

# **abirein**<sup>®</sup>

*for your health*

**USING ABIREIN®LIQUID IN GROWING CHICORIES (AS SALAD) UNDER MASS PRODUCTION CONDITIONS IN GREENHOUSES**



**RELIABLE, EFFECTIVE, INEXPENSIVE, SAFE,  
ENVIRONMENTALLY FRIENDLY AND FULLY BIOLOGICALLY DEGRADABLE**

**Abirein Liquid contains no alcohol, phosphates, tensides, formaldehyde, fragrances, or colorants.**

## **USING ABIREIN<sup>®</sup> LIQUID IN GROWING CHICORIES (AS SALAD) UNDER MASS PRODUCTION CONDITIONS IN GREENHOUSES**

The CHICORIES plants are grown from seeds on fields. When mature they are harvested. The plant gets cut near the root. The roots are taken out of the soil and cut to a length of 35 cm and tightly packed in 30 cm deep watertight square containers.

The full containers are then taken to a greenhouse. The containers are staged in shelves and coupled with a central watering / fertilizing system.

The plants are kept under cool and dark conditions while the roots produce new shoots, which are then harvested after a period of 4 weeks. These shoots are marketed as fresh salad.

### **FINDING A SAFE DISINFECTION METHOD**

Before we used the ABIREIN LIQUID DISINFECTION on a large scale, we had to find out if the plants root system would not be damaged by the ABIREIN LIQUID<sup>®</sup>. Therefore, we put the roots of mature chicories plants in an **ABIREIN LIQUID** / WATER mixture of 1:10 (1 L **ABIREIN LIQUID** TO 10 L OF WATER) for a period of 2 weeks.

We chose plants with some signs of rot on the root system. The signs of rot disappeared, the main and fine roots functioned again, and the plants grew normally.

### **A FOLLOWING EXTREME CASE**

A big greenhouse with chicories plants grown 70% to its harvesting size had been bacterially contaminated. The farmer said that he could not stop the decaying by using suitable chemicals any more, because the amount he would have to use would kill the plants as well.

The farmer could have lost the complete harvest in this stage. As the complete greenhouse is connected to the **CENTRAL WATERING / FERTILIZING SYSTEM**, bacteria or fungus can spread in a very short time to all plants.

### **DISINFECTING THE GREENHOUSE WITH ABIREIN LIQUID**

We mixed **ABIREIN LIQUID** directly into the CENTRAL WATERING SYSTEM. The water of the system was brown and foamy at this stage. A strong stench had filled the entire greenhouse. After adding **ABIREIN LIQUID** 1:400 into the WATERING SYSTEM, we took two water samples to check the action of **ABIREIN LIQUID** in this chosen mixture.

## **RESULTS**

After 2.5 hours, no bacteria were traceable in either the irrigation system or the chicories containers. The water had cleared and the bad odour dissipated. Afterwards the plants have been growing as normal.

A group of farmers are using **ABIREIN LIQUID** successfully to prevent fungi or bacteria. They are using a mixture of 1:500.

The farmers recorded the growth over a longer period and found that they could harvest up to 6 % more chicories using the **ABIREIN LIQUID**.

### **ABIREIN LIQUID disinfectant kills**

**All bacteria**

**Fungus and mould**

**Algae**

**Virus**

## **Samples**

Samples of **ABIREIN LIQUID** are available for experimentations or laboratory tests at the following address

**Reinhard Schulz**  
**Dahler Strasse 111**  
**D-58091 HAGEN**  
**GERMANY**

Phone: +49 (0) 2337 4479833 or 474643

Mobil: +49 (0) 175 2178876

e-mail: [r.e.schulz@online.de](mailto:r.e.schulz@online.de)