

A Proposal for New Weeds Control in Organic Paddy Fields

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I studied new weeding in the organic paddy fields to minimize conventional weeding labor and economy.

Weeds control process	Conventional weeding	New weeding
When preparing the paddy fields (conventional with water/new without water)	Weeding has been done twice by breaking up and flattening fields' floor according to the weeds growth by pouring water from time to time by tiller machine	Plow the paddy fields surface three times to facilitate weeding by machine
Weeding after the preparation of the paddy fields	Human (several times)	Natural (once)

Natural weeding in Organic Paddy Fields

- [1] Germinated rice seeds and white clover seeds are sown in the dry paddy fields.
- [2] Dry paddy fields topsoil intermittent irrigation is carried out by **monitoring** the dryness of the paddy fields to promote growth of the two different seeds.
- [3] Blocking oxygen and sunlight causes white clover and weeds rotten in the paddy fields applying the deep-water management.

Step1

Dry fields preparation makes reduce the weeds grow chance by the three times of plowing

This photo shows about tilling the dry paddy fields three times with the appropriate intervals by a tiller machine



Step 2

Sowing germinated rice seeds and white clover seeds in the dry fields

This is a sowing machine.



Step 3

Intermittent irrigation by monitoring the dryness of dry paddy fields (water depth less than 5cm)

This picture shows

Germinated rice seeds have been
in sown in the
hills

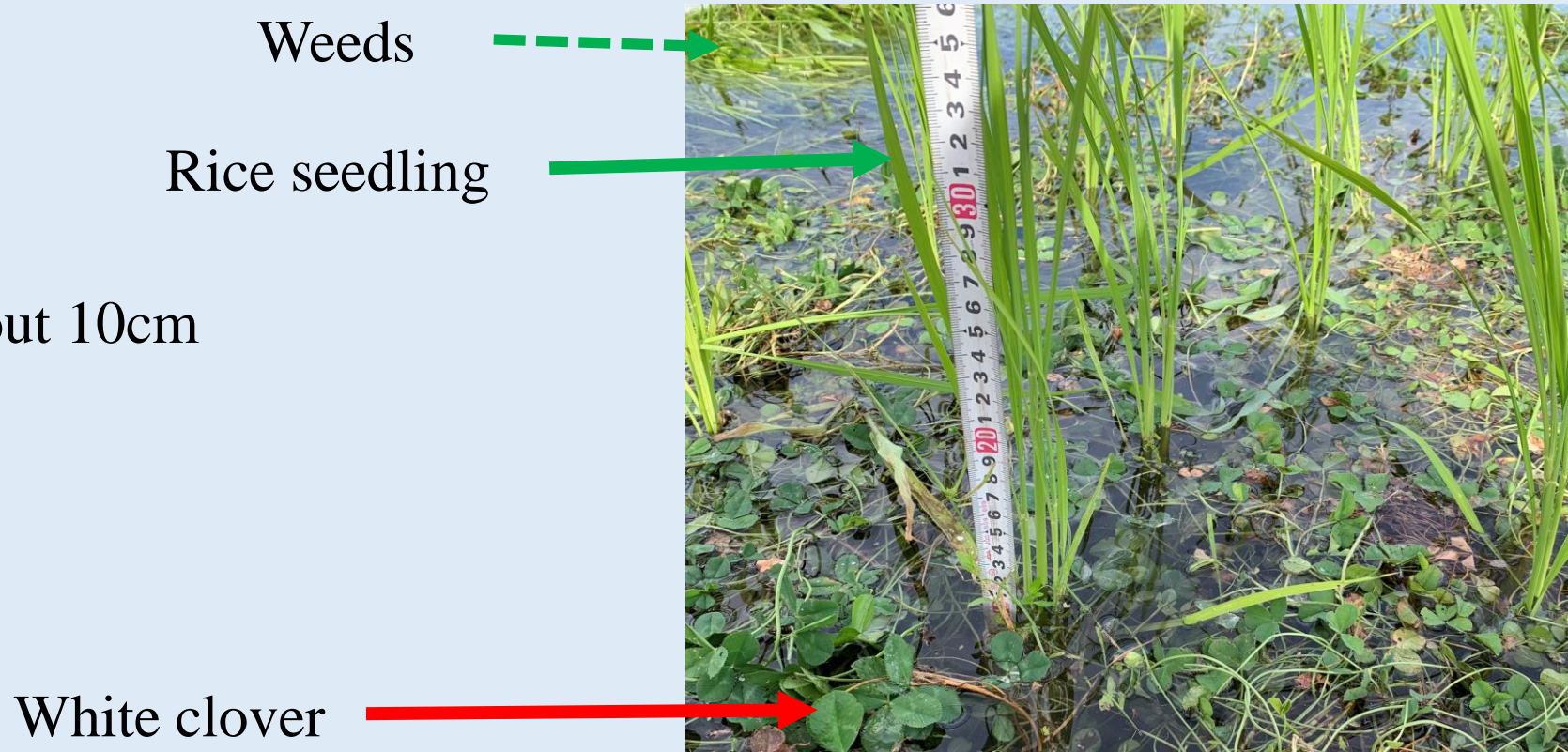
White
clover seeds
have been
in the
valleys



Step 4

Making the green manure in the paddy fields applying deep water management by shutting down the oxygen and the sunlight

Paddy fields water depth: About 10cm



In this way weeds suppression without using human can be done

Deep water management is necessary to rot white clovers and weeds.

Water depth must not prevent rice growth (around 20cm)

The sun shading is taken place on the water surface covered by the algae grown due to the rotted white clovers

Comparison between old and new weeding

#	Old weeding	What I have done	New weeding
[1]	8days (machine)	Weeding is done during making the rice field floor flat by adding water and by breaking up the soil/plow the paddy fields surface three times to facilitate weeding by machine	6days (machine)
[2]	14 days	Human weeding/Natural weeding	0days
[3]	22 days	Total days for old/new weeding	6days

Conclusion

In organic rice cultivation, weeds are the biggest problems to prevent rice growth.

The proposed new weeding can reduce its working time from the old weeding 22days to the new weeding 6days. This contributes to efficient rice cultivation as a whole.

Thank you very much!