For successful growth, mushrooms need suitable temperatures, relatively high air humidity levels, oxygen, as well as a little light. One mycelium bag (about 16 kilograms of substrate + casing soil) can produce up to 3 kg of fresh mushrooms in 3 to 4 flushes. The fruiting cycle is described here. Please note that, working with organisms, time designations may vary – checking daily on your mushrooms, especially the temperature and humidity levels, is of the greatest importance.

You are provided with a fully colonised mycelium bag. These instructions will guide you through the necessary working steps from delivery to harvesting of your own fresh mushrooms.

**Phase 1: Preparation of the grow kit**
Working very clean is imperative when cultivating mushrooms. Spring-clean hands, workspace and the growkit.

HINT: Because chlorine attacks both bacteria and mold, a sodium-hypochlorite-based household-detergent that leaves no traces of chemicals on surfaces works best for cleaning of the working area and of the growkit (NOT of your hands!). Please do refer to product informations. Prepare a water-chlorine-solution (only a small amount of the chlorine-containing product will do) in your household-spray bottle using clean water. Just spray the inside of your grow kit and wait until the sharp smell of chlorine has disappeared.

Perlite is used in order to be able to maintain high air humidity levels (required for fruiting) inside the grow kit. Just make wet the Perlite in a sieve or the like and let drip off well. Then disperse evenly on the growkit bottom. Prevent the Perlite from drying out by periodically checking by hand and spraying with clean water when necessary.

Place the growkit in a room with no air draft (but WITH fresh air supply) that has the right temperature for the strain you obtained and wish to cultivate. Do not place in direct sunlight.

**Phase 2: Applying of casing soil layer**
Now the mycelium block is placed centrally in the growkit bottom. On the top side - leaving approx. 5 cm wide margin - carefully cut with a clean blade only on three sides the plastic foil. Avoid injuring the mycelium. In the corners gently stretch the plastic to create a little more space for the casing soil. Next, evenly and loosely put on the casing soil layer over the entire surface. Work clean; when applying the casing soil, the use of latex gloves is recommended. After the casing is done, put the loose part of the plastic back on top of the casing layer to prevent excessive moisture loss. Put back on the transparent cover of the grow kit.

**Phase 3: Colonising of casing layer**
During this phase, the Agaricus blazei will now colonise the casing soil as well, which can take up to 4 weeks.

**Phase 4: Scratching the casing layer / establishing initiation conditions**
Once the fungus has colonised the casing, it is time to 'scratch' the soil with a clean blade, that is to 'ruffle' it carefully. Just drag with the knife a 'square' pattern (squares 1 - 2 cm wide) over the surface - not too deep, the compost block should remain intact. Through scratching more oxygen reaches the mycelium and the Agaricus blazei will start to form primordia. Put back on the transparent cover of the grow kit, leaving one of the hatches open just a bit. As of now, checking the casing layer humidity daily is advisable.

HINT: take a small piece of soil between two fingers and squeeze. Water droplets should appear (OK), but no stream of water should run out (TOO WET). Spray with your household sprayer if necessary.

Once the first primordia appear on the surface, stop spraying the soil, because water on the fruitbodies can lead to contamination and loss of quality.

Factbox: optimum conditions in professional cultivation facilities:

<table>
<thead>
<tr>
<th>Temperature: 21 - 24 °C</th>
<th>CO₂: 400 - 800 ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humidity: 80 - 90%</td>
<td>Fresh air exchange: 5 - 7 per hour</td>
</tr>
<tr>
<td>Duration: 18 - 24 days</td>
<td>Light requirements: 0,1 - 0,2 Lumen / cm²</td>
</tr>
</tbody>
</table>

Phase 5: Fruiting and harvest
During this phase make sure you stay within the appropriate temperature range. Within 4 to 8 days the mushrooms will mature, put not all at the same rate, so you should check on the progress 2 - 3 time a day to get the optimum in quality and yield. Consider that, as with all gilled mushrooms, Agaricus blazei has extended shelf life when harvested (just) before the veil (protecting the delicate region of spore production - the gills) breaks. To harvest, carefully - touching only the stem - twist out the fruitbodies. Remove any residues of soil or substrate prior to cooking or further processing, using a soft brush or scrubber. Also remove any remaining parts of the stems from the casing surface by carefully twisting, because these are most vulnerable to midges, bacteria and/or mold.

After the first flush the mycelium needs to rest, which may take a few days - during this stage again keep your grow kit, the perlite and the casing soil humidified - until the next flush sets in.

Factbox: optimum conditions in professional cultivation facilities:

<table>
<thead>
<tr>
<th>Temperature: 24 - 27 °C</th>
<th>CO₂: &gt; 2000 ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humidity: 75 - 85%</td>
<td>Fresh air exchange: 5 - 7 per hour</td>
</tr>
<tr>
<td>Duration: 4 - 8 Tage</td>
<td>Light requirements: 0,1 - 0,2 Lumen / cm²</td>
</tr>
</tbody>
</table>

Storage of fresh mushrooms:
Fresh Blazei can be stored at good quality in the fridge (+4 °C) for about 2 - 3 days. For extended storage, drying down, deep-freezing or preserving/jarring are further options.

For drying the mushrooms are sliced 5mm strong and layed out in a dry and well-ventilated place. Hot-air-dryers are convenient tools, but make sure you do not operate above 40 °C, because many of the valuable ingredients may be lost.
Slicing up the mushrooms is also recommended for deep-freezing; frozen fungi are put directly into the hot pan.

**Recycling of the substrates:**
After the last flush the mycelium blocks are organic 'waste'. Recycle plastic bags according to the prescriptions in your area. The blocks can be piled up for composting as well, if you happen to have a garden or green space. In that case, while the substrates are decomposed by microorganisms, and with a little luck, in the upcoming warm periods you may even have a few of your own outdoor-mushrooms growing from your pile.