The fourth module of sericulture deals

with harvesting of silkworm cocoons.

So in this module we will see how

the larva is transformed into cocoon,

how the cocoons are harvested, sorted,

assessed and then transported to the

market and the students will be able to

describe the various methods of cocoon

harvest and explain

the process of cocoon

sorting and assessment of cocoons.

So let us begin.

Harvesting of cocoon is nothing else

but it is collecting and gathering

the cocoons from the mountages.

So in the 5th instar,

the silkworm larval form was hand

picked and it was placed on mountages

and on this mountages they

have weaved the cocoon around them

and now when the cocoon is ready it

has to be collected. The process

of collecting the cocoon from the

mountage is known as harvesting.

And what is cocoon?

Cocoon is nothing else but the

protective casing of silk filament,

which the silkworm spins around itself.

So that protective casing which the

silkworm will spin around itself and

then it metamorphosizes inside it.

And it is not disturbed by what

is happening in the exterior

environment, so that protective casing

is what is known as the cocoon.

After spinning the cocoon,

the larvae will metamorphosize into pupa and

the pupa is going to then form the adult.

Now this spinning and metamorphosis.

takes approximately 5 to 6 days.

OKay,
So once the lava has been placed on the

mountages,

it will start spinning the cocoon

and this spinning will take

approximately 5 to 6 days time.

Now,

the best time to collect the cocoon

from this harvester is between 6th

day to 8th day after mounting.

Care should be taken that you do not

go about with premature collection of cocoon.

What will happen is, if there

is premature collection,

then the pupa inside would be very delicate.

So there are chances of injury to the pupa.

There are also chances of losing the

silk content and at the same time the

pupa can also die and if the pupa dies,

it will result in staining the cocoons.

And this will lead to loss of silk again.

And at the same time,

if there is delay in harvest,

then what will happen is there will

be loss of moisture from the cocoon.

So the cocoon will lose its weight and

the farmer will get money in the market

based on the weight of the cocoon.

So the more the weight of the cocoon the

money fetched will be better for the farmer.

So if harvest is delayed,

moisture content would be lost and

as a result the weight

of the cocoon will come down.

And secondly,

if there is delay in harvesting,

then there are chances that the adult

moth may emerge out from the cocoon.

And if it so happens,

then again the cocoon will not

be of much use to the farmer.

So now what are the different

methods used for harvesting?

So first and foremost, the most common

method is the hand picking method.

So before harvesting them,

mountages would have to be cleaned off,

Any dead or diseased larva

would have to be removed.

If any defected cocoons are there,

then they would have to be removed

and the cocoons would be handpicked

from the mountages. Now if at all,

carboard mountages have been used,

then there are Wooden harvester for it,

which is comprised of

wooden frame as well as the pusher.

So here in this image we can

see a plastic mountage.

OKay, we can see the cocoons

on this plastic mountages.

Plastic mountages are good, also because

they can be disinfected thoroughly

as compared to the bamboo mountages.

So here we can see a plastic

mounted cocoons and the farmer,

using the hand picking method

for harvesting the cocoons and this

image shows us a wooden cocoon harvester.

So this is the wooden frame and

this is the cardboard mountage which

has been placed inside the wooden

frame

and this is the pusher or the peg

with which the cocoons would be pushed,

and then they would be collected from there.

Other than that,

you also have a cocoon harvester

which may be made up of iron and wood,

and then there are also

some equipments which are known

as cocoon deflosser.

So the outermost layer of the cocoon

may be removed by the deflosser and

this process is known as deflossing.

Now,

once the cocoons have been harvested,

they have to be spread uniformly.

Overcrowding has to be avoided, at the

most there may be only two layers of cocoons.

So what happens is since the cocoon

has the live animal inside it,

if there is overcrowding it will

lead to emitance of lot of gases.

It can also lead to the death of

the pupa inside the cocoon,

so that is the reason why they

have to be spread uniformly.

At the most you can have just two

layers so that there is no damage

to the cocoons.

Once the cocoons have been harvested,

the next step would be removal of

odd and defective cocoons from the lot,

and this is known as cocoon sorting.

So the good cocoons would be sorted out,

then the farmer may also find double cocoons,

so sometimes what happens is that

when the lava is placed in the mountages,

one of the larval form may invade into

the space of the another larval form

and you may have both the larval froms

spinning cocoon at the same place and

you can get what is known as double

cocoon. Sometimes some cocoons

can be infected by the parasite.

Uzi fly,

and at that time you can get Uzi

pierced cocoons. A at the same time,

if the silkworm larval form

has not been fed properly,

if it is undernourished, then

you can get flimsy or

thin shelled cocoon.

If the pupa has died inside,

you can get a stained cocoon and if

there has been some improper rearing or

improper spinning by the silkworm or due

to some genetic character of silkworm,

sometimes we can also get thin end cocoons.

So all these cocoons would have to be

sorted out and only the good cocoons

would fetch a good price to the farmer.

Well, now, how do you go about with

the assessment of the cocoons so far?

Finding out defective cocoon percent,

what is usually done is, if it is

not possible to find out the percent on

the large scale for all the cocoons,

if there are too many of cocoons,

then one kg of cocoon is taken

and in that one kg of cocoons, how many

defective cocoons are there,

they are taken aside and they are weighed

and defective cocoon percent is calculated.

This weight of defective cocoon in one

Kg is divided by one kg into 100 and we also

have an indicator of price fixation of

the cocoons when purchased for reeling

and this indicator is known as Rendita.

Now,

once the cocoons have been harvested, once

they have been sorted,

and once they have been assessed they

have to be packed properly and

loosely and transported to the market.

Transportation is usually done

during the cooler hours of the day.

That is early in the morning so

that the cocoons are not harmed or

damaged in anyway and once in the

market there would be many bidders.

And at the same time there are

government controlled markets also.

So the farmer can go to these bidders

and sell the cocoons over there.

So this is how the process of cocoon

harvesting and marketing is done.