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Optimization of Sawdust-Based Shiitake Growth with Cultivation Facility Environments

Shiitake is one of the most popular mushroom in Japan. Dried one is also famous as a soup stock. The history of cultivation started more than 100 years ago, logs had been used for fungi culture. Now a days, logs are replaced with sawdust and they started to culture in a environmental controlled facility which may called as a plant factory. Temperature is the most important factor, fungi is damaged with high temperature, but not optimized yet. So that we started to optimize environmental factors for better outputs, not only yield but also quality. Among others, lighting has a possibility for controlling qualities, such as a size, shape or color, as shown in right pictures.



Influence of Environmental Conditions on the Chrysanthemum Leaf Yellow Spot



Chrysanthemum is one of the most popular flowers in Japan. It is used in various ways, for a funeral, flower arrangement and so on. In addition there is a demand all year round, so it's cultured in an environmental controlled green house. In recent years, yellow spots appear on the leaf in many species. In chrysanthemums, the state of a leaf involves commercial values, not only flower quality. The mechanism how it occurs isn't still found out clearly and techniques to prevent it occurring aren't established. We focused to the environmental conditions as a case. For an objective measurement, a portable image taking device was made, shown in a left picture, and image processing has been adopted.