

Peculiarities of Monokaryotic Fruiting Body Formation of *Flammulina velutipes* (Curt.: Fr.) P. Karst.

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Flammulina velutipes (Curt.: Fr.) P. Karst. is one of the Basidiomycetes mushrooms, which has attracted attention in its use in pharmacology. Therefore, in our view, the thorough study of its biological features is very important. The ability to produce fruiting bodies on the monokaryotic mycelium is one such feature, which has been described for very few species of Basidiomycetes and insufficiently investigated.

In our research work 25 strains of *F. velutipes*, which were collected in various regions of Ukraine from various plant hosts, were used. The fruiting bodies were obtained in assay flasks in a medium with humidified sunflower seed husks.

Monokaryotic fruiting bodies were formed by all strains and this ability did not depend on the factors of compatibility. However, not all monokaryons had this ability. A high percentage of monokaryotic cultures, which formed fruiting bodies, did not depend on the plant host from which the strain was collected. On the average, 34.4 % of monokaryotic cultures gave fruiting bodies.

Monokaryons of the various strains differed in period of growth over substratum and duration of period from full growth over substratum to formation of source fruiting bodies. More time for growth over the substratum is necessary for monokaryons of almost all strains.

The form of monokaryotic fruiting bodies differed from the typical form of dikaryons. However, there was no standard form for monokaryo-

tic fruiting bodies; they have exhibited variety in this aspect. The majority of them had stems twisted about the axis and caps with outside hymenophores.

The majority of monokaryotic fruiting bodies produced hymenium, on which two-spore basidia are detected.

Differences among monokaryotic cultures in the quantity of fruiting bodies on a certain mass of a substratum, in weight of fruiting bodies and in their parametrical performances were shown. By the same parameters, some of them differed from the parent tissue culture.

Interstrain comparisons demonstrated that the most stable parameter of a strain was the relation of weight of caps to gross weight of fruiting bodies.

The ability of monokaryotic cultures to fruit has enabled us to trace this parameter in constructed dikaryons and cultures obtained by crossing of incompatible and half-compatible monokaryons by factors of incompatibility.

If a sterile monokaryon entered into the structure of a dikaryon, in most cases the fruiting was not defined by high parameters. The majority of dikaryons of which the structure included also sterile monokaryons was also sterile in culture or formed sterile fruiting bodies.

Basidiospores of monokaryotic fruiting bodies were capable of germination, and the cultures obtained from them, in most cases, formed fruiting bodies. This has enabled us to study features of fruiting in several generations.