

1 Preparing rice straw and production site

1.1
Rice straw should be dried, light yellow in color, and without molds and stones/dirt. Moisture content should be at 15-18%.



1.2
Have an open ventilated area with sunlight or under a tree, without stagnant water.

2 Soak rice straw in lime solution

2.1
Basin should be made of concrete, wood, or plastic.



2.2
Lime solution is 12-16 pH at 3-5kg/1,000 liter of water.



2.3
Soak rice straw in lime solution for 10-15 mins.



2.4
Drain excess solution from rice straw using wooden pallets.



3 Rice straw silage

3.1
Prepare a platform with at least 10cm ground clearance.



3.2
Create a heap of rice straw on the platform with a tube (10-20cm diameter) in the middle for ventilation.



3.3
Size of heap is 1.5m length x 1.5m width x 1.5m height.



3.4 Remove tube and cover heap with plastic film (with a hole where the tube was). Leave for 6 days.



3.5
Occasionally check rice straw wetness level. Good if water droplets are visible while squeezing the straw.



3.6
On the 6th day, turn heap inside-out. Cover again with plastic after turning.



3.7
10-12 days after, rice straw is ready to use for mushroom production.



4 Preparing and seeding rice straw beds

4.1
Check for mycelium growth inside the spawn bag to verify if the spawn is mature enough.



4.4
Add spawn on top of straw layer, 5cm away from the edge.



4.2
Make a wooden frame of 0.3-0.4m width x 0.35-0.4m height x 1.5m length.



4.5
Slightly compress the bed until you see water draining from the rice straw bed. Remove the frame.



4.3
Add rice straw with 10cm height into the frame and slightly compact the straw.



4.6
Sprinkle water over the rice straw bed. Use a net to cover the beds then heap a layer of dry rice straw on top.



5 Maintenance and harvest

5.1

For 7 days, maintain the temperature of the beds at 35-42°C by adjusting rice straw cover. From day 8 onwards, maintain the temperature at 28±2°C.



5.3

After 14 days, mushrooms are ready for harvesting.



5.2

If heavy rains occur, use plastic film to cover the beds.



Rice straw is a byproduct of rice production. In many Asian countries, it is often burned to clear the field for the next planting, degrading soil nutrients and creating pollution. Using waste rice straw as a substrate for mushroom production is a sustainable alternative that reduces the environmental impact of rice production and adds value to farmer's crops.



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