

Present State and Prospect of Mushroom Cultivation in Japan

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Cultivation of mushrooms in Japan has been concentrated on wood-decaying fungi including traditional *Lentinus edodes*, *Pholiota nameko*, *Flammulina velutipes*, *Pleurotus astreatus*, *Hypsizugus marmoreus*, *Grifola frondoza*, *Pleurotus cornucopiae* and *Auricularia auricula-judae*, and *Tricholoma matsutake*, one of symbiosis fungi, has been added to them to give further greater variety to the cultivation.

Consequently, consumption of mushrooms has grown from 40,000 tons in 1962 to present (in 1993) 390,000 tons, as much as about 10 times. In view of recent 5 years, mushrooms of sawdust-based culture, in particular, *Flammulina velutipes*, *Hypsizugus marmoreus* and *Grifola frondosa* have shown a remarkable growth of consumption by 1,3 times, 3 times and twice, respectively.

This is because mushrooms have been appearing everyday on mass media in recent several years and have become daily food for Japanese people. As the background of this tendency, it is indicated that with the advent of the age to be friendly to the environment more natural and more genuine food products have been demanded and mushrooms have become a representative of them. Also, demand for more varied and diversified food products has been increasing, and mushrooms as natural, healthy food are most suitable to this demand. On such a favorable wind, consumption of mushrooms in the future has a great potential to grow more increasingly.

However, in remote villages where mushroom producers live depopula-

tion and ageing of people have been proceeding, living environment of them has been deteriorating and they have deep concern about their future. In addition, with the progress of an international orientation in demand- and supply-structure of mushrooms in recent years, imports of them have been expanding rapidly, with giving a great effect on their domestic production.

Internationally speaking, while a demand- and supply-structure in which Southeast Asia, Europe and America and Japan demand *Volvariella volvacea*, *Agaricus bisporus* and *Lentinus edodes* respectively has been fixed in the past, this structure has changed radically in recent years and a great amount of *Lentinus edodes* from China, etc. and *Tricholoma Matsutake* from South Korea, etc. have been imported into Japanese market.

In particular, since *Lentinus edodes* has been playing an important role in the regional economy as a short-term cash-income source of farming and forestry families in remote villages, such a rapid expansion of imports from abroad has been making a great impact on mushroom-producing farmers.

To cope with these radical changes in market structure, various countermeasures have been taken by domestic producer-farmers, for example: (1) conversion from log culture to sawdust-based culture; (2) efforts for low-cost production by introducing a complete labor-saving culture system, and (3) development of production of differentiated products from foreign products and products of sawdust-based culture by labelling the places of production and the methods of cultivation. However, these new movements still lack organizational extension.

Consequently, it is necessary for activation of Japanese mushroom

industry to establish a structure which will enable fixed prices, fixed standards and stable supply. Concretely speaking, thorough efforts are required for enhancement of products' quality and labor saving from the viewpoint of logs, labors and capital. In particular, in log culture of mushrooms labor-intensive cultivation has been fixed to date and has not yet been improved. It is necessary in the future to improve this culture method in stages by setting up improvement targets in terms of labor-saving indicators (in relation to logs, capital equipment, cultivation systems, cultivation scale, inputted labors, etc.). On the other hand, as for sawdust-based culture of mushrooms, how it shall be positioned under the present consumption structure will be an essential theme. In other words, the establishment of a stance peculiar to sawdust-based culture is required instead of conversion from log culture to sawdust-based culture.