

especially potent in the hours directly after harvest, and the flavor can be potent. When very fresh mushrooms are cooked, the slices of mushrooms undergo a mesmerizing color change from white to strong golden yellow. This color reaction is lost within a day of harvest. The thick stems are especially appealing in their crunchy texture. I recommend cooking them simply on high heat in a bit of olive oil, then seasoning with salt. Cooked mushrooms develop a wonderfully slippery texture, making it one of the most tactilely interesting of all succulent mushrooms. This mushroom is best eaten infrequently, as with daily consumption the novelty of its flavor soon fades. Some people feel the flavor is too strong and prefer the mushrooms be cooked separately so as not to overwhelm the flavors of other dishes. The golden exudate secreted from the spawn also has a very strong almond flavor. After mushrooms are harvested, even at the button stage, the gills continue to mature with spores for days while under refrigeration, becoming pink and eventually dark brown with maturity. (See page 71.) Mature specimens rate almost as good as young fruitbodies in their flavor profile.

Comments: A mushroom rapidly increasing in popularity, especially with Japanese, Brazilian, and Chinese cultivators who are eagerly exporting dried fruitbodies and fresh mushrooms. This mushroom has become the center of a \$600 million (U.S.) industry in Japan since 1995. In response to demand, cultivation centers are being built in numerous countries, including the United States, Denmark, the Netherlands, and throughout the Far East.

Agaricus blazei has moved to the uppermost ranks of the best of all gourmet and medicinal mushroom species. Inevitably, the commercial Button (*Agaricus bisporus* = *brunnescens*) industry in North America and Europe will awaken to the potential of this species. Since this mushroom is phototropic, Button growers must face the difficult task of installing sufficient lighting if they want to switch to this species. Although not absolutely critical for primordia formation, exposure to light enhances yields.

This species can be grown on sterilized sawdust and manure based composts. Like *Agaricus brunnescens*, the activity of soil-borne bacteria appear critical for fruitbody maturation. Casing soils

should have a pH of 7, not be sterilized, and in most cases, not pasteurized, as the beneficial heat-sensitive microflora can easily be killed. If using a heat-treated peat moss-based casing, taking a few cups (200 ml) of native soil, dissolving into 5 gallons (15-16 liters) of water, and then using this microbially rich soil to moisten the casing at makeup provides the essential microflora necessary for fruiting. One method contours the casing layer with alternating mounds of 2Vz inches (6 cm) of casing soil—a ridge bed—to enhance yields and inoculate egg-sized plugs of grain spawn 8 inches (20 cm) apart, and to a depth of 4 inches (10 cm) (Iwade and Mizuno 1997). From this author's experience, methods that rely on this type of inoculation overcome barriers that are otherwise encountered from through-mixing of spawn, allowing for concentrated "island" colonies of mycelium, which can readily become the launching pads for primordia. This approach resembles an early technique first employed by Button mushroom growers but later abandoned in favor of through-spawning (Atkins 1966).

Rough casing layers varying in particular size, but devoid of undecomposed wood fragments are recommended. A IVz- to 2-inch (2.5-5 cm) casing layer should be applied after 3 to 4 weeks of colonization. A thick casing soil appears important for adequate primordial formation and enlargement. Cultivators in Brazil elect to use native soils.

This author prefers Canadian sphagnum peat moss. The casing layer should be thick enough that mycelia shows in the valleys of casing layer three weeks after application. If showing sooner, watering can be increased to discourage overlay. At warmer temperatures, the rate of transpiration/evaporation is greater, and cultivators must frequently monitor moisture levels to prevent damaging dehydration. The recommended humidity is not as high as with many other mushrooms, allowing for active water-transport to the surface. Primordia tend to form deep within the casing layer, as opposed to the surface. Young primordia are massive in comparison to other mushrooms, and channel water from afar.

A patent (#5,048,227) has been issued for using a lattice-like separation layer between the spawned substrate and within the casing soil thus increasing, according to the claim, yields by 1.4 times or greater.