUDITS **34**

CONSULTATION IN THE CONTEXT OF SUPPORT AND ADVICE **141**

DAMAGE / PRACTICAL PROBLEMS **13**

COMPANY VISITS TECHNICAL ADVISORS

TRAININGS 9

> for certified companies

- Training RAG Landscaping A (in-company) **1**
- Training Growing Media A (Dutch **1**
- Training Growing Media A (English) **1**
- In-company trainings **5**

> for auditors

- Training and harmonisation day for auditors of the quality marks RHP and RAG **1**

PRESENTATIONS

On several occasions in Europe, a representative of RHP spoke about our quality marks, research and the challenging developments for our industry.

- during an expert day on manure and compost from Eurofins Agro (November),
- during a workshop at the Water and Plant Health Event (November),
- during a grower meeting of 'Glastuinbouw Nederland' (September and November),
- during the 'Deutscher Torf- und Humustag 2023' (September),
- during a meeting of the Working Party on Flowers and Ornamental Plants of Copa-Cogeca in Riga (June),
- during the International Society for Horticultural Science conference in Quebec (June),
- during a mini-conference for tree nurseries (May),
- during the Knowledge Day Substrate 'Safe transition to new growing media' (April),
- during Grow23 in Brussels in the panel discussion on circularity in food production (March),
- during the IPM in Essen for the European Nurserystock Association (January),
- during the International Soft Fruit Conference (January),
- during various meetings at certified companies for their customers, growers.

INTERNATIONAL VISITORS

In addition, RHP received (inter)national visitors, including from: Ministry of Agriculture, Nature and Food Quality, Growing Media Europe (Brussels), Responsibly Produced Peat, VPN (Association of Potting Soil and Substrate Manufacturers Netherlands), 'Glastuinbouw Nederland', LTO Netherlands, Plantum, 'Groenten-Fruit Huis', FloraHolland and (potential) certified companies.

Responsibly produced coir

RHP initiated the development of the Responsibly Produced Coir (RPC) certification scheme for responsibly produced coir in 2023.

In May, over fifty international stakeholders attended the hybrid kick-off meeting organised by RHP on this topic. This day was dedicated to gathering stakeholder input, expertise and vision on responsibly produced coir. The focus was on establishing the correct definition of "sustainable production" and all the necessary sustainability issues that play a key role in the coir production chain. The visions that were shared on the usefulness and necessity of developing the certification scheme and the different insights on how to do so, formed the starting point for further development.

For example, one condition is a safe and healthy working environment for staff.

A working group was formed with members from coir companies, 'Glastuinbouw Nederland' and the certification body IMO Control. Project manager Hein Boon, as director of Responsibly Produced Peat, already has extensive experience in setting up a certification scheme for responsible production. In the last quarter of 2023, RPC's working group met four times to discuss the design of the new sustainability scheme for coir. During these meetings, members each gave input from their own expertise, and jointly determined what the content of the scheme should look like. It was determined at which points in the origin and production chain there are risks for people and the environment, in order to prevent and reduce the risks.

The concept scheme Responsibly Produced Coir was recently shared with a broader group of stakeholders from interest groups, retail, producers, scheme owners and NGOs to engage them at an early stage and ensure wide acceptance of the sustainability scheme. It defines social and environmental aspects for the responsible production of coir. For example, one requirement is a safe and healthy working environment for staff. This

includes protection from coir dust, heat and dehydration with adequate personal protectors for the safe operation of machinery. Also included are requirements on judicious use of water and chemicals at processing sites. And proper treatment of wastewater is essential to prevent local scarcity and pollution.

Proper treatment of wastewater is essential to prevent local scarcity and pollution.

In early 2024, participating companies discussed the working group's draft. After a pilot in the second half of 2024, to test the implementation and auditability of the scheme RPC in practice at a number of different companies, the scheme RPC is expected to be final in late 2024/early 2025. After that, companies can be certified for Responsibly Produced Coir.

Collective research

The incorporation of various known and new raw materials into growing media was the main theme for the collective research in 2023.

pH buffer determination
The fertilization model established in 2022 was built upon. Specifically, pH realisation was examined. A new method was developed for this purpose: pH buffer determination. Based on this measurement, which is performed on raw materials, the pH of a mixture of these raw materials can be calculated.

Availability of calcium
The position of calcium in new growing media was also the subject of research. In new growing media in particular, the availability of calcium to the plant proved to be a point of concern. The research provided insight into this problem and developed tools to improve calcium availability.

Pilot in practice
For the collective research project on the combination of raw materials and on the application of new renewable raw materials, at the end of 2023 a pilot was conducted in a potting soil factory. On the one hand mainly to determine whether the developed models fit the practice, on the other hand to see where the points of attention lie in the mixing process. In this pilot the focus was among other things on the realisation of the desired recipe and constancy of raw materials.

Microbiome in growing media
RHP also participated in the public-private partnership project on microbiome in growing media in 2023. This project is carried out by Wageningen University & Research in cooperation with various parties. Understanding and getting grip on the microbiome is important to ultimately achieve resilient growing media. This project focuses on the basics, developing tools for measuring microbiome and exploring the effects of a raw material on microbiome in growing media.

Residue in raw materials
With the application of renewable raw materials often the presence of residue of crop protection products and herbicides is an issue. RHP analyses to what extent raw materials contain these residues and to what extent they are absorbed by crops. This is important for the use of renewable raw materials.

The following research topics are scheduled for 2024:
- ✔ Establish calculation models and build an online tool for certified companies
- ✔ Human pathogens
- ✔ Residue in raw materials
- ✔ Behaviour of packaged growing media
- ✔ Structure stability of raw materials


VOLVO
VOLVO

5. QUALITY MARKS

The foundation RHP manages 2 quality marks for substrates and potting soil, the RHP quality mark and the RAG quality mark, with a total of 6 different fields of application:

RHP *Certified for* **Horticulture**

RHP *Certified for* **Mushrooms**

RHP *Certified for* **Consumer**

RAG *Certified for* **Landscaping**

RAG *Certified for* **Green Roof**

RAG *Certified for* **Soil Improvement**

Further development of RHP quality mark
On February 1, the standards for the RHP quality mark were updated. Annually, these substantive adjustments are implemented in the RHP product certification scheme, partly based on developments in the sector. The affiliated, certified companies were then given three months to implement them in their operations and quality management system. As of May 1, the new requirements went into effect. There were many changes to the scheme in 2023.

New products to be certified
In 2023, RHP worked on the preparation of new products to be certified: plugs and other small preformed growing media (RHP), topsoil substrate (RAG) and spent substrate (RHP Consumer), the latter as a raw material for consumer potting soils. It was decided to first gain experience with consumer products. With the experience gained, it can be assessed in the future whether spent substrate is also suitable for other fields of application.

Testing new, non-certified materials at production site
RHP worked on preparing a protocol in 2023 to allow certified companies to have new, non-certified raw materials present at their production site. To promote innovation, RHP wants to allow certified companies to test with new materials. This is essential with the raw materials transition in full swing. Normally, due to risks, uncertified raw materials are not allowed to be present at the production site of certified companies.

Online registration module Hermes
In 2023, RHP has been working on digitizing the process for sending product samples. In the second half of 2024, the online registration module Hermes should go live for this purpose and certified companies will start using this system for sending product samples. The current method to send product samples with the paper forms will then be phased out.

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