HOW TO SUCCESSFULLY MANAGE GREENHOUSE VEGETABLES IN WINTER

The Importance of Implementing a 5-Step Management Plan

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Low temperature weather not only affects the greenhouse, but it also hinders the growth of vegetables. These conditions make the roots and leaves of the vegetable crop vulnerable to injury, leading to root death and premature senescence of leaves.

The following management measures are therefore considered crucial for greenhouse vegetables grown in China and similar weather regions, to survive successfully in winter.

NO.1 – FERTILISER MANAGEMENT

Firstly, pay attention to organic fertiliser.

A large amount of organic fertiliser mixed into the soil can improve the properties and structure of the root layer soil. Only when it has buffer properties, can it be conducive to the extension of vegetable roots and improve the water and fertiliser retention capacity of the soil. The type of organic fertiliser cannot be emphasised enough, however. For example, common chicken manure contains a large amount of phosphorus and nitrogen nutrients, but the proportion of carbon and nitrogen is narrow. Straw compost with less nitrogen and phosphorus content and a wider carbon and nitrogen ratio, can however be mixed and applied. The application of mixed organic fertiliser not only provides vegetable nutrients in a comprehensive and smooth manner, but also improves the soil. The effect is therefore more than obvious.

Secondly, pay attention to the application of base and topdressing fertilisers.

On the basis of organic fertiliser, proper amounts of ternary compound fertiliser (about 30 kg/mu) was applied. The proportion of nitrogen, phosphorus and potassium in compound fertiliser should be moderate. Do not highlight nitrogen fertiliser. Even if organic fertiliser is not applied, do not choose high nitrogen compound fertilisers.

Thirdly, supplement middle and trace elements.

For the production of greenhouse vegetables in high-yield and new vegetable fields, it is necessary to pay attention to supplementing medium and trace element fertilisers. This is because the demand for nutrients such as calcium, magnesium and boron is relatively large. And in addition to the common tomato ‘umbilical rot’, the incidence of cracked fruit is also becoming more and more serious. Greenhouse vegetables are prone to physiological diseases such as cracked fruit and soft rot, which affect the quality of products.

NO. 2 – REASONABLE VENTILATION

Drainage and ventilation are the main means of adjusting the temperature and humidity in the shed. It is recommended that greenhouse vegetable farmers ventilate in the low temperature season by stages.

When the temperature is low, pull the small air outlet to release the wind, and then gradually increase the air outlet as the temperature rises. If the greenhouse has better heat preservation conditions and higher night temperature, growers can also ventilate properly at night to ensure a more suitable environment in the greenhouse. In addition, the humidity in the greenhouse can also be reduced by covering the plastic film in the planting line, and covering the straw in the operation line.

NO.3 – REASONABLE FRUIT RETENTION

The excessive nutrient consumption of fruit, and the lack of nutrient in plants will affect the physiological activities of the crop. This hinders the synthesis and transformation of amino acids and nucleotides, and leads to low stress resistance. Symptoms such as long wilting and growth stagnation will occur after the weather turns clear, which is the expression that the plant is finding it difficult to recover after overdraft of nutrition. In the later stages, the empty branches and the lower old and yellow leaves should be removed in time to enhance light transmission and avoid overloading.

NO.4 – WATER MANAGEMENT

Watering vegetables in greenhouses in winter should be organised for the morning on a sunny day.

In this way, not only is the water temperature difference smaller and the ground temperature easier to recover, but there is also enough time to eliminate the air humidity increased by watering.

NO. 5 – INSECT PEST CONTROL

It is not the prevention and treatment of diseases that gives many vegetable farmers headaches, but the repeated occurrence of diseases. For example; gray mold. This pathogen can produce a large number of invasive spores that scatter on the surface of plants, of the greenhouse wall and on the soil. This activity it heightened when it is formed in a low-temperature and high-humidity environment, hence a recurring problem. This requires the vegetable grower to prevent it by using the correct crop protection agent to eradicate it. Drug prophylaxis should not only aim at plants, but also spray the walls, floors and columns of the greenhouse structures, so that pathogens cannot hide.