

SINCE

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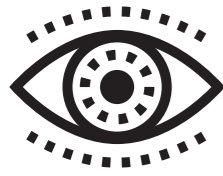
COOLING WITH  
NATURAL  
REFRIGERANTS

 **KUSTEC**  
*cooling for a green future*

# MUSHROOM GROWING CONTAINER

GROWY 40





**Our Vision**

We believe our first responsibility is the innovation of cooling systems. Our priorities are to provide our customers with optimized cooling systems, to follow the UN's environmental SDG's and to foster the worldwide development



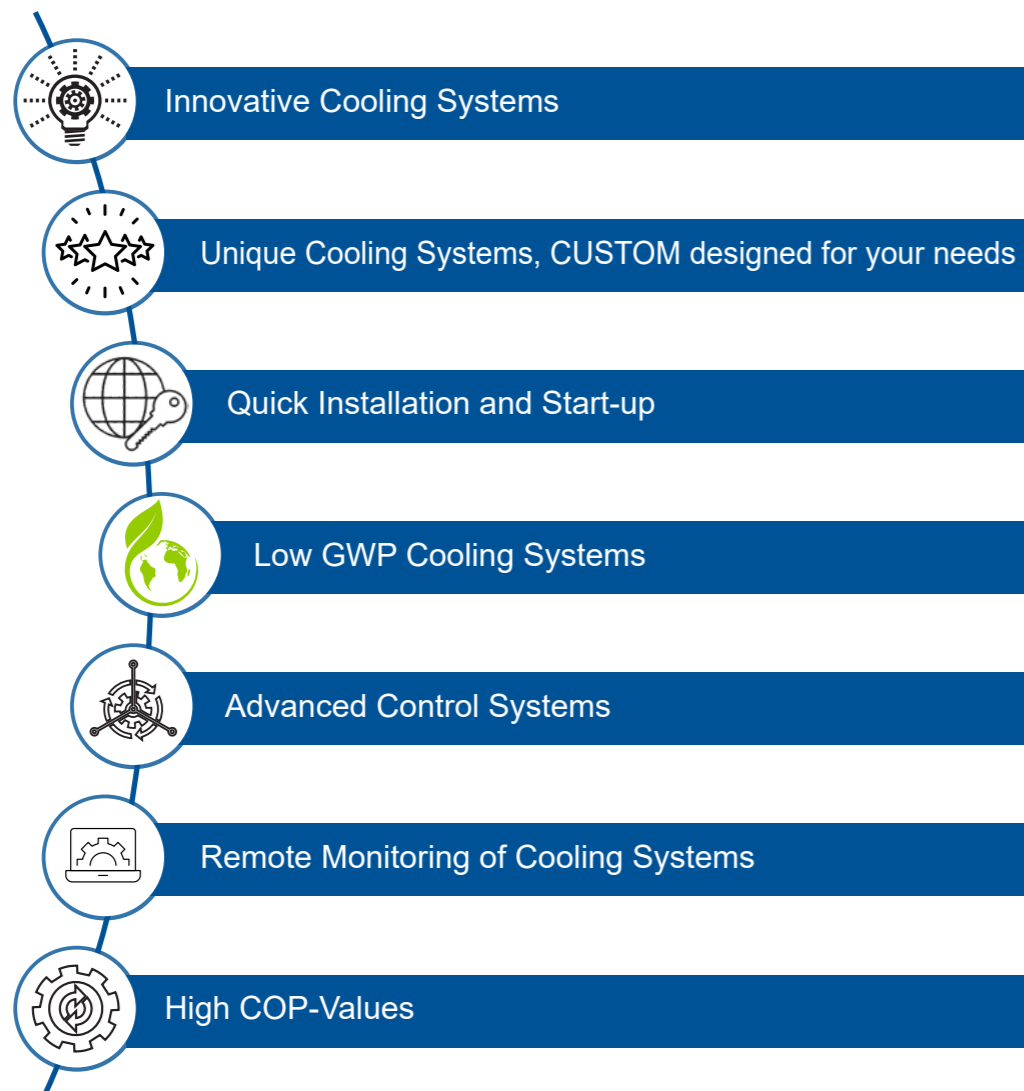
**Our Mission**

We develop innovative cooling systems for our customers and standardize the worldwide hydrogen vehicle industry using low GWP refrigerants.

**Content**

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**Advantages of KUSTEC Cooling Technology:**



The mushroom growing industry has undergone a transformative revolution, where mushroom growing enthusiasts and commercial growers increasingly rely on mushroom growing containers to realize the full potential of their mushroom growing efforts.



Mushroom growing containers take the cultivation process to a new level of efficiency, and diversity. The following factors are mainly responsible for this:

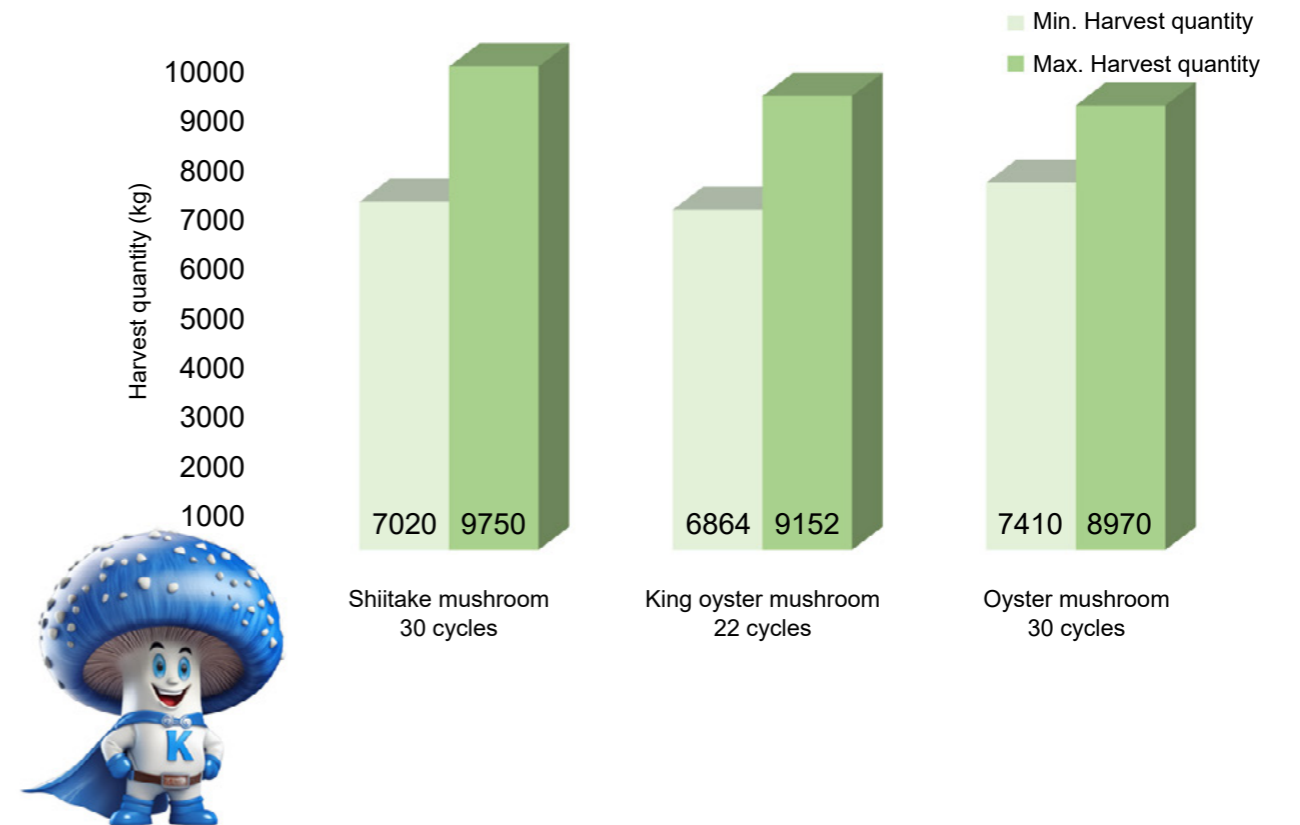
- Environmental control
- Year-round cultivation
- High space efficiency
- Easy predictability of harvest
- Reduced labor intensity
- Easy cleaning of the interior
- Easy scalability

*KUSTEC climate containers offer 3 additional advantages:*

- **Environmentally friendly:** *KUSTEC* climate containers use refrigerants with a low GWP. In this way, they contribute to a reduction in CO<sub>2</sub> emissions.
- **Sustainability:** *KUSTEC* climate containers are SecondLife-refrigerated containers that are upgraded with new *KUSTEC* climate technology to form the perfect mushroom growing container. This upcycling process saves valuable resources, reduces acquisition costs and also extends the container life cycle by many valuable years.
- **Industry-leading *KUSTEC* technology:** The proven *KUSTEC* technology has been used in various sectors since 2006, e.g. in the automotive industry and the energy sector.

Mushroom growing in containers enables a more efficient and consistent production of edible mushrooms compared to conventional outdoor cultivation. The exact control of environmental conditions leads to higher yields, regardless of seasonal fluctuations. In summary, this means a larger harvest with less labor.

## Annual quantity in kg to Substrate quantity per cycle (1300kg)



## Market size and Growth rate

The global market for edible mushrooms is expected to reach USD 115.8 billion by 2030, with a compound annual growth rate (CAGR) of 9.7% over the forecast period.<sup>1,2</sup> Europe is expected to grow at a CAGR of 9.52%.<sup>3</sup>

## Demand and Supply

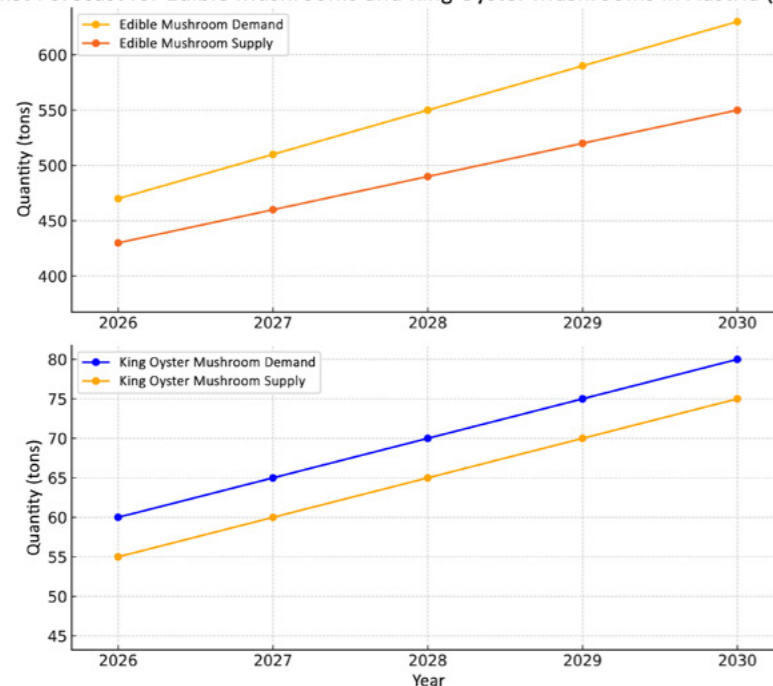
The demand for edible mushrooms is mainly driven by the increasing trend towards plant-based and health-conscious diets. In particular, the consumption of mushrooms in food will increase due to their nutritious and low-calorie properties. Fresh mushrooms are expected to remain the dominant form, with an annual growth rate of 8.8%, as they are preferred in the food service industry and by private households.<sup>2,4</sup>

## Price development

As a result of rising demand and growing awareness regarding the health benefits of mushrooms, a moderate increase in mushroom prices is expected. Europe will play a key role in the mushroom market, both as a consumer and as an importer.<sup>5</sup>

## Market forecast for Austria

Market Forecast for Edible Mushrooms and King Oyster Mushrooms in Austria (2026- 2030)



The market forecast until 2030 for edible mushrooms and, for example, king oyster mushrooms in Austria indicates continuous growth, driven by health trends and sustainable nutrition.

<sup>1</sup> Source: <https://www.grandviewresearch.com/industry-analysis/mushroom-market>

<sup>2</sup> Source: <https://www.grandviewresearch.com/press-release/global-mushroom-market>

<sup>3</sup> Source: <https://stratinsresearch.com/report/mushroom-market>

<sup>4</sup> Source: <https://www.gminsights.com/industry-analysis/mushroom-market>

<sup>5</sup> Source: <https://www.marketdataforecast.com/market-reports/edible-mushroom-market>

Many edible types of mushrooms are very suitable for growing in a climate container. The optimal growing conditions for some of the most popular varieties with mycelium bags can be found here. Mycelium or substrate bags can be made from scratch or purchased from a substrate supplier of your choice.

## Oyster mushrooms (*Pleurotus ostreatus*)

Also known as veal mushroom, it impresses with its delicate, mild aroma and velvety texture. It is a true all-rounder in the kitchen and is perfect for frying, creamy sauces, ragouts, and as a side dish. Its quick preparation and delicate taste make it one of the most popular and versatile edible mushrooms around.



### Fruiting phase:

Once the mycelium has grown through the substrate, the fruiting phase begins. Set the temperature to around 15 to 18°C and the humidity to 85% to 90%. A sufficient light source promotes the formation of fruiting bodies.

### Harvest:

The oyster mushrooms can be harvested when the caps have reached a diameter of about 5 to 10 cm. This usually happens after 2-3 weeks. Carefully cut the mushrooms off at the base of the stem so as not to damage the mycelium.

## Yellow oyster mushrooms (*Pleurotus citrinopileatus*)

Its name reveals its refreshing lemony aroma, accompanied by a subtle nutty depth. When cooked, the tangy acidity transforms into a fuller flavor reminiscent of cashews. It adds an exquisite, slightly exotic note to fish, white meat, and pasta, melting in the mouth while its bright color remains a treat for the eyes.



### Fruiting phase:

Once the mycelium has grown through the substrate, the fruiting phase begins. Set the temperature to around 18 to 22°C and the humidity to around 85 to 90%. A sufficient light source promotes the formation of fruiting bodies.

### Harvest:

The lemon cap mushrooms can be harvested when the caps have reached a diameter of about 3 to 5 cm. This usually happens after 2-3 weeks. Carefully cut the mushrooms off at the base of the stem so as not to damage the mycelium.



## King oyster mushroom (*Pleurotus eryngii*)

With its delicate, nutty aroma and firm, meat-like texture, it is considered the „steak“ of mushrooms. Its firm stem does not fall apart when cooked and is ideal for frying and grilling. As a vegetarian alternative to scallops or fillet, it is a culinary highlight. It also impresses with its exceptionally long shelf life and versatility.

### *Fruiting phase:*

Once the mycelium has grown through the substrate, the fruiting phase begins. Set the temperature to around 54 to 64°F and the humidity to 85% to 90%. This promotes the formation of mushroom heads.

### *Harvest:*

The king oyster mushrooms can be harvested when the caps have fully opened. This usually happens after 3-4 weeks.



## Shiitake (*Lentinula edodes*)

A gourmet mushroom with a strong, spicy umami flavor and a pleasantly firm texture. Its rich aromas enhance Asian dishes, soups, and sauces in particular, making it an excellent meat alternative. As a medicinal mushroom, it is known for its health-promoting properties and supports the immune system — a boon for both the kitchen and well-being.

### *Fruiting phase:*

Once the mycelium has grown through the substrate, the fruiting phase begins. Set the temperature to around 54 to 64°F and the humidity to around 85 to 90%. This promotes the formation of mushroom heads.

### *Harvest:*

Shiitake mushrooms can be harvested when the caps are fully developed. This usually takes 1-2 weeks.

## Enoki (*Flammulina velutipes*)

Also known as winter mushroom or needle mushroom, it captivates with its delicate, elegant shape. It has a mild and subtly fruity flavor, but its true strength lies in its crisp texture, which it retains even when cooked briefly. It is an exquisite, firm addition to soups and salads, refines wok dishes, and also serves as a visual highlight in modern cuisine.

### *Fruiting phase:*

Once the mycelium has grown through the substrate, the fruiting phase begins. Set the temperature to around 10 to 15°C and the humidity to 85% to 90%. A sufficient light source, around 12 hours a day, promotes the formation of fruiting bodies.

### *Harvest:*

Enoki mushrooms can be harvested when the stems have reached a length of 10 to 15 cm and the caps are still small and compact. This usually takes 3-4 weeks.



## Lion's mane (*Hericium erinaceus*)

A visually fascinating mushroom with a delicate flavor reminiscent of lobster or veal. Its tender, fibrous texture makes it a unique gourmet experience. Ideal for frying as a steak or as a sophisticated vegetarian alternative to seafood. As a medicinal mushroom, it is also highly valued for its positive effects on the nervous system and concentration.

### *Cold shock:*

After incubation, a cold shock of 1-2 days at 4-10°C can help stimulate fruiting.

### *Fruiting phase:*

Ensure a temperature of around 15 to 20°C, humidity of around 85 to 90%, and good air circulation to prevent the formation of CO<sub>2</sub>, which can inhibit fungal growth.

### *Harvest:*

The lion's mane can be harvested when the fruiting bodies are fully developed, but before they begin to release their spores. Harvesting usually takes place after 2-4 weeks.





The *Growy 40* is an innovative container that has been specially developed for efficient, large-volume mushroom cultivation.

With a length of 40 feet (12.19 m), this container offers enough space to cultivate large quantities of mushrooms and achieve maximum yields.

### Sophisticated design for optimum conditions

The front of the *Growy 40* is equipped with a sturdy cold room door. This door ensures easy access to the interior of the container, as well as reliable temperature control, which is crucial for mushroom cultivation.



The climate chamber ensures that the ideal temperature is maintained at all times, optimizing the quality and growth of the mushrooms.

In addition, the *Growy 40* is equipped with a water connection and a 230-volt power connection, which enable easy and efficient cleaning inside the container.

This facilitates maintenance and ensures that the hygienic conditions in the climate chamber are always optimal for healthy mushroom growth.

### Efficiency and quality combined

The *Growy 40* provides mushroom growers with a tool that combines efficiency and quality in one product. Its generous interior space and sophisticated technology make it the ideal solution for professional growers who want to produce large quantities of mushrooms with consistently high quality.



With the *Growy 40* growers can maximize their yields while ensuring the quality of their mushrooms.

Its robust construction, advanced climate control technology, and thoughtful design make it the ideal choice for producing large quantities of mushrooms.

### Modern climate control technology for precise control

The controls for the state-of-the-art climate control technology are located next to the *Growy 40*'s cold room door.

An illuminated touch display allows intuitive and precise control of all important parameters such as temperature, humidity, and ventilation. Remote access via radio connection is also possible.



Control of the interior climate

This advanced technology ensures that the conditions inside the container are always optimally adapted to the needs of the mushrooms, resulting in increased productivity and better harvest results.

The climate control system enables:

- an adjustable **indoor temperature from +8 to +25°C** with a sensor resolution of 0.1°C
- an adjustable **CO<sub>2</sub> content from 300 to 10,000 ppm** with a sensor resolution of 0.1 ppm
- adjustable **indoor air humidity up to 98%** with a sensor resolution of 0.01%

### Technical data



Rated power: ~5 kW (400 V, 25/32 A)



Adjustable internal temperature: +8°C to +25°C



Heating power: 8 kW (SCOP: 4,7)



Cooling capacity: 7,1 kW (SEER: 6,7)



Refrigerant: R32 (GWP 675)



Dimensions (L/B/H): 12,19 / 2,44 / 2,90 m



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