

Small Kine Farm Video Transcript

- Here we are.

We are the first and only organic mushroom farm in the state of Hawaii.

Now, I'm gonna show you what we got in here.

First, when you come to a mushroom farm, you will smell a lot of compost smell.

That's the smell of money to a mushroom farmer.

This is the first stage of our production.

This is 10,000 pounds of organic waste that we collect from tree trimmers.

And, we collect them and then we use them for mushroom farming.

You can see the big pile right there.

The temperature right now is 135 degrees Fahrenheit, and it's going to get hotter and hotter.

And every few days, we take the compost out and wet them and mix them.

We leave it like this for five, six days, and then we go to the next phase.

And this is a phase one decomposition stage.

And, this step is called in-vessel decomposition.

Everything's contained.

Mainly, no run off, no water run off.

For composting to happen, you need heat, you need oxygen, and then also you need the microbes to help.

So, right here is plenty of microbes.

Underneath, we have PVC tube buried into the cement floor.

In the back of this unit, there is a pump.

We pump fresh air into this compost.

So we... keep supplying with fresh air to keep the compost temperature between hundred and eighty to hundred eighty-five degrees Fahrenheit.

You can see those metal device on top, that is a temperature probe.

And then when this compost [is] getting too hot or too cold, they will adjust the air pump accordingly, to keep that temperature at one hundred and eighty-five degrees Fahrenheit.

So, we keep this here for about seven days to ten days.

And then so, after it's completed, in this process we basically we're cooking the compost at a very, very high temperature.

And then, so that way we accelerate the process by making it easier breaking down the organic matter quicker and easier (with the help of high temperature).

So, after this process, and then we're going to second phase.

The second phase is called pasteurization.

This is a pasteurization tunnel.

Inside this tunnel, we will bring that material in here.

And then the goal of pasteurization is to kill off all the harmful pathogens, bacteria, insect and anything else that we don't want them to be in a mushroom.

All this is a shipping container, insulated, but, we also have an aerated floor, same thing like the phase one-- the floor has a cement floor, and then it has pipes buried underneath, and the pipe is connect to a pump, and the pump will pump air out to regulate the temperature.

We will keep the compost in here for about seven days.

During the same seven days, we will keep the temperature between 130 to 135 degrees Fahrenheit.

And, then in this process, we keep it for first 12 hours.

We keep that at that temperature, and that will kill off 99% off those harmful pathogens and bacteria.

And then, we keep it here for another six days, lower the temperature, one degree every few hours, to down to 110 degrees Fahrenheit.

And, we keep it at that temperature because there's a certain bacteria we want them to thrive.

We want them to grow.

And, that bacteria only thrive at about 110 degrees Fahrenheit.

And then, we keep it at seven days, and by the time we open this tunnel, pasteurizing tunnel, all the other harmful bacteria is die off, and then all we'll have is always beneficial bacteria.

So, that is the second phase of a mushroom production process (called pasteurization).

You eat the top of the mushroom, and then we just, this part, we just take them off this part, we don't need them.

We put them back here and recycled them, and use for mushroom farming again.

This is a mushroom grow room.

That's where we grow our mushroom.

And, this is where the magic happen.

Let's see what's in there.

After pasteurization, and then we will bring all those substrate-- where the substrate already mixed with mushroom mycelium.

And, we let them sit here for 10 days.

So, let the mycelium to colonize the substrate.

And then, because mycelium is like the roots of mushroom, we need that to colonize all the substrate-- because mycelium will bring nutrients to the mushroom where they will need the mushroom to grow bigger and bigger and eventually for us to eat.

So, we wait for about 10 to 12 days here until the mycelium colonized the substrate.

And, then we put a layer of casing layer.

A casing layer is mixture of peat moss and agriculture lime.

So, mixture of that basically has no nutrients.

We just put it on top.

So, let the mushroom mycelium knows (yeah)-- on top of it, it has no nutrients, and then, and they will grow into it, and eventually they realize nutrient is depleting in this area.

For us to survive, we have to reproduce.

We will have to get our offspring out there.

Their process of getting the offspring out there is using mushroom.

Mushroom actually is a sex organ-- a reproductive organ of this micro-organism.

The mushroom compost substrate will stay here for another month and a half.

The first 15 days, it's just like growing the mycelium, and then the second and the rest of the time, it's just like harvesting time.

So, the mushroom will grow every seven days, we cut them all up, harvest them, put in the storage and sell them.

And, then we wait for seven days, and they will come up again for another seven days.

So, eventually after two or three times of harvest, the nutrients in the substrate will become less and less for mushroom cultivation.

So, we will become not economically viable to keep them here-- because we have to chill them, we have to send people in to take care of them.

Then at that point we will empty this room out.

And then... the one that left behind is called spent mushroom substrates.

That's the one that a farm (a local farm) use as some amendment, or like a residential home owners, we use that for planting, and it's full of nutrients for plants and vegetables.

But it has absolutely very little nutrients and very little use for our mushroom production here.

So that is the entire process of mushroom production, in here.