

Unit 6 organic farming module name types

of many of which includes green manure,
farmyard, manure, and name coated urea.

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Outline of this module

includes types of manure,
mainly the green manure, farmyard,
manure and name coated urea.

Learning outcomes categorizes
manure differentiates between
the types of many hours.

Explains characteristics of green manure,
farmyard, manure, and name coated urea.

Let us understand what do
you mean by manual manuals?

Are plant and animal waste that are
used as sources of plant nutrients.

They release nutrients after
that decomposition.

The art of collecting and

using base from animal.

Human and plant sources for improving crop

productivity is as old as agriculture.

Many others are the organic

materials derived from animal,

human and plant residues which contain

large nutrients in complex organic forms.

Now, usually in olden days whoever

used to practice agriculture used to

also go for domestication of the animals,

like the buffaloes,

cows, sheep.

so whatever faecal matter or other

ways were generated that was used for

making the manure and that was used for

the growth of the plants in the field.

So let us look at the advantages

of organic manures in general.

The organic manures provide all the

nutrients that are required by the plants,

but in limited quantities because

whatever is there that will be added,

it helps in maintaining the

carbon nitrogen ratio in the soil.

And also increases the fertility

and productivity of this soil.

It improves both the texture

and the structure of this soil.

It increases the water holding

capacity of the soil due to the

increase in the biological activity.

The nutrients that are in the lower

depths are also made available to the plants,

so once the properties of these

soil is enhanced,

ultimately it is going to enhance

the growth of the plants.

So now we have three major classes

of many others.

The first one is the green manure.

The second is the Permian Manual and

the third one is the name coated urea

and we are going to study one by one.

So the first one is the green

manure now green manuring can

be defined as the practice of

ploughing or turning into the soil.

Undecomposed green plant tissues

for improving physical structure

as well as soil fertility.

The green manure crops also

exercise a protective action

against erosion and leaching,

since you will be covering the soil

surface with these green plants,

green manures will not break

down into the soil so quickly,

but gradually add some nutrients

to the soil for the next crop.

Now let us look at the ideal characteristics

of the green manuring plants.

They show early establishment

and high ceiling.

Even they are tolerant to drought,
shade, flood and adverse temperatures.

Possessed early onset of nitrogen
fixation and it's efficient sustainance
have ability to accumulate large
biomass and nitrogen in four to
six weeks is easy to incorporate,
is quickly decomposable,
and is tolerant to pests and diseases.

These are common classes
of green manuring plants.

We have leguminous.

Green manure non grain legumes grains,
legumes and the perennial trees and shrubs.

These are some of the examples of
plants which are used as green manure.

We have *Glyricidia maculata*.

We have *pongamia glabra* *sesbania speciosa*
crotalaria Juncea,
tephrosia purpurea and *indigofera tinctoria*.

Then the second class is farmyard

manure abbreviated as FYM.

Now this farmyard manure is one of the oldest manual used by the farmers.

In growing crops because of its early availability and presence of all the nutrients required by the plants.

Farmyard manure refers to the decomposed mixture of dung and urine of farm animals along with their feed and leftover material from roughages or powder fed to the cattle.

So whatever ways it was generated from the animals that will be utilized for the agricultural purpose, application of this source of organic improves physical, chemical and biological condition of this soil farmyard manure can supply.

All the nutrients required by the plants, however, with low quantity.

These are some of the methods of

preparation of farmyard manure.

We have three main methods.

The first one is the pit method,

wherein a pit will be dug and

all the ways that will be collected

from the field will be collected in

this pit and then layers of soil

will be also added.

So you have to follow a specific dimension

that is 8 meters into two meters into.

1 meter and after a duration of around

1 to 50 days the manure will be ready

and that can be applied to the field.

Similarly,

we have the second method that is

referred to as the trench method.

Now it is the same as that of

the pit method only here.

Instead of pit Trench will be

dug with a specific dimension

and approximately more or less the

similar duration will be taken.

So that is approximately two 150 to 160 days.

After that the manure will be ready and

the third method is the heap method,

wherein simply collected waste will

be piled at one corner or at one place

and it will be allowed to get decomposed.

So after approximately around six to

nine months the manure will be ready

method of application of farmyard manure.

Once the manure is ready it should be

uniformly spread over soil surface

and mix thoroughly. It should be.

Apply 15 to 20 days before sowing

or transplanting,

so that when you're goes under

modification and nitrification

process so that the nitrogen is made

available to the growing plants.

Application of undecomposed manure should

not be applied during ploughing thread.

It should be before one to

two months of sewing.

The third class that we have

is neem coated urea.

Now before we go for new coated urea.

Let us understand urea first,

so urea is a white crystalline substance.

Having the presence of around

46% of nitrogen and hence it

is extensively used as

chemical fertilizer.

So it is actually catering to the

need of nitrogen of the plants.

Now when you are applying urea as a

fertilizer it will not be directly

absorbed by the plant, rather it.

Will be undergoing the

conversion process here.

We can see the urea will be first

converted into its intermediate form

and the final form will be the nitrate

that will be absorbed by the plug.

So first urea will be converted

to ammonia ammonia to ammonium,

ammonium to nitrite,

and nitrate to the nitrate.

So seriously it will be converted.

The conversion of ammonia

to nitrite is referred to.

As the nitrification process that is

very much important now over the period,

urea is being used as a chemical fertilizer.

We have already seen.

Now the problem is the rate at which

the urea is getting converted to

nitrate is very high as compared

to the rate at which the nitrate

is absorbed by the plug,

so there was lot of nitrogen that was.

Remaining in the soil that

was unutilised by the plant.

So this nitrogen used to just leach

down in the nearby water bodies

or in the ground table so there

was contamination of these urea

because non consumption of the urea

led to running away of this urea.

So that's why there was a problem that

was created with this urea which was

being used as a chemical fertilizer.

Further,

there was a lot of research in order

to solve this particular problem.

And finally nitrification was proven as a

nitrification inhibitor having the

nitrification inhibition properties

and hence slows down the release

of nitrogen from urea and mix

available nitrogen over a longer

period with minimum loss of nitrogen,

thereby increasing nitrogen use efficiency.

Hence Government of India.

Mended all producers to court urea

with neem seed oil and 45 urea.

So that's how we have the name coated urea.

So when you quote the urea with

the name initially the urea will be

converted to ammonia ammonia to ammonium,

ammonium being the stable form then

it will be gradually converted to

nitrite and nitrate so the conversion

process is slowed down due to the inhibition.

Properties of neem.

So due to the gradual release,

the problem that was encountered

was resolved,

so now we have name as

nitrification inhibitor.

Nitrification inhibitors are the

chemicals which slows down the rate of

nitrification nitrification inhibitors.

Deactivate the ammonia monooxygenase

enzyme responsible for the oxidation

of ammoniacal nitrogen to nitrate

form nitrification inhibitors.

Help to retain soil nitrogen in the

ammonical form for a longer period and

therefore provide more opportunities and

time for its uptake by the crop plants.

Now let us see the advantages of

neem coated urea name coating lead

to more gradual release of urea

helping plants gain more nutrients

and resulting in higher yields lower

under groundwater contamination

due to leaching of urea.

Name serves as a natural insecticide and

one economical benefit is collection of meme.

Seeds is needed for manufacturing

of neem coated urea.

This word generating

employment in rural areas.

These are some of the online

and the offline references

for your use. Thank you.