

How can you realize high yield
on upland rice cultivation
in your field ?

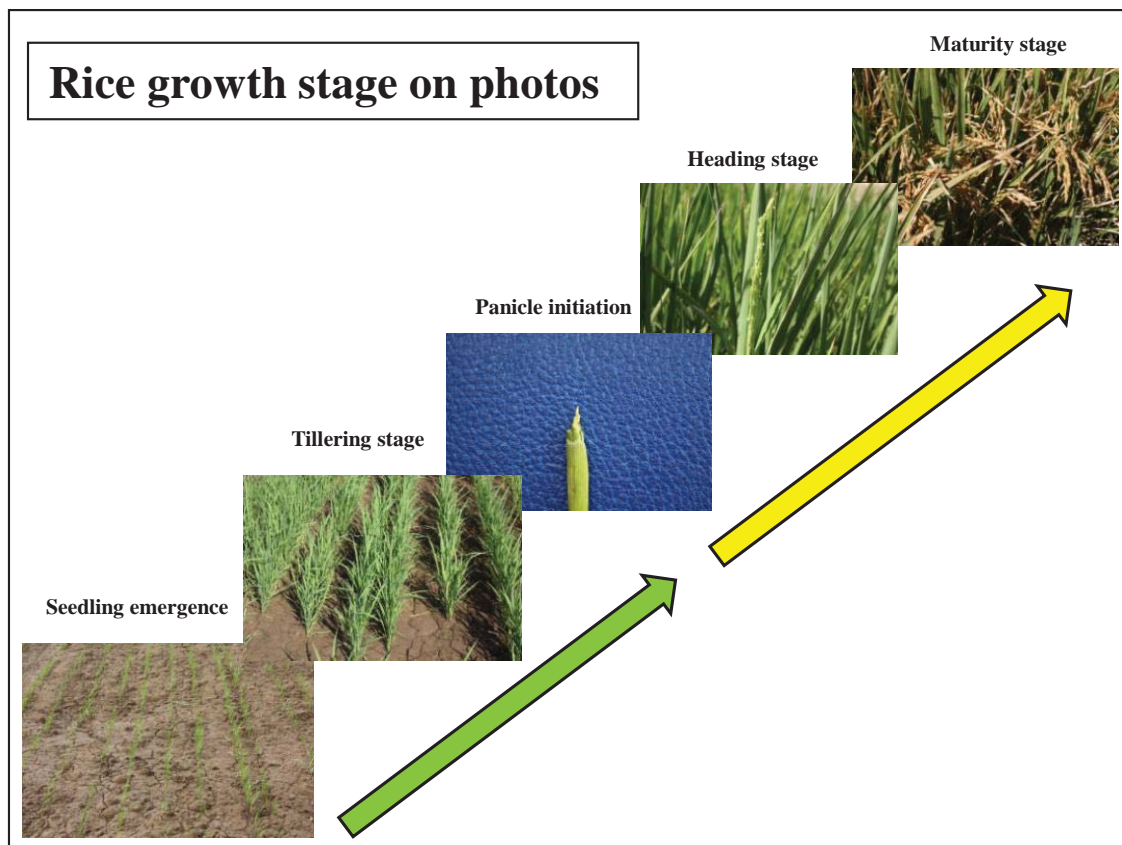
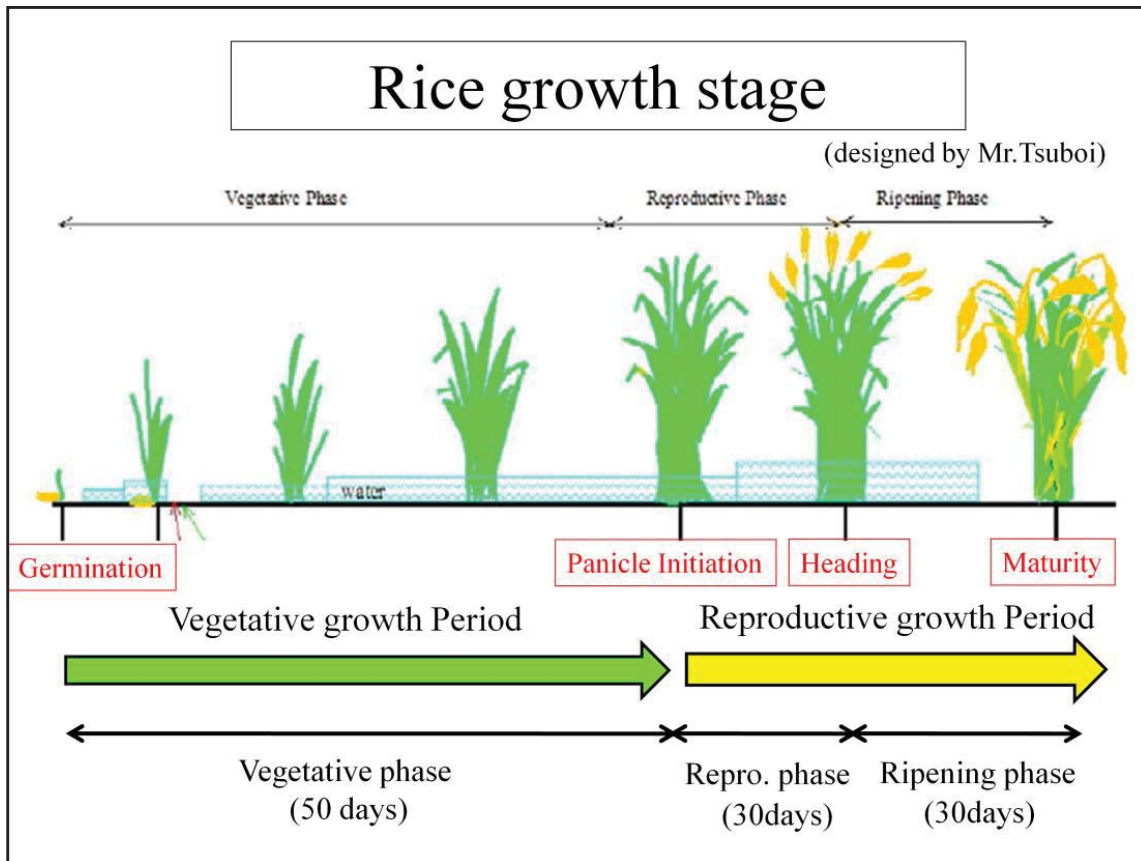


Please follow this book up to the end
and implement practical effort !

Important Technical Points on Upland Rice Cultivation before Postharvest

- ① Using Pure Seed
- ② Good Land Preparation (Leveling)
- ③ Proper Sowing Operation
- ④ Sowing at Optimum Time
- ⑤ Effective Weed Control
- ⑥ Appropriate Irrigation
- ⑦ Harvesting at Proper Time





General Cropping Calendar for Upland Rice

- ↓ • **Seed preparation** (Implementing Germination Test)
- ↓ • 1st Land preparation : Pre-watering, Plowing, Harrowing, etc.
- ↓ • Fertilizer application (Basal Dressing : NPK, TSP, SSP, etc.)
- ↓ • **2nd Land Preparation** : Harrowing, **Land leveling**
- ↓ • **Sowing seeds**
- ↓ • **Weed control** (Pre-emergence : Pendimethalin, etc.)*
- ↓ • Irrigation
- ↓ • **Weed control** (Manual weeding)
- ↓ • Fertilizer application (Topdressing: Urea, etc.)
- ↓ • **Weed control** (Post-emergence : 2,4-D, etc.)*
- ↓ • **Irrigation (Panicle Initiation ~ Heading ~ Maturity)**
- ↓ • **Harvesting**

***If herbicide is not used, timely hand weeding is indispensable.**

Cultivation Points for yield more than 1t/fed Implement below operations appropriately !

1. **Seed rate : 40kg/fed, Sowing space : 30cm or more**
2. **Even/flat land leveling** should be secured.
→ if good land leveling is not done, **seed can not germinate and grow at lower place in the field.**
Land should be leveled evenly without bump and dent.
3. **Weed control** should be implemented at early stage.
→ if herbicide is not applied, hand weeding should be done **at least 2 times during 1 month after sowing.**
4. **Irrigation interval** :
Germination ~ Panicle initiation : **1time/5 - 6days**
Panicle initiation ~ heading~ maturity : **1time/2 - 3days**
→ it varies according to soil and field condition, **but before soil dries, irrigation should be implemented.**

① Using pure seed



Using purified seeds is first step for high yield



Purity is most important factor as seed

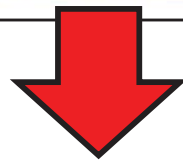


Mixed seed



Pure NERICA 4

**✘ Mixed seed causes
difficult cultivation and low quality**



**Using mixed seed causes problems on
① Management (= Yield) ② Quality**

**① Management(Yield) ;
Implementing uniform management on irrigation,
fertilization, harvest, etc. is very difficult.**

➡ Low yield !

② Quality ;

1) Implementing milling properly is very difficult.

➡ A lot of broken rice !

2) Various color, tastes, and shape/size of rice

➡ Low quality !



Let's remove off-type to keep purity !

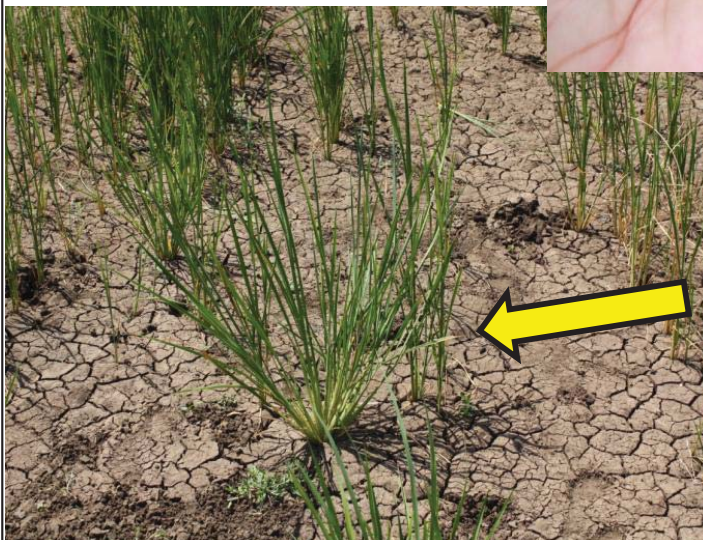


NERICA 4



Off-Type

Grain shape & Maturity period



Off-Type



Plant shape

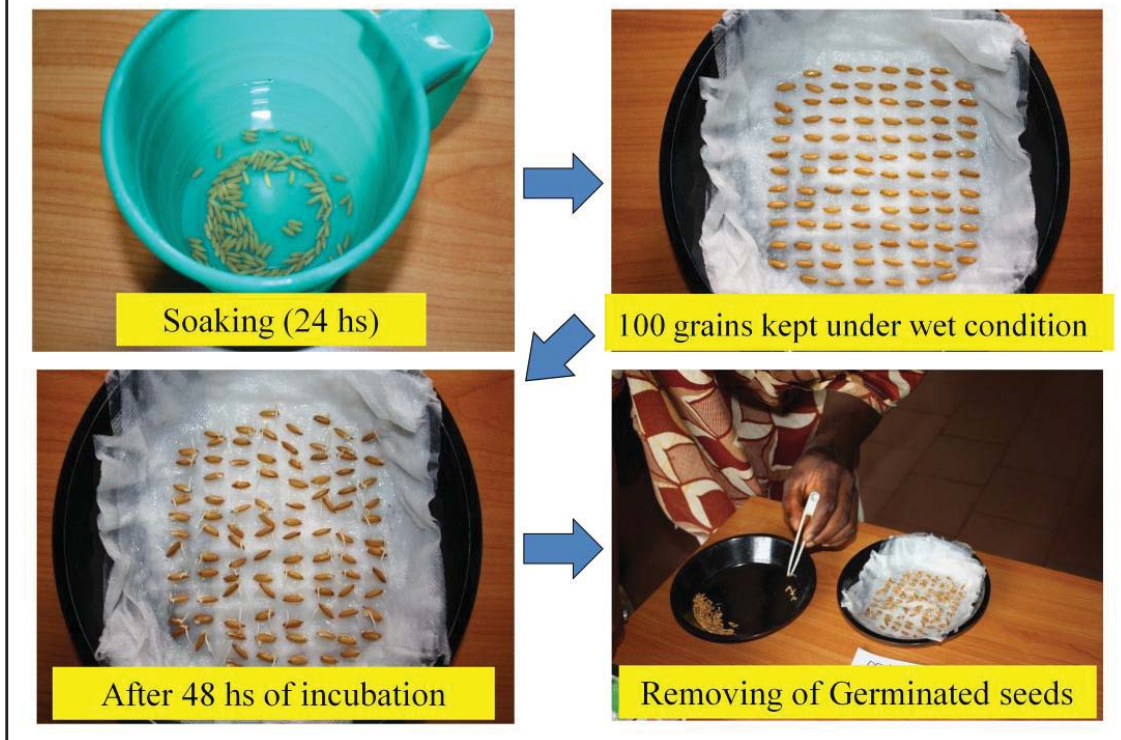


Off-Type

Plant height



Implement Germination Test before sowing



Why conducting germination test before sowing is important ?

Because germination rate needs to be grasped before sowing.

If germination rate is less than 80%, the amount of seed must be increased !



Germination Rate (100 - 7 = 93%)

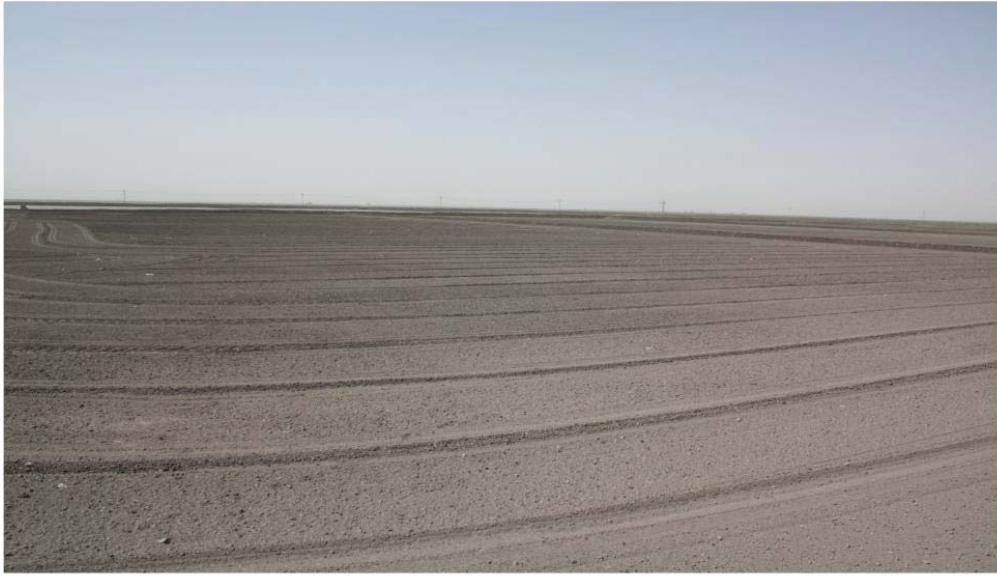
More than 80% is OK

How about 93% ?



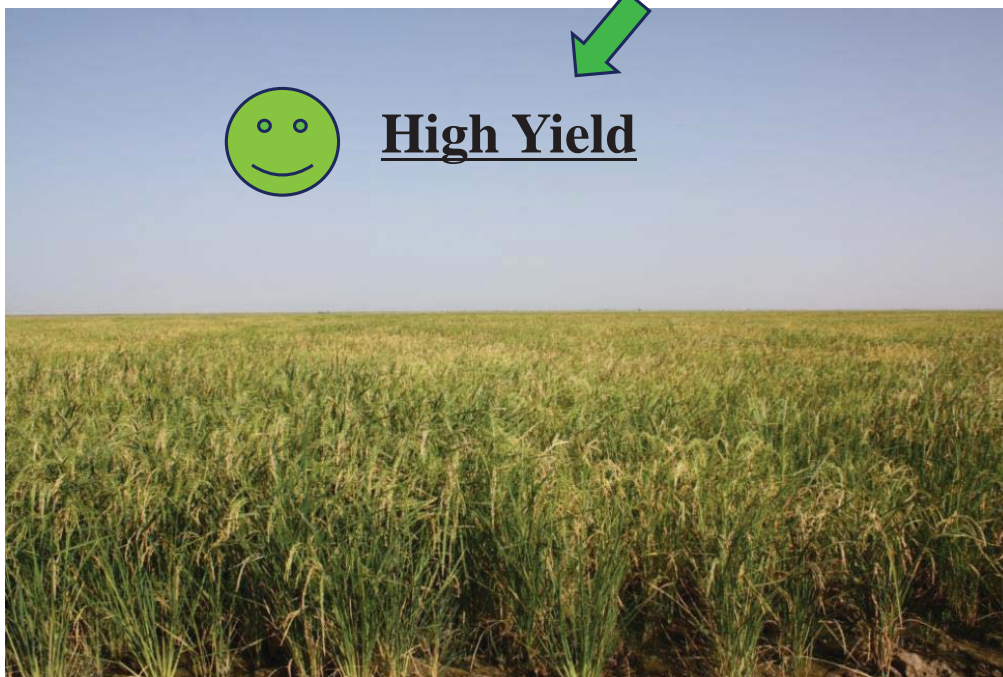
**93% is more than 80%
and very good rate,
no need to increase the seed !**

② Good Land Preparation (Leveling)



Good leveling is indispensable for irrigating water uniformly in the field.

Good Land Leveling → Uniform Growth



High Yield



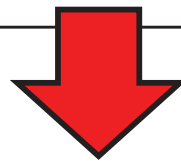
Land Preparation (Leveling)



Improper leveling !



Proper leveling !



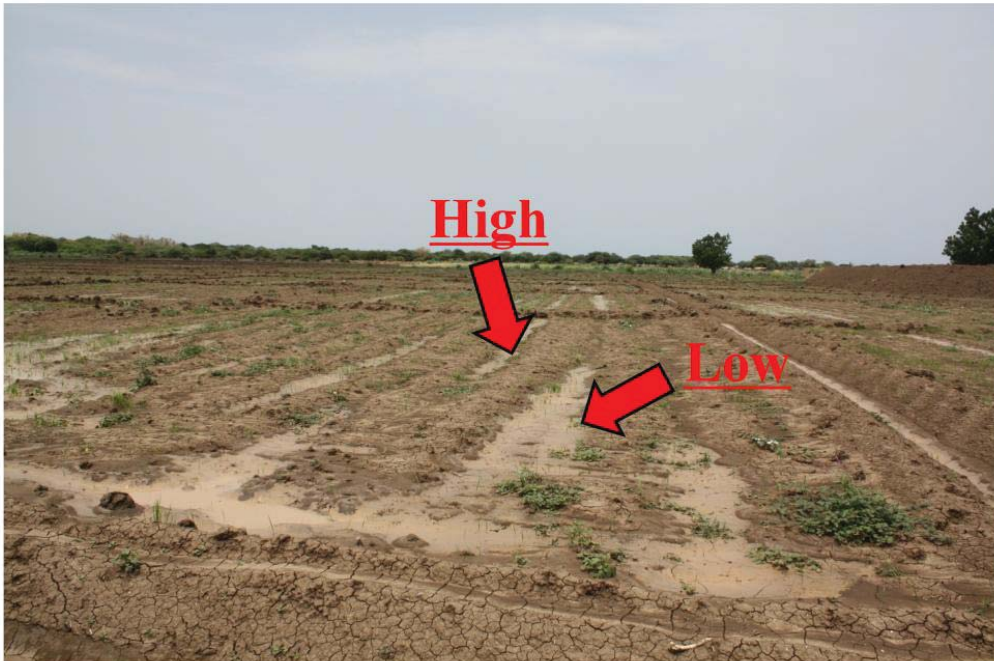
**Keep in your mind the vital importance of
land leveling;**

**Improper leveling creates high and low places
in the field and causes the irreversible problems ;**

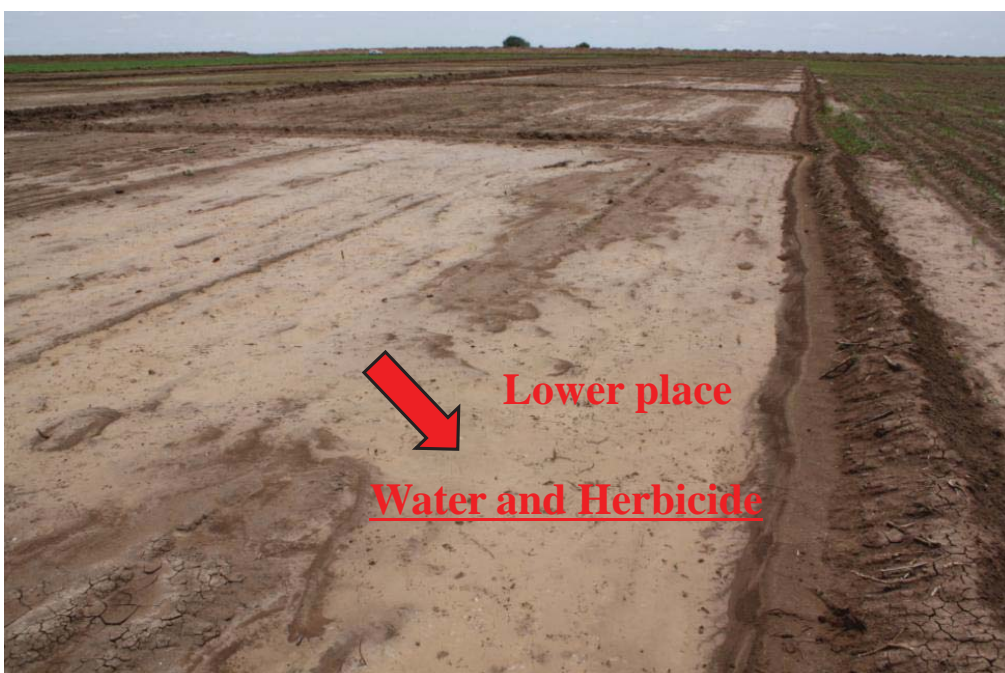
- 1) Rice is not able to grow well at the higher places because of insufficient water.**
- 2) The submerged water and high concentration of herbicide impede seedling emergence at lower places.**
- 3) Termites bred in the dry soil at the higher places feed root of rice and kill it.**
- 4) After sowing, re-leveling is impossible. Proper leveling must be conducted before sowing !**

(1) Problem caused by improper leveling

✘ Uneven Land Leveling (1)

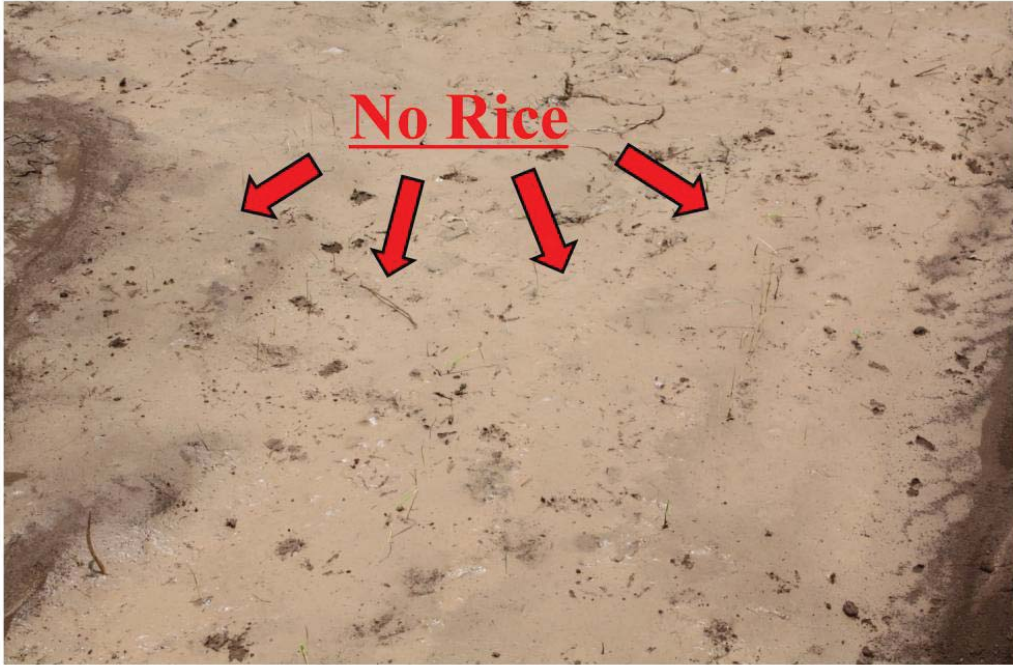


✘ Uneven Land Leveling (2)





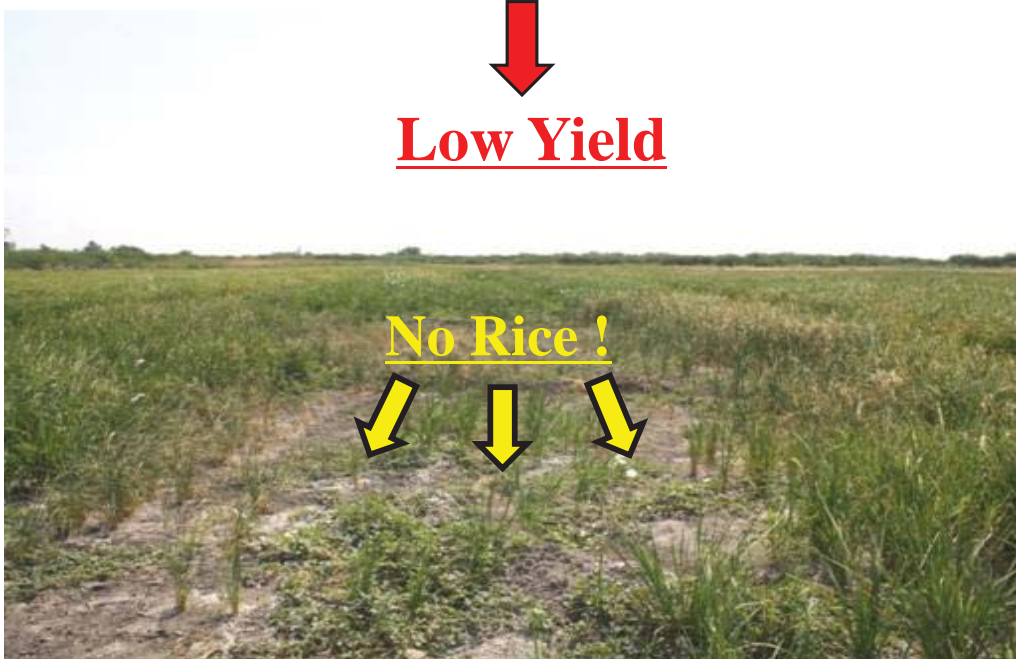
Submerged water and high concentration of herbicide impede seedling emergence



✘ Uneven Land Leveling



Low Yield

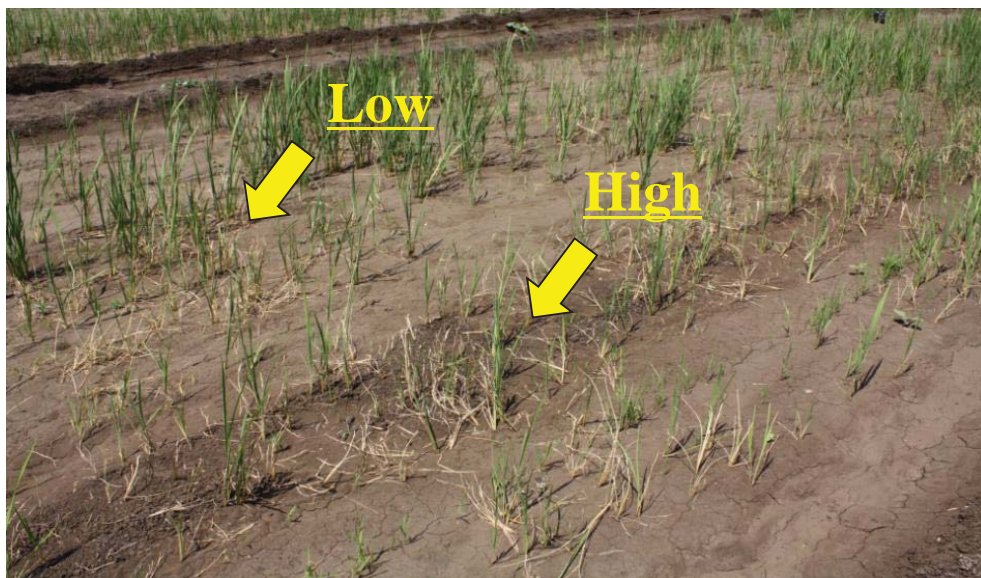


(2) Problem caused by improper leveling

Damage by termites (1)



Damage by termites (2)



Damage by termites can be minimized by keeping water, good land leveling is indispensable from this viewpoint.

Implements of Tractor for Land preparation



Chisel plow

For drying soil easily and avoiding the field with bump and dent, but less effective compared with Disk plow in reversing soil ability

Disk plow

For reversing soil easily under any condition, but less effective compared with Bottom plow in plowing depth and reversing soil ability



Fertilization:
Basal Dressing (ex.TSP, NPK) must be applied before harrowing to mix with soil

Disk Harrow

For crushing soil mass at deep level by rotating disks and implementing leveling at the same time





Scraper (Leveler)

For executing soil leveling manually by technique of operator under correct understanding on field condition

Laser Leveler

For conducting soil leveling automatically by utilizing emission and receiving device of laser beam



Example of Perfect Land Leveling



Please implement leveling like this field !

