

## **PROTOCOL PIRECO PRODUCTS**

Ever since it was founded Pireco has been predominantly working in the field of agriculture. The achieved successes have not been unnoticed. In more recent years questions have been asked about the functioning of the products, both in agriculture as in greenhouses. This manual has been written to provide some background information about our products, how they are made, what you can expect of them.

### **PIRECO AND CROP PROTECTION**

Chemical crop protection is under pressure, more products are disappearing, few are developed and the number of applications is also limited. The problems that agriculture and horticulture are facing today have not been less. On the contrary, it looks like there is an increase in pests and diseases. The question is how to move forward? It is obvious that we need new ways to cope with the challenges that we are facing. Pireco is the eco-friendly and sustainable answer to a wide range of pests and crop problems in conventional and organic agriculture and horticulture.

### **WHAT DO THE PRODUCTS CONSIST OF?**

On our location in the Netherlands we make extracts of a diversity of plants. Most of those plants are herbs. Today we use 23 different herbs and the number is still growing. We then make mixtures for specific use. Our products consist exclusively of vegetable ingredients which are absorbed by the soil and the plant roots. There, they stimulate the growth, vitality and the natural regenerative capacity that have been affected by imbalance and external causes, the biotic and abiotic stress.

### **ARE THE PRODUCTS A SUBSTITUTE FOR CHEMICAL CROP PROTECTION PRODUCTS?**

The products can not be compared with chemical crop protection products. Chemical crop protection addresses the problem, an insect or fungi is combatted. Pireco on the other hand doesn't focus on the problem but on the solution. We are considering the question why this attack happens, what is wrong with my soil and crop. You cannot see the products as an insecticide or fungicide. A resilient plant is our starting point. This is a complete different approach that needs some explanation.

### **PLANTS AND THEIR DEFENSE**

As opposed to humans or animal when a plant is under attack cannot run away. It has to look for other ways to defend itself, if attacked by insects and/or fungi. The plant uses two different defence mechanisms.

- Mechanical: hairs, thorns, wax layer
- Chemical: chemical substances to stop the attacker

A balanced plant has the capacity to avoid or reduce damage by herbivores and pathogens. This is what we strive for with our products. With the use of plant extracts we support and optimize the plants own defense system.

*Why is balance so important?*

### **DISEASE SUPPRESSIVE SOIL**

In nature we find disease-suppressive soils, an exceptional condition in which a disease fails to develop even though both the virulent pathogen and a susceptible host are present. Much evidence suggests that the pathogenic organisms are inhibited by antagonism from beneficial bacteria and fungi. Soil biota plays a crucial role in this balance.

Traditionally, it is well-known that crops can be protected and enhanced by minding the natural cycle and its accompanying forms of symbioses. Pireco has refined this principle and uses the specific herbal extracts which lead to a complete product that feeds the soil and the plant. This approach has been proven very successful in practice. The operation focuses on the solution, a resilient soil and a strong plant. This is the basis that enables the plant to defend itself. The question that arises is how do you get a resilient soil and crop?

## **DIVERSITY**

Research shows that the way we use our soils influences the quantity and diversity of micro-organisms. In a way this also applies to substrate. The nature of the community of these micro-organisms has a strong influence on the ability of the soil to suppress pests and diseases. Diversity is the result of plants living in a balanced symbiosis, a utopia in our monoculture system. Still there is a simple way in which we can support the diversity we want by applying extracts from plants living in symbiosis, to the soil or the crop.

## **HOW DO THE DIFFERENT PRODUCTS ACT?**

The products consist on a diversity of mixtures from herbs working on that specific area you want to support. Take Nemater. It builds resilience into the soil when it is out of balance by excessive harmful nematodes. Research shows that when you apply Nemater to the soil, the positive nematodes grow in number and the necessary balance will be restored. Folisec and Herfosec on the other hand restore balance when there is insect pressure. Important is to know that every product works in order to restore the balance. Not focused on the problem, but on the solution, a resilient soil and a stronger plant. Sometimes we will advise to apply the product into the soil, sometimes as a spray application, sometimes both, but always we look to the most effective way to get the product where it is needed.

## **THE ROLE OF CHEMICAL PLANT PROTECTION**

Chemical plant protection focuses on the problem, combatting the insect or fungi. Pireco products don't work like that. Combatting will sometimes be necessary. Pireco products fit well into integrated pest management (IPM). Combatting with chemicals, building health with Pireco. In this way we support the natural regenerative capacity of the soil and the plant. Furthermore the chemicals used will perform better thanks to a healthier plant.

We hope this short explanation provided some background information about the products of Pireco. If you still have questions don't hesitate to approach us, we would really like to help you building up a resilient and strong crop.

