

Mushroom Culture*

J. McPherson Ross, Toronto

TO a great many people the art of growing mushrooms is quite a mystery, and even amongst gardeners of considerable experience and skill their cultivation is attended with a good deal of guess work, because they lack the knowledge of two or three essential points, which, if attended to at the outset, the after crop of this delicious esculent can be looked forward to with absolute certainty. Everyone likes mushrooms, and there is no reason why anyone who can procure the manure and has a place, either in a shed or out-building or a cellar, may not have a bed producing plenty of mushrooms the year around, excepting June or July—and even in these hot months they can be grown if kept covered up from the flies.

Mushrooms will grow anywhere when given the proper materials, and dark, dry cellars not being used for anything else are ideal places, spaces under verandahs, or the prepared manure may be packed in boxes any size, so long as they are deep enough to hold eight or nine inches of manure. Old bureau drawers serve capitally for this purpose—in fact, there is no limit to their cultivation in places that may be convenient or that ingenuity can suggest.

To have certain success, procure if possible the daily manure and sweepings from a stable, whatever quantities possible, forking out the long straw, if any, and add a third of good garden soil to the manure, mixing it thoroughly, turning daily to prevent it heating too much, adding to the pile fresh manure and soil as you procure them till you have sufficient to make a bed four or five feet in width as long as you have space for, and when packed down to be not less than eight inches in depth.

After the first rank heat has escaped, make the bed by placing the manure in layers, pounding it firmly. Pound it as you would pound the soil in setting posts; the more compact your bed is, the longer it retains the heat, and the spawn travels quicker through it.

In locating your bed, do not put it on a cold floor or where any water would be apt to raise and be absorbed by the bed; in such a possibility, raise your bed up four or five inches, and if made against a damp, cold wall, run some boards between.

When your bed is made put a thermometer in it and observe the temperature, which will rise up to a greater or lesser degree; but when you notice it going down and about ninety degrees, place your spawn in it by making holes four inches deep, fifteen inches apart,

and place the broken spawn in small pieces in the holes, covering the same.

A particular point in after-success is to wait after spawning for a week or ten days before you put the top covering of soil. Many growers are so impatient that they put the soil on too soon. The heating or fermentation going on in the new bed causes moisture or hot steam, and this must be allowed to escape, so that if the soil was put on before this occurred it would be retained in the bed and kill the spawn. This is the actual cause for the failure in nine out of ten cases of attempts to grow mushrooms, and too much stress cannot be laid on these two points in growing them: The first, being careful not to spawn the bed till the heat is receding and is about ninety degrees or eighty-five degrees, and the second, not to cover with the top two inches of soil till eight or nine days have passed after spawning. When putting on the top two inches of soil, pat it down firmly and smoothly and then place a layer of straw over your bed; though not actually necessary, it aids to keep the soil surface moist and prevents the air drying up the bed too quickly, and keeps a still temperature. The temperature to grow mushrooms should be fifty-eight and one-half degrees, and should not vary, but anywhere between fifty to sixty degrees will answer. I have succeeded in varying temperatures, but that is the proper—fifty-eight and one-half degrees—and that is why underground tunnels, sewers or caves are utilized, because the temperature can be kept so even.

Following out the foregoing instructions, you should have plenty of mushrooms. Be careful not to get the manure wet when preparing it, as this delays and hinders your bed; in fact, it is absolutely necessary to save it and prepare in some dry place. There is sufficient moisture in the manure itself during the process of heating, but if conditions occur in too dry a place and your bed needs water, warm it well before applying, say about roo degrees, an occasional sprinkling will keep it right. When preparing material for your bed, be careful to see there is no old iron, such as pieces of hoop iron, or nails. It is stated as a curious fact that iron will prevent any mushrooms. It is recorded that among rival mushroom growers in France care is taken of the beds to prevent any enemy from sticking nails into it, as this meant failure.

In about six weeks or two months, if the temperature keeps right, mushrooms should appear, and when gathering give the mushroom a slight twist so as not to disturb the little ones, and be care-

ful to fill up with good soil any holes made in the bed by removing. Never cut them off with a knife, as the stump remaining will decay and infect the surrounding growth.

After a bed has exhausted itself, which it should in about three weeks, a couple of inches of good soil applied on the top will renew the crop for a short while. I have found it efficacious to occasionally water it with liquid manure, which stimulates and increases the size of the mushrooms. When completely exhausted, remove the old material, which is just right for digging in flower beds or for bulb cultivation.

A good plan to have successive crops of mushrooms is to keep adding to your bed fresh manure treated as directed, removing the old portion as it throws off the crop. Mushrooms can be grown anywhere on shelves built for them in the cellar, making one above another, or you can have a bed in a barrel by filling the barrel, spawning it—having regard to the temperature—and then cutting holes in the sides of the barrel at various places, through which openings the mushrooms will appear. To sum up, the whole art of mushroom cultivation lies in observing these rules:

1. Get your manure fresh and keep from wet.
2. Turn daily and mix a third of good soil with it.
3. Make your bed, when pounded thoroughly firm, to be about eight inches in depth; any deeper would make it heat too much, and any thinner or shallower would not be enough.
4. Spawn it when the heat is receding from ninety degrees to eighty-five degrees, never more, as the heat would kill the spawn.
5. Wait ten days after bed is spawned before you put on top layer of soil, so as to allow excess heat and moisture to escape.
6. Do not water unless you have to and have it at blood heat.
7. Have the temperature near sixty degrees, no more.

As it takes six weeks to two months for the crop to grow, you can make the beds any time, so long as you avoid it cropping when flies abound. I would not advise making any beds in May. It is not necessary to grow mushrooms in dark places, but they will grow there as well as in the light.

The average vegetable garden near Toronto is from five to ten acres. Nearly all growers have one or more greenhouses, which are used in the winter for forcing lettuces, radishes, rhubarb, etc., and to get plants well started ready for spring work.

*Extract from an address read at a meeting of the Toronto Horticultural Society.