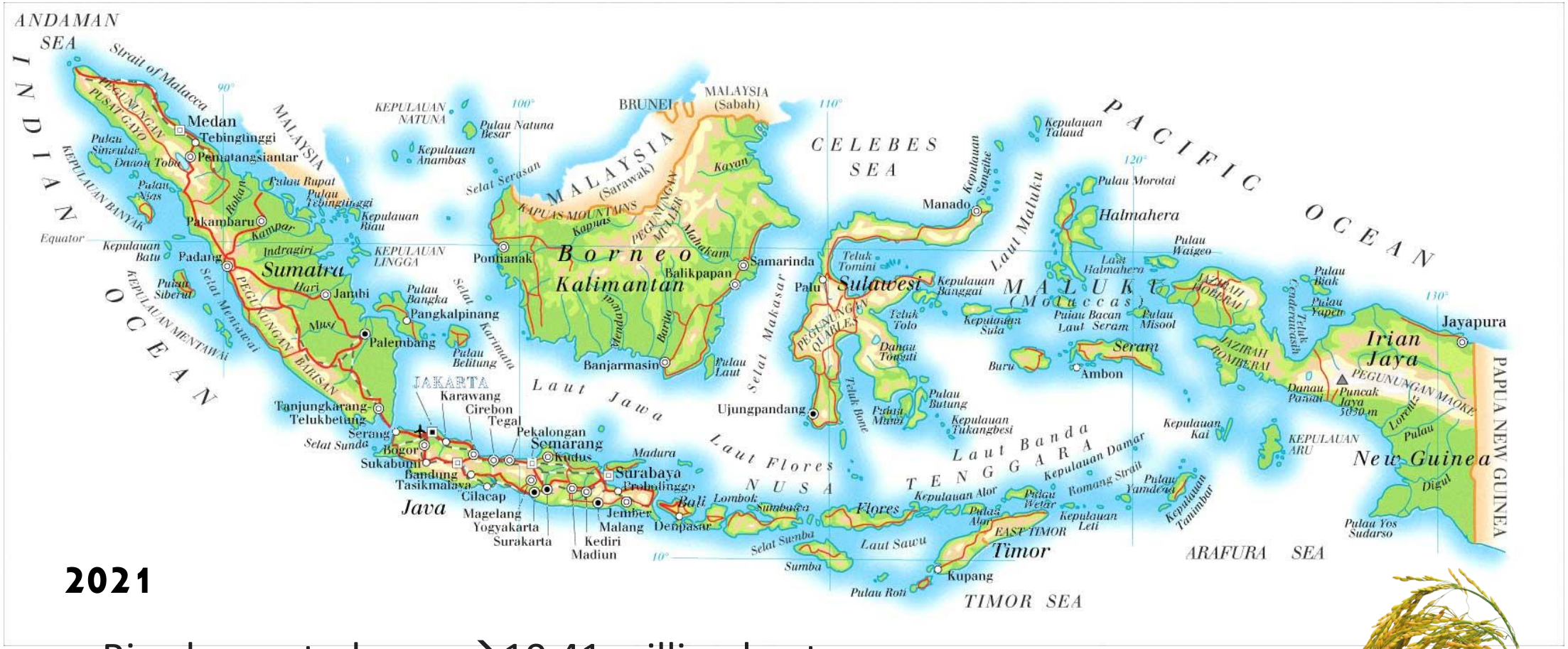
THE RICE PLANT MANAGEMENT

INDONESIAN CENTER FOR AGRICULTURAL TRAINING (ICAT) LEMBANG

2022



2021

Rice harvested area →10.41 million hectares

Production of 54.42 million tons Milled Dry Grain

or 31,36 million tons of consumption rice

Rice production is generally divided into lowland rice and non-lowland rice production

Lowland / irrigated rice

The development of upland rice is generally faced with more complex problems than in paddy fields. This is partly because this type of land generally have a low fertility rate

Upland/raid fed rice

swamp rice

Rice Production using the Integrated Crop Management (ICM)

(1)ICM aims to increase productivity and efficiency inputs such as seeds, fertilizers, and pesticides

(2)ICM is applied based on specific location or specific rice agroecosystem

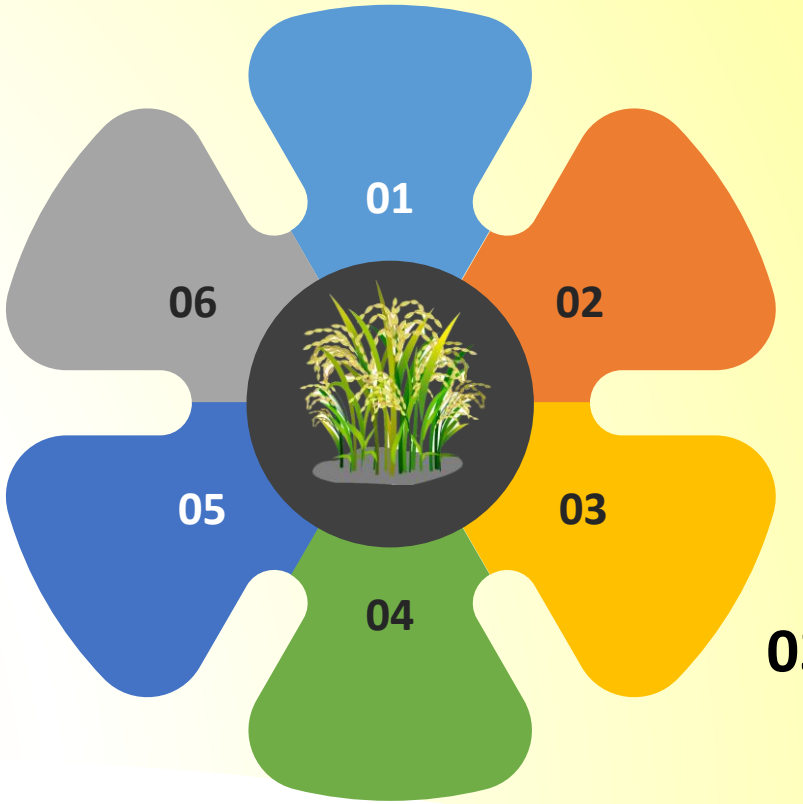
(3)ICM is process oriented rational and environmentally friendly production

ICM in principle combines various technological components that support each other (synergistic) in order to increase the effectiveness and efficiency of farming

Rice Plant Management

Harvest and post harvest- 06

01 – Land Preparation



Integrated Pest Management 05

02 – Seed preparation

Fertilizing and Irrigation- 04

03 – Seedling and Planting

01- Land Preparation

is to create a favorable environment for the rice plants to germinate and grow

- Plowing
- harrowing
- levelling

02 – Seed preparation → Choose the best variety

INDONESIAN CENTER FOR RICE RESEARCH (ICRR)

1960-1970
- PB8 (1967)
- PB5 (1968)

1970-1980
- Pelita 1 (1971)
- Pelita 2 (1971)
- **IR36 (1978)**

1980-1990
- **IR42 (1980)**
- Cisadane (1980)
- **IR64 (1986)**
- Cisokan (1985)
- **Ciliwung (1988)**

1990-2000
- Memberamo (1995)
- Cilamaya Muncul (1996)
- Way Apo Buru (1998)

2000-2010
- **Ciherang (2000)**
- Sintanur (2001)
- Cigeulis (2002)
- Cibogo (2003)
- **Mekongga (2004)**

2010-2020
- Inpari 13 (2010)
- Inpari 30 (2012)
- **Inpari 32 (2013)**
- Inpari 33 (2013)
- Inpari 42 (2016)
- Inpari IR Nutrizinc (2019)

Major rice varieties planted (2020)

No	Varietas	Luas (Ha)	%
1	Ciherang	3,328,959.54	29.87
2	Mekongga	1,404,134.48	12.60
3	**Inpari 32 HDB**	**832,435.25**	**7.47**
4	IR 64	703,116.38	6.31
5	**Inpari 30 Ciherang Sub 1**	**519,085.03**	**4.66**
6	Situ Bagendit	459,658.78	4.12
7	Cigeulis	353,195.88	3.17
8	Ciliwung	295,995.38	2.66
9	IR 42	170,615.54	1.53
10	**Inpari 33**	**165,358.70**	**1.48**
11	Cibogo	136,658.65	1.23
12	Vother dominant rice varieties	1,676,100.55	15.04
	TOTAL	10,045,314.16	90.13

Irrigated Lowland Rice (Inbred)

Varieties	Year released	Yield potential (tons/ha)	Yield average (tons/ha)	Characteristic
Inpari 32 HDB	2012	8.5	6.3	BLB resistant
Inpari 33	2012	9.3	6.6	BPH resistant
Inpari 42 Agritan GSR	2016	10.6	7.1	Low input, Virus resist
Inpari 43 Agritan GSR	2016	9.02	6,9	Low Input, Virus resit
Inpari 47	2020	9.52	7.71	BPH and BLB resistant
Inpari 48	2020	9.13	7.64	High yield

Inpari 32

02 – Seed preparation

High Quality seeds

Breeder seed

Foundation seed

Stock seed

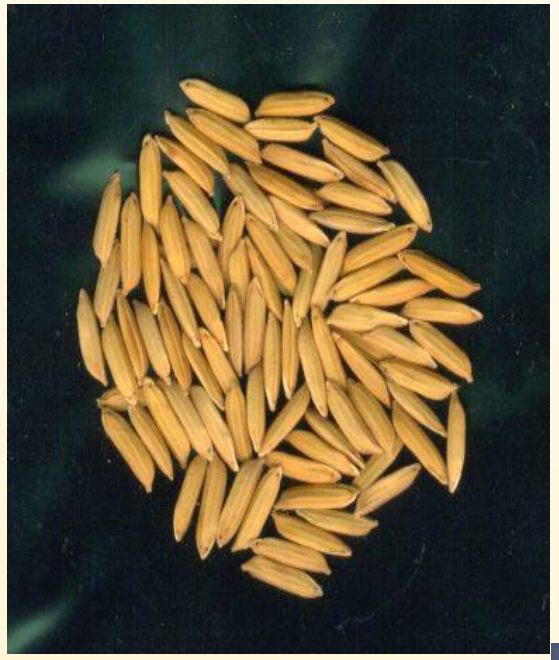
Extension seed

- Seed selection using floatation method
- Soak seeds for 24 hours in clean water.
- Incubate the seeds for 30-36 hours by placing in a sack filled to half its capacity.

Seed treatment : Minimize pathogens that might infected the seeds

Sodium Solution

Floating Empty Seed



Good seed

03- Seedling and Planting

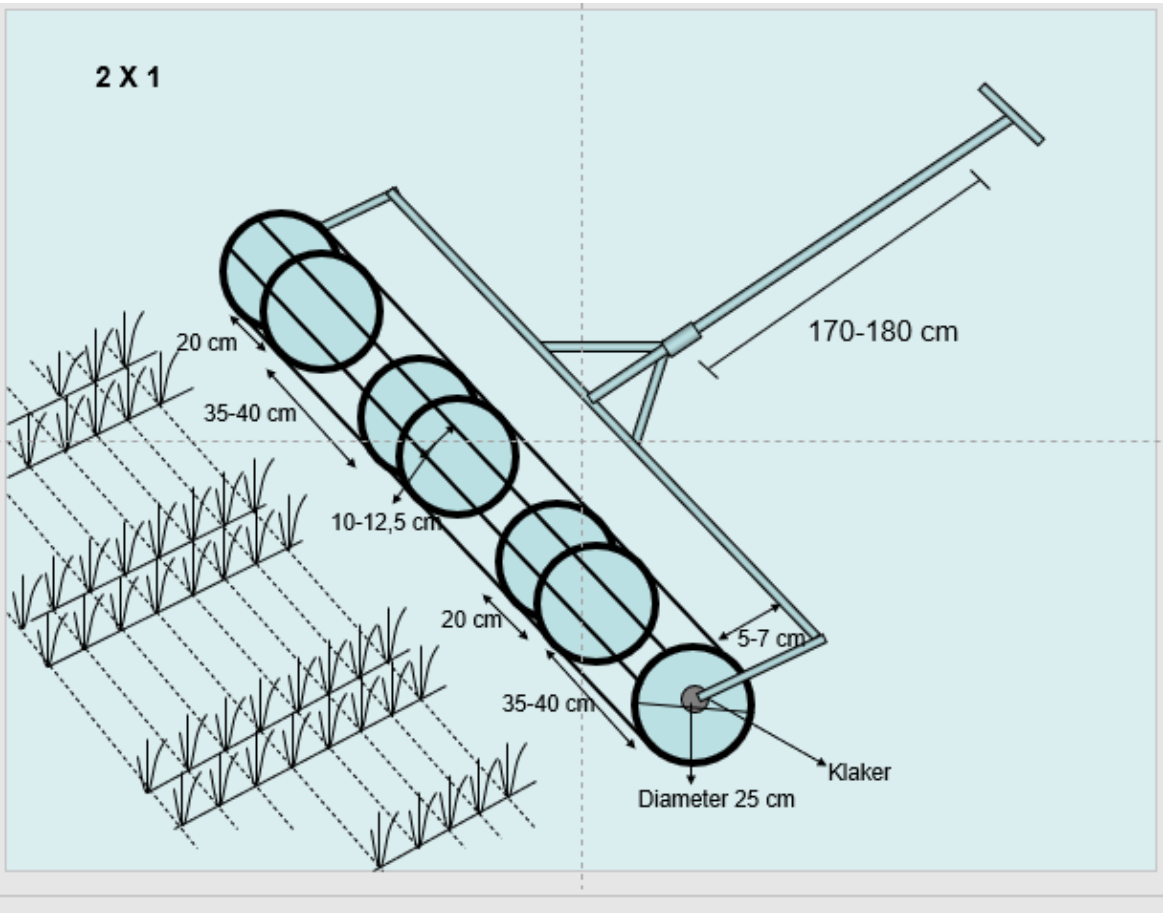
a. Seedling

- Nursery bed around 5% from all planting area, flat, easy for watering and drained
- Nursery bed between 2m x 10m (depend on the condition);
- Nursery bed should be ploughed until muddy;
- Height of water in nursery bed between 3cm – 5cm

b. Transplanting → Jajar Legowo techniques

- All plants receive the border effects
- Plant population increased by 30%
- Fertilizer is effective and on target
- Reduce weeding labor >50% (hedgehog/osrok)
- Pest & disease control is easier to do than the usual planting method
- Suitable for harvester machinery

Jajar Legowo Planting Tools



Forward

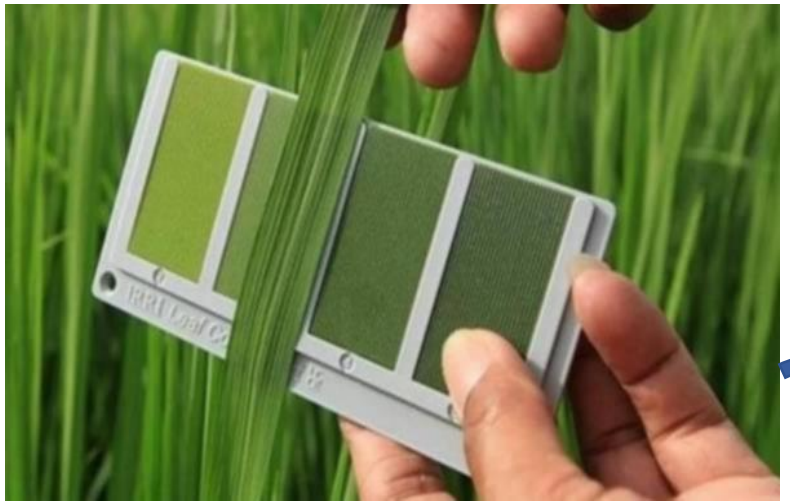
Backward

Sideways

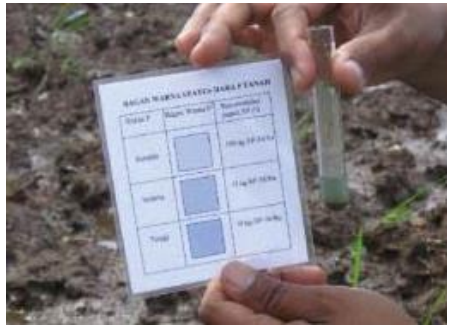
- Transplanted as much as 2-3 plant/hole
- Planting depth: 3-4 cm
- Planting distance (Legowo) 2:1 is 50 cm x 25 cm x 12. 5cm

04- Fertilizing and irrigation

a. Fertilizing



Paddy soil test kit to determine the P and K fertilizer



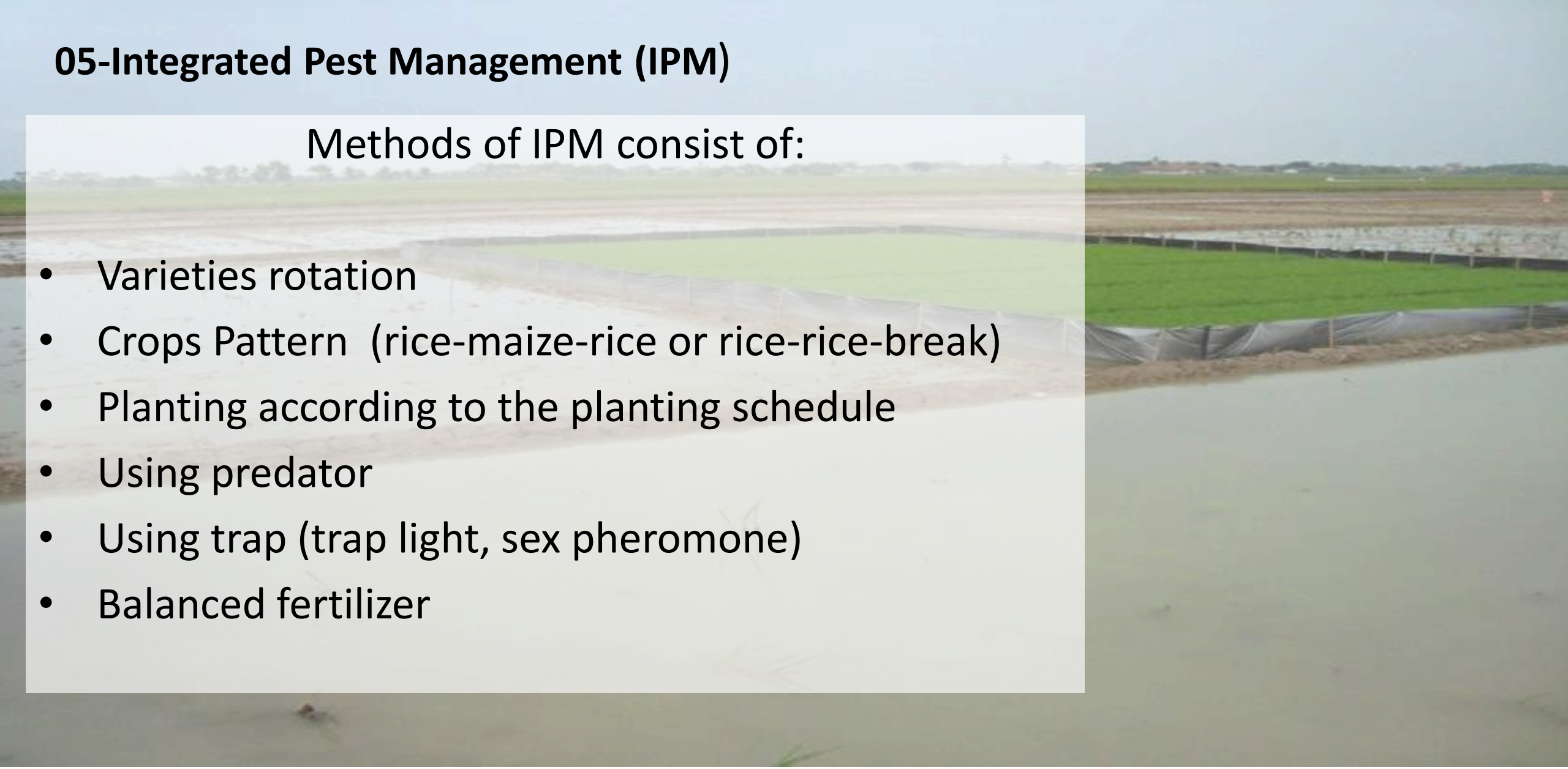
The Leaf Color Chart (LCC) is used to determine the N fertilizer needs of rice crops.

b. Intermittent irrigation

To regulate the soil conditions in dry and flooded alternately

- Do the irrigation every 3 days, it lasts until maximum tiller phase
- Rice fields are flooded continuously from the panicle formation phase to seed filling
- About 10-15 days before the crop is harvested, rice fields are dried.

05-Integrated Pest Management (IPM)



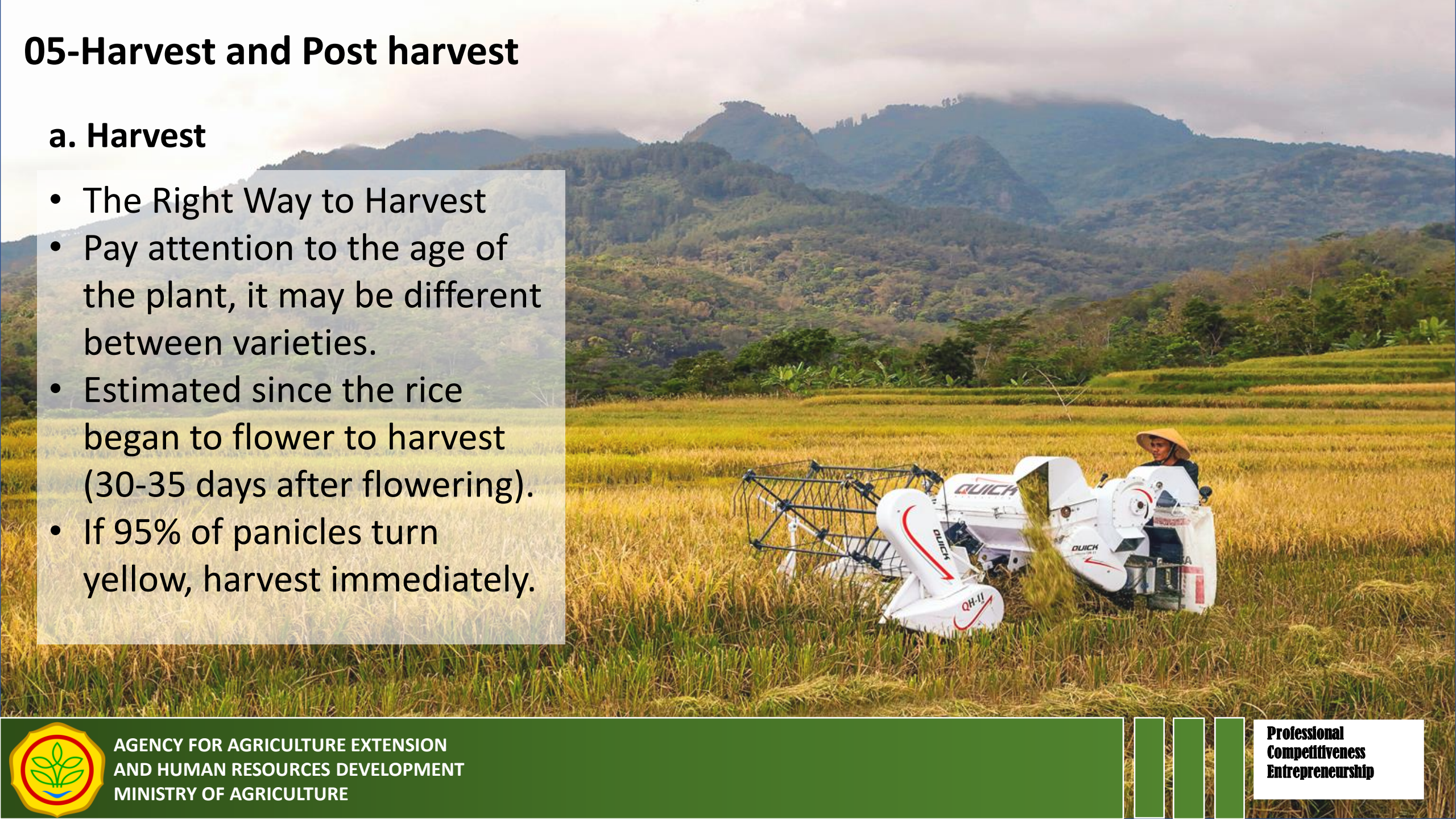
Methods of IPM consist of:

- Varieties rotation
- Crops Pattern (rice-maize-rice or rice-rice-break)
- Planting according to the planting schedule
- Using predator
- Using trap (trap light, sex pheromone)
- Balanced fertilizer

05-Harvest and Post harvest

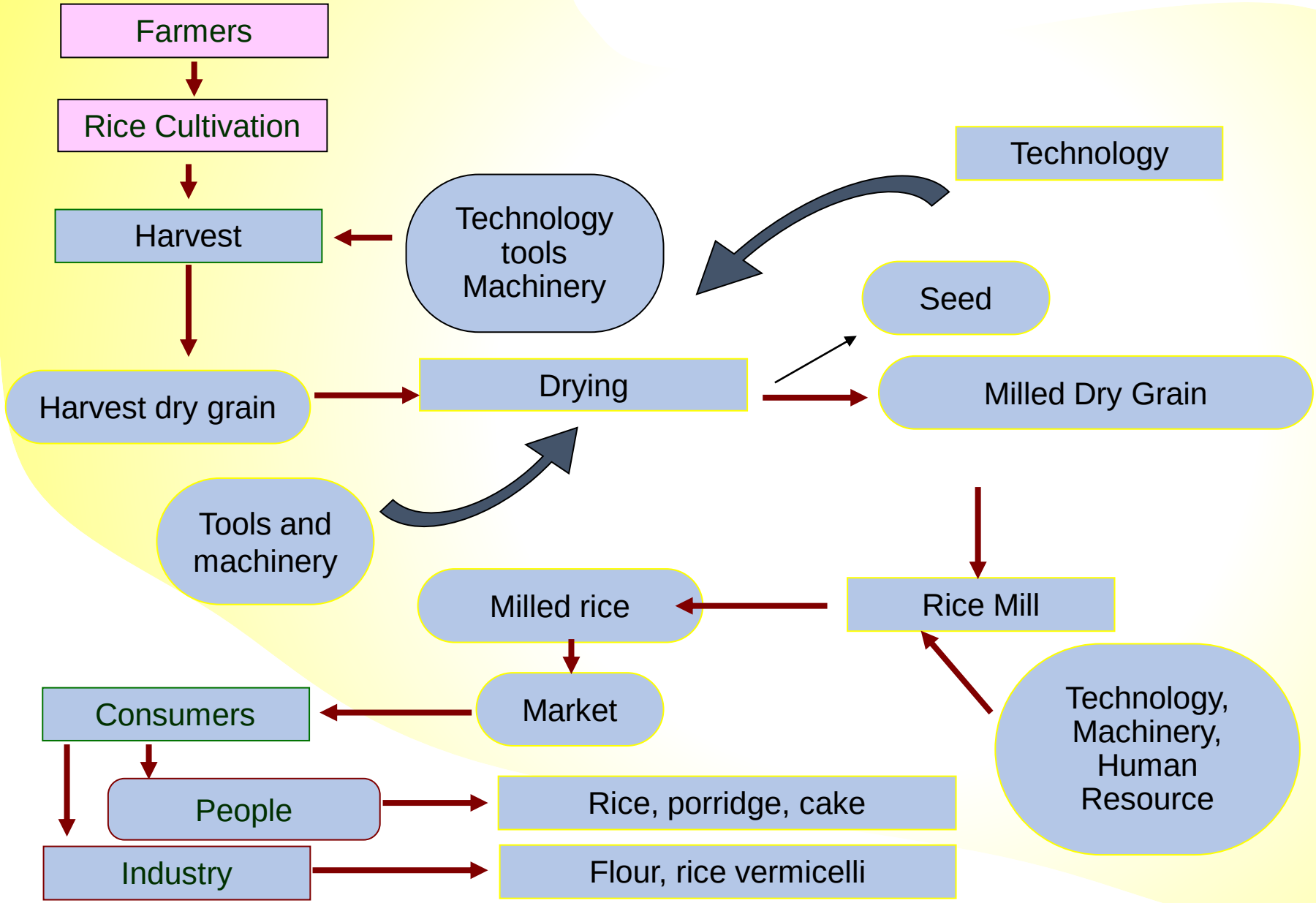
a. Harvest

- The Right Way to Harvest
- Pay attention to the age of the plant, it may be different between varieties.
- Estimated since the rice began to flower to harvest (30-35 days after flowering).
- If 95% of panicles turn yellow, harvest immediately.



b. Postharvest

Rice postharvest flowchart



Conclusion

- Planting rice using ICM is an innovative approach as an effort to increase productivity and efficiency in rice farming through the system improvement
- ICM implementation is locally specific and participatory, adapted to the dynamics of environmental conditions
- In the implementation of ICM in rice production and management, farmers and extensionist or officers must compromised to choose components technology that will be applied in accordance with the farmers wishes and the environmental conditions

Training Methodology

01

Present ation

02

Video

03

Discussion

04

Demo, Simulation and practice session (if Posible)

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THANK YOU