
Our Proposal
For
Rice Farming
in
Malaysia
Syntropy Malaysia Sdn Bhd
EM

We understand that Malaysia can produce only 70 % of rice needed and the balance is imported from foreign countries.

But from national security point of view Government is trying to achieve self-sufficiency in rice production.

While we are confident that EM Tecnology® can help achieve this target, we at the same time would like to recommend some technical applications as proposed in the following slides.

Recommended application for rice farming

(1) Adopt SRI (System of Rice Intensification) System
(2) Cloth mulch system
(3) Use EM® for enhancing growth and weed control
(4) Proceed with ratoon clopping
(5) Rice-Fish culture
(6) Rice production to substitute corn for feed of cattle/poultry

What is SRI System ?

SRI system was originally proposed by a Japanese researcher Mr.T.Katayama in 1920s and redeveloped and implemented by Mr.Henri de Laulanié in Madagascar in 1980s

Feature of SRI System is,

(1) transfer one piece of 10-day old plant
(2) spacing should be 30~50 cm x 30~50 cm
(3) apply compost
(4) minimizing irrigation
(5) yield increase by 50 ~100 %

Difference between SRI & conventional system at Lombok Island, Indonesia

SRI (10 days old) | **Conventional system (30 days)**

Transfer the young plants and minimize the irrigation. We will have more tillers and size of the plants become bigger with better yield.

SRI plants have many tillers with bigger size.

With SRI they can enjoy
50 ~ 100 % more yield

Very little irrigation

Grid is 30 cm x 30 cm

Selection of good quality of seeds

Racks of seedlings with roof

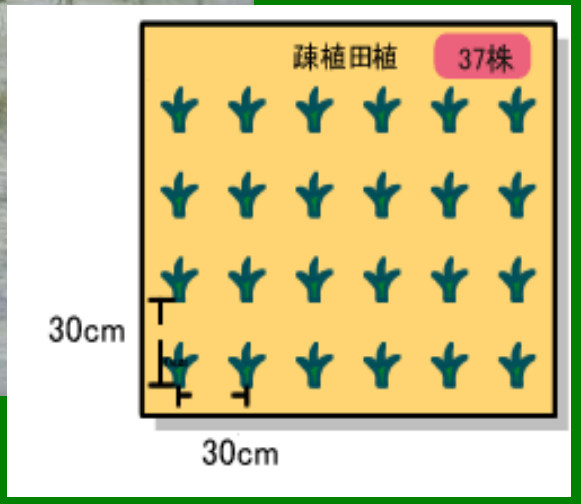
Rotary weeding machine

Transfer just a piece of young plants

More yield than conventional method

Minimum irrigation.

This is how SRI paddy field looks like



Due to bigger spacing more wind and sunshine can go through the plants. Only 5~10 kg of seeds are required per HA compared with 50 ~ 100 kg by conventional system.

Cloth Mulch System

Cloth Mulch System was developed in Japan for weed control at paddy field.

With this system we can eliminate chemical applications for rice production.

EM® fertilizer can replace chemical fertilizer. Spraying EMAS to the leaves will enhance the growth of paddy.

Therefore, we can

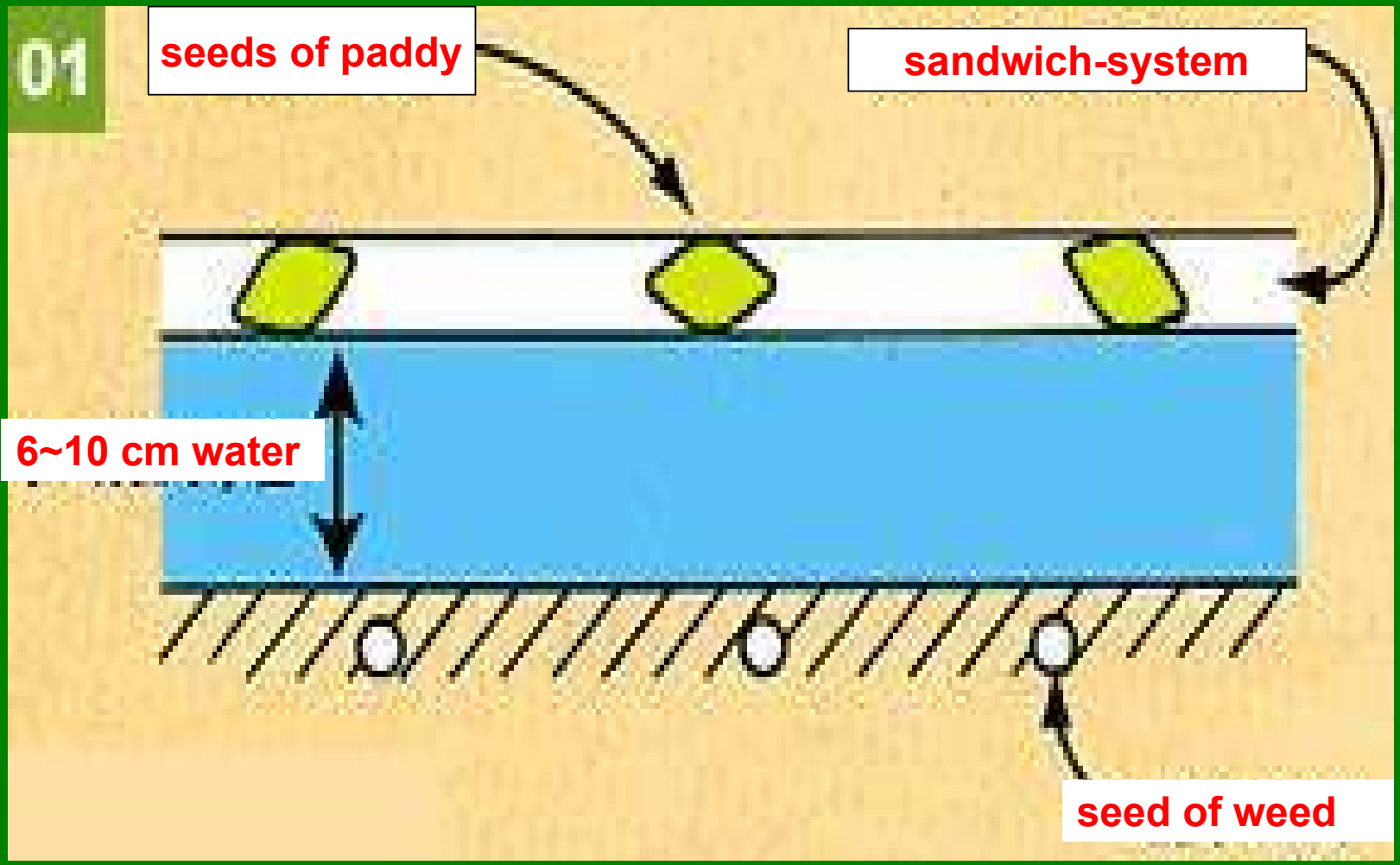
- save time and cost
- achieve organic rice production

HOW CLOTH MULCH LOOKS LIKE AFTER PLACEMENT

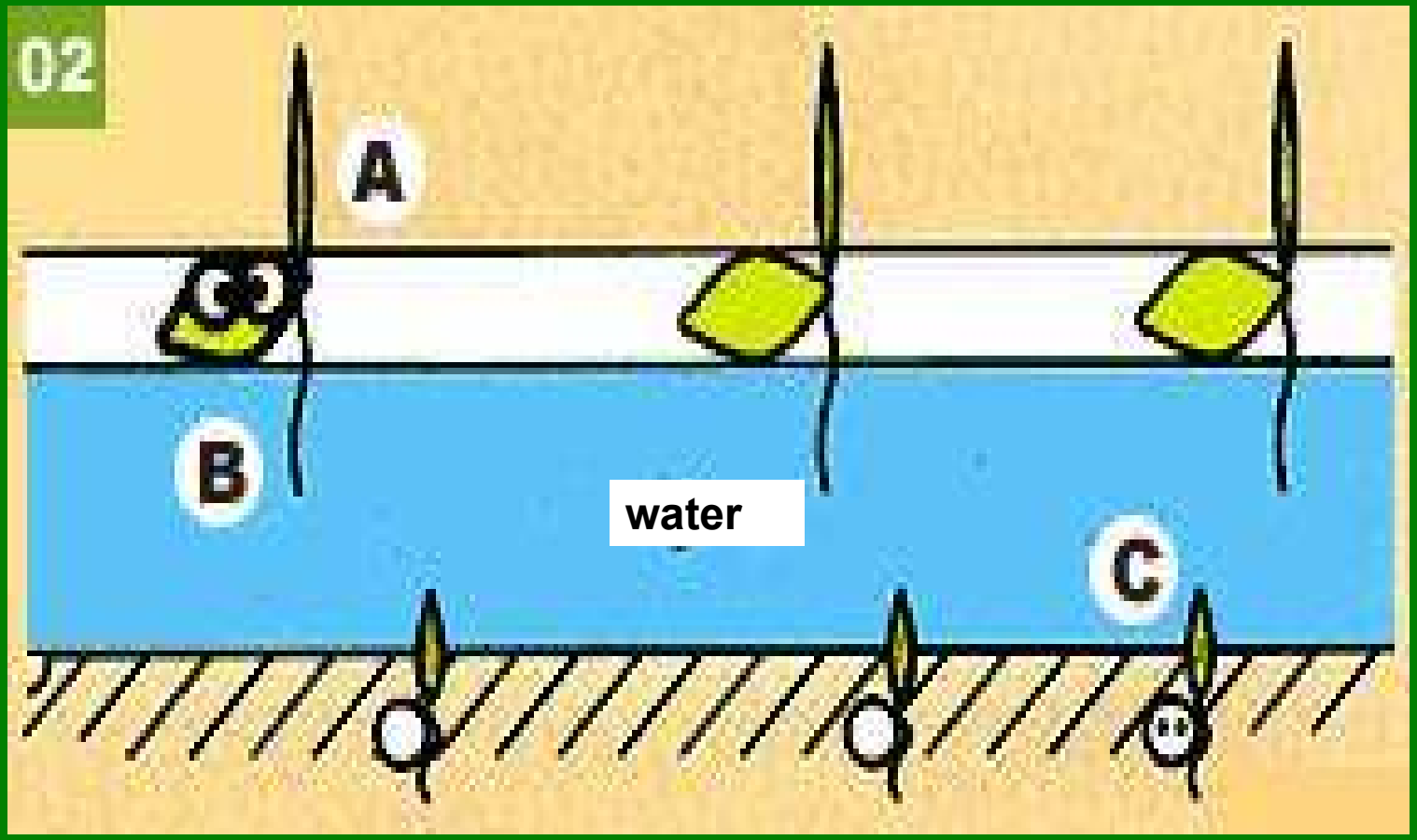
MULCH COVERS ENTIRE SURFACE OF PADDY FIELD

MECHANISM TO CONTROL WEEDS

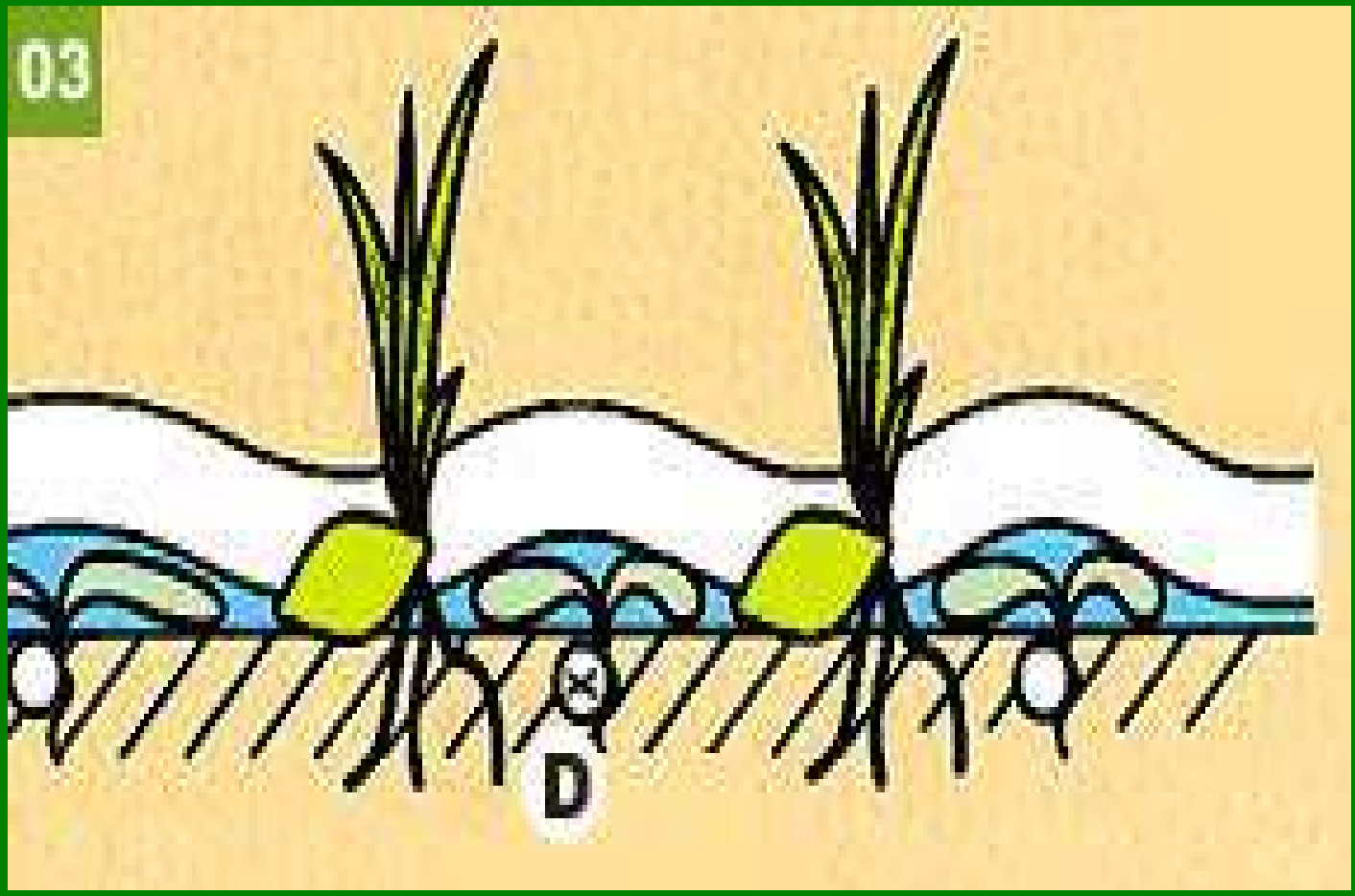
Bring in water after the cloth is placed
Cloth will float as it contains oil.



(A) Paddy can penetrate the mulch.
(B) Root will extend to the water.
(C) Once water is in, seeds of both paddy and weed will germinate.



(D) Dry the water once the 3 rd leaf is out.
Weeds can not penetrate the mulch and will be suppressed.




If we do not control the weeds...
It will be like this photo

COMMENCEMENT OF THE WORK

1 MAY 2005

PLACING CLOTH MULCH

1 MAY 2005

COMPLETION OF THE WORK

1 MAY 2005

10 DAYS AFTER THE MULCH WAS PLACED. NOT MUCH CHANGE IS OBSERVED YET.

10 MAY 2005

GERMINATION STARTED

11 MAY 2005

NOW WE CAN SEE CLEARLY

19 MAY 2005

THIS IS CAUSED BY OXYGEN IN THE WATER

19 MAY 2005

WEATHER IS GETTING WARMER

27 MAY 2005

ONLY 1st LEAF IS OUT

27 MAY 2005

DRAIN THE WATER WHEN 3rd LEAF IS OUT
THIS IS TO LET THE ROOTS OF PADDY CONTACT WITH SOIL AND STICK TO IT.

7 JUNE 2005

7 JUNE 2005

3rd LEAF IS OUT

7 JUNE 2005

CLOTH MULCH IS COMPLETELY MIXED WITH SOIL.

7 JULY 2005

IF THE SURFACE OF THE PAADY FIELD IS NOT EVEN, WE HAVE THIS PROBLEM.

7 JULY 2005

EARS CAME OUT

10 AUGUST 2005

ALL THE EARS FULLY CAME OUT

22 AUGUST 2005

5 SEPTEMBER 2005

HARVEST OF PESTICIDE-FREE RICE

22 SEPTEMBER 2005

How to control weeds with EM Technology® ?

(METHOD A)

(1) Apply Bokashi & EMAS to the field
(2) Plow just 10 cm deep and leave it for 10~14 days
(3) Fermentation will start and kill seeds of weed
(4) Repeat this procedure at each round

White color on the soil is EM®

(METHOD B)

After plants are transferred to the paddy field molasses is to be poured.

The water will become dark color and thus no sunshine can penetrate and weed can not grow.

Ratoon Cropping

(1) Harvest rice at stump

(2) Apply Bokashi fertilizer

(3) Introduce water

(4) New plants start growing

(5) Harvest

Merit of ratoon cropping

(1) Early harvest (15 ~ 30 days early)
(2) Less cost for labour, fertilizer and water
(3) No cost for new seedlings
(4) Yield will be as high as 30~80 % of the 1st cropping. In the case of SRI they can achieve even 8 tons/ha

Rice-Fish culture

This concept is to grow fish in the paddy field together with rice for better income. This can be done only by way of organic farming method.

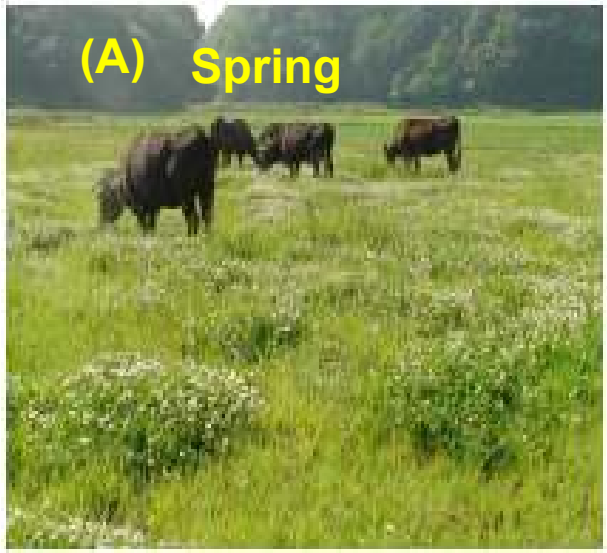
Harvest

Rice production to substitute corn for feed

(1) We should plant special variety of rice for cattle/poultry to replace corn

(2) In Japan, if entire ex-ricefield (1,000,000 ha) is used for this purpose they do not need to depend on corn from foreign countries at all

(3) With this method we can increase cattle/poultry production in Malaysia without depending on imported feed as well



These are the photos taken in Japan.

As shown (B) they let cows eat rice plants at the ricefield without cultivation.

As shown (D) cows eat rice plants up to the the stump.

The cow dung left at the ricefield will be used as manure for the next cultivation of rice.

Part of the rice plants shall be kept as "silage" with EM®.

By using rice we can not only substitute corn for cattle/poultry production but also reduce the overall feed cost and improve the quality of the products.

EM Technology® can help increase the yield of the rice and produce organically.


Thank You