

The commercial mushroom yield in Northern Finland in 1976

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A survey of autumn mushroom yields in various types of heath forest in Northern Finland has been carried out in 1976-77 at the University of Oulu, under the auspices of the Academy of Finland. In 1976 a total of 16 commercial species were identified in the forests studied.

The major yields of commercial mushrooms in 1976 were obtained in August, the majority of the total yield being concentrated into four collection, i.e. being spread over four weeks. *Boletus* and related species accounted for the largest proportion of the harvest, followed by the *Russula* species, then *Lactarius* and finally the other species.

In 1977 the most common species were *Suillus variegatus* and *Lactarius rufus*, although good yields have also been obtained from *Russula decolorans*, *R. paludosa* and *Leccinum versipelle*.

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In the investigation of the mushroom yield in Finland in 1976-1978, the commercial mushrooms of Northern Finland have also been studied, about which some results will now be given. The "commercial mushrooms" in Finland consist of 30 species recommended in 1971 by the Committee on the Economic Exploitation of Mushrooms as being edible mushrooms which have a good flavour, are prolific, and are reasonably easy to identify. The permanent investigation plots, where mushrooms were collected, represented the most typical natural forest types of Northern Finland.

The investigation sites of Northern Finland are shown in Fig. 1. The columns indicate the dry weight of the commercial mushroom yield divided into boletus, *Lactarius* species, *Russula* species and other commercial mushrooms. In 1976 the fresh weight of commercial mushrooms in Northern Finland varied from 0 to 44 kg per hectare.

The yield of commercial mushrooms in different heath forests in Northern Finland in 1976:

	Number of fruiting bodies per hectare	Dry weight g per hectare
Fresh heaths	254	530
Dryish heaths	556	1 592
Dry heaths	957	939
Total yield \bar{X}	553	1 080

Dryish heaths were the most productive forest type in 1976. Most commercial mushrooms have grown on pine heath. The southern investigation sites generally produced more commercial mushrooms than the northern ones, but Sodankylä in the North was productive. The yield in the North mainly consisted of boletus, whereas more *Russula* species were found in the South. In the whole area the commercial mushroom yield of dry

and dryish heaths mainly consisted of *Suillus variegatus* and *Lactarius rufus*. The group of other commercial mushrooms accounted for a minor proportion of the yield.

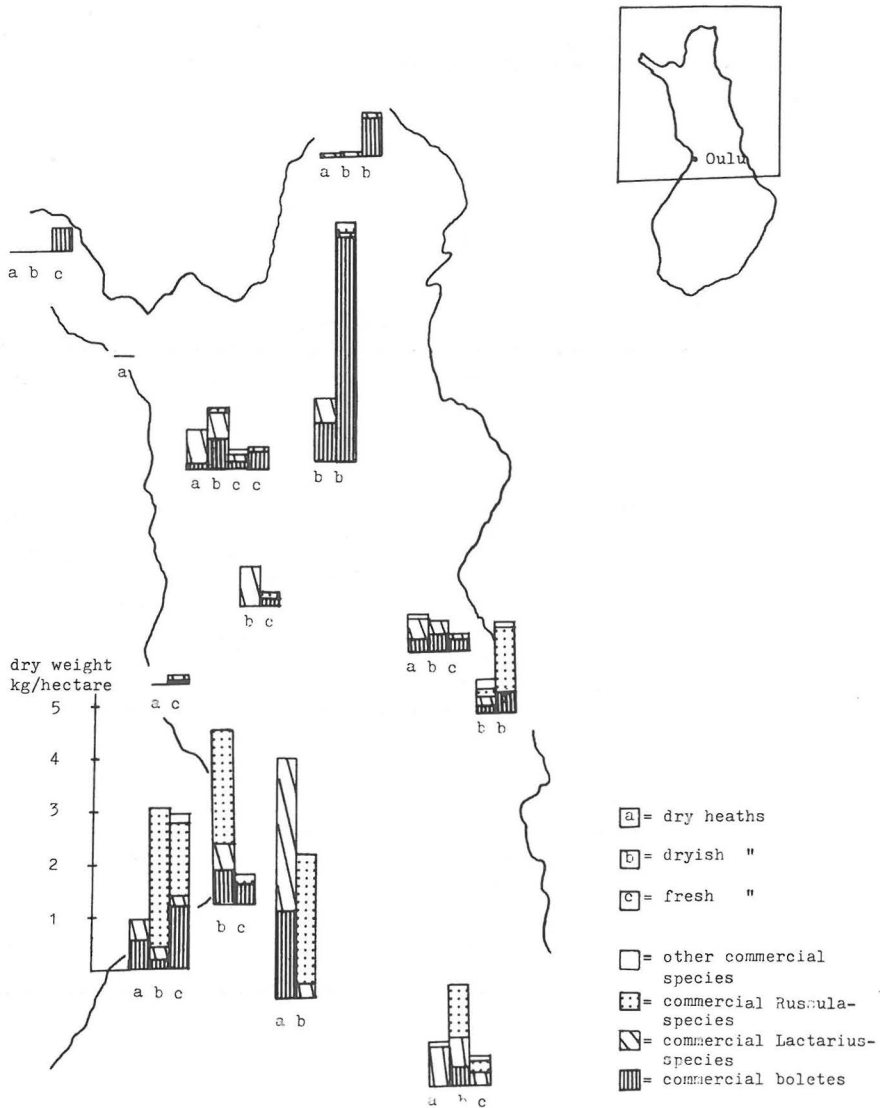
In 1976 the commercial mushroom yield of Northern Finland consisted of 16 species which will here be mentioned according to their frequency (total number of plots 133):

<i>Lactarius rufus</i>	41/133
<i>Suillus variegatus</i>	34
<i>Russula decolorans</i>	19
<i>Russula paludosa</i>	12
<i>Lactarius trivialis</i>	11
<i>Leccinum versipelle</i>	7
<i>Kuehneromyces mutabilis</i>	3
<i>Lactarius torminosus</i>	3
<i>Naematoloma capnoides</i>	3
<i>Rozites caperata</i>	3
<i>Hydnum repandum</i>	2
<i>Suillus luteus</i>	2
<i>Boletus edulis</i>	1
<i>Lactarius necator</i>	1
<i>Leccinum vulpinum</i>	1
<i>Tricholoma flavovirens</i>	1

Besides these 16 species, other commercial mushroom species as well grow in Northern Finland, but only the above-mentioned species were found on the investigation plots.

The growing season of commercial mushrooms lasted for 1-1.5 months in the research area. The season generally began in August, less commonly in July, and most often continued till September. The first commercial mushrooms, *Leccinum* species, were collected in the middle of July. As to the prolific

Fig. 1. Commercial mushroom yield (dry weight, kg/hectare) in Northern Finland.

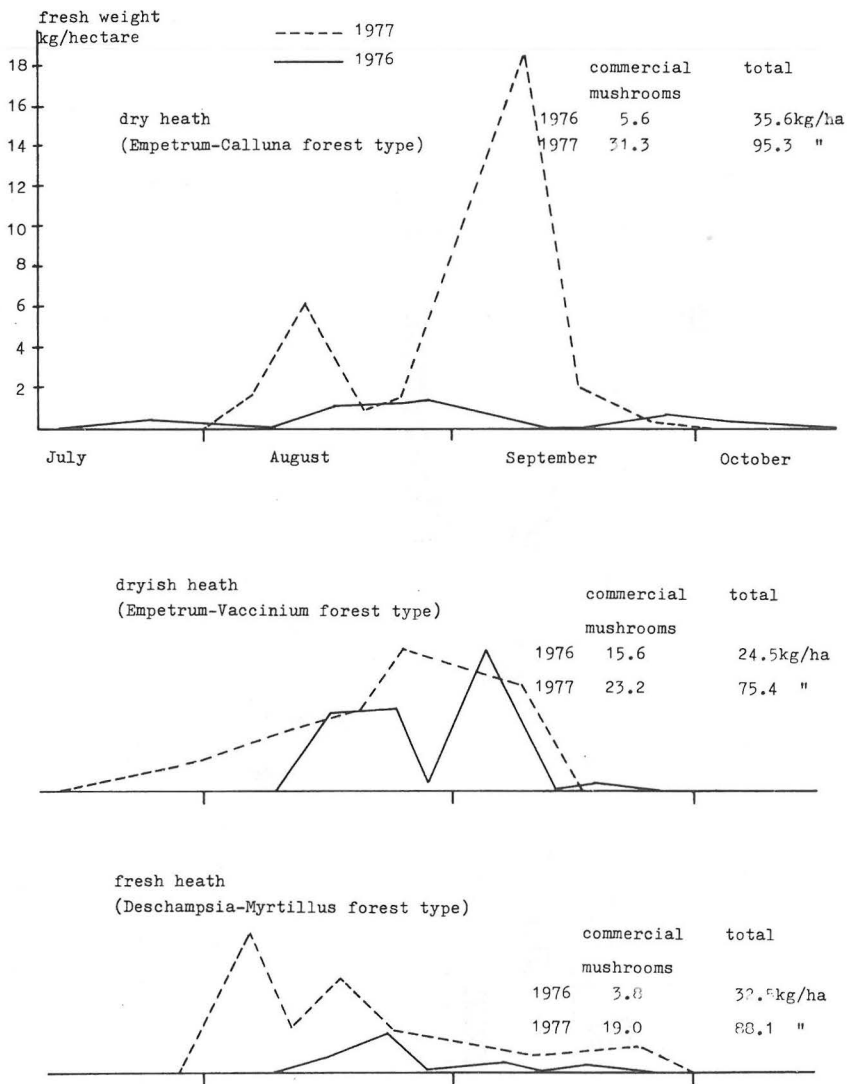


commercial mushrooms, the growing season of *Lactarius rufus* already began in July on dry heaths. The season of boletus and *Russula* species began in August.

In many forest types, particularly on the southern investigation sites, the number of mushroom fruiting bodies was at its maximum in the middle of August. In the North the maximum seems to occur later;

in Kittilä, for example, most mushroom fruiting bodies on dryish heath were found near the end of August. The yield season mostly ended very early, during the first half of September. August and early September were the most important periods of the commercial mushroom yield. The season of high-yielding species was longer than that of less prolific species.

Fig. 2. Commercial mushroom yield in Sotkamo in 1976 and 1977.



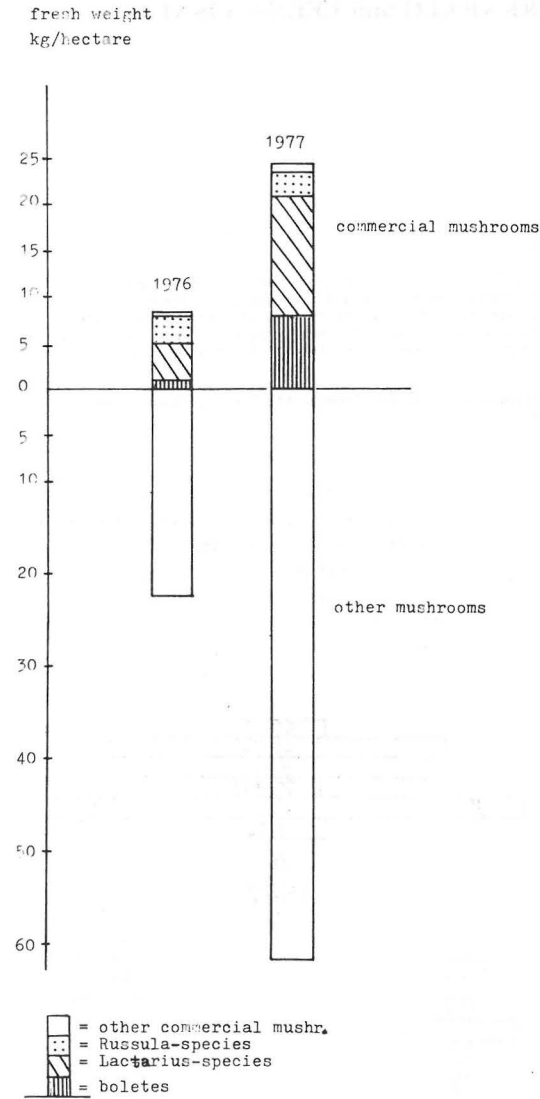
The proportion of different groups in the total economic value of the commercial mushroom yield in 1976 was the following:

boletus	46%
<i>Russula</i> species	30%
<i>Lactarius</i> species	22%
other commercial mushrooms	2%

The investigation continued in 1977, but the material has not yet been analyzed, and that is why the commercial mushroom yields in only one locality (Sotkamo) is shown in Figs. 2 and 3.

The dryish forest types yielded most commercial mushrooms in 1976, whereas in 1977 the dry heath was most productive. In both years the fresh heath

Fig. 3. Mushroom yield (fresh weight, kg/hectare) in Sotkamo in 1976 and 1977.



yielded least commercial mushrooms.

Lactarius species, especially *Lactarius rufus*, have been most important in both years. In 1976 a good deal of *Russula* species were also collected, while in 1977 the proportion of boletes was larger than that of the *Russula* species. The commercial mushroom yield in Sotkamo consisted of seven species in 1976 and of eight species in 1977; the species were nearly the same in both years.