



Small scale rice cultivation

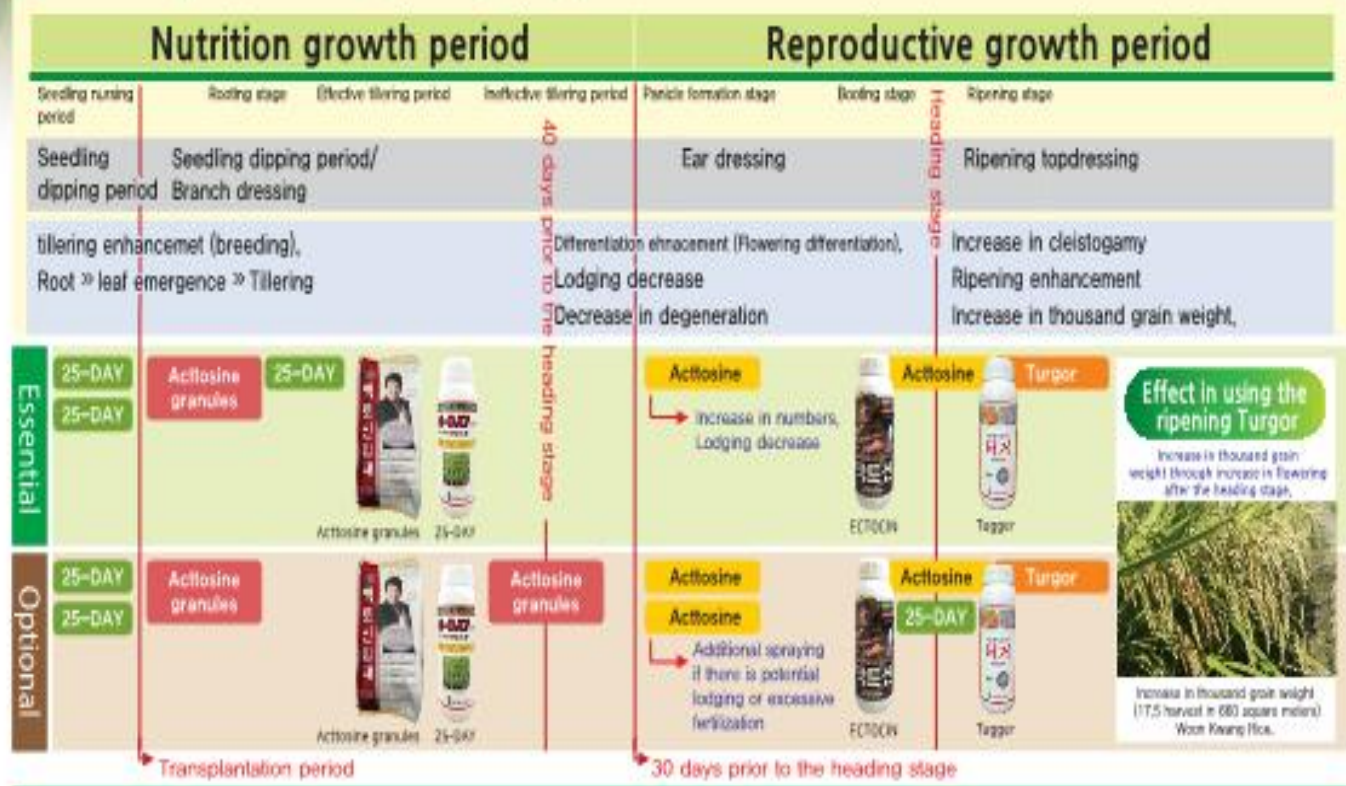
(the fewer number of seedlings)

focuses on **seedling nursing** and **tillering techniques**.

NH Categorization completed for all bio-plan products in 2019

Money-yielding rice farming

This shows how to treat rice per its different periods, including transplantation, tillering, differentiation, heading and ripeness!



IIB Here is the bio-plan tillering technique.

01 From seedling nursery to tillering 25-DAY

Small scale seedling transplantation (small amount) should focus on early tillering. To complete the early tillering is to produce healthy seedlings.

How to use '25-DAY' in seedling nursery?

- ① Accelerate greening,
- ② Prevent and treat blight, mushiness and lifting.
- ③ Able to produce the young seedlings (15-20 days old) advantageous to small scale cultivation.
- ④ Able to produce the wheat seedlings faster in a small amount, and prevent growth stagnancy.



25-DAY / 500ml

1 Seedling dipping

Faster root growth (comparison)



Application period	Application method	Application effect
Seedling dipping	2,000 times (more than 3 hours) ~40ml per 25kg (20L)	Dipping effect, Germination enhancement, Seminal and crown root development is faster than coleoptiles
Seedling nursery cultivation (right after dipping)		Fast greening, blight and mushiness prevention
Seedling nursery cultivation (10 days after dipping)	1,000 times ~20ml per 25kg (20L)	Blight, mushiness and lifting prevention, healthy seedling growth
Water spraying to the seedling plate for 2-3 days prior to transplantation		Decrease in stress, weeding damage and low temperature damage
Simultaneous water spraying when transplantation	40a/2L 1,000 times	Increase in leaf emergence and tillering through fast rooting

- ☑ Dipping effect
- ☑ Germination enhancement
- ☑ Seminal and crown root development is faster than coleoptiles

2 When spread to the seedling plate (comparison)



Reason why 25-DAY should be used in small scale rice cultivation

Seedling nursery cultivation technique is crucial in conventional small scale cultivation, and small scale cultivation for wheat seedlings. 25-DAY increases light absorption, and advance leaf emergence. This satisfies the need of using 25-DAY in seedling nursery.



Mat formation

IIB Here is the bio-plan tillering technique.

02 Acttosine granules, tillering after transplantation

Rice tillering has its own pattern as the synchronous tiller emergence theory (root → leaf emergence → tillering).

Application effect of Acttosine granules?

- ① Root is well-developed. Leaf emergence and tillering are faster, due to tillering development which is at the root part.
- ② Tillering is the process of forming grains. Increase in grains leads to high yield.
- ③ Use of Acttosine granules in small scale cultivation would thicken the rice stem, while decreasing the possibility of lodging.
- ④ Use of Acttosine granules would improve root distribution, and increase thousand grain weight due to increase flowering after the heading stage.



1 Fast root development and leaf emergence when using right after transplantation

Reduction in laboring, Reduction in weeding damage,
Decrease in lodging, Well-developed rooting

2 Application effect

- Lodging decreases due to the thick stem
- External damage to climate change decreases due to deep rooting and fast tillering.
- Easy to treat by using simply 6kg for 4,000 square meters
- Reduction in cost and laboring

Straw comparison after harvesting under use of Acttosine granules (thickness comparison with that of 2018)



Treated
(30 straws with effective tillering,
straw width: 5.9mm)

Untreated
(21 straws with effective tillering,
straw width: 2.2mm)



Acttosine granules application leads to a thicker stem, faster internode formation with shorter length.



Conventional small scale cultivation, 1st water spraying for 34 days after transplantation



Small scale wheat seeding cultivation, 275g seeding transplantation per box, after 32 days
Mr. Lee Young Taek from Gyeonggi province

3 How to treat 'Acttosine granules', the water-added tillering ingredient

(※Caution: Please do not water the seedling plate right after treatment)



Simultaneous treatment when transplantation (40a/6kg)



Spraying at the seedling plate right before transplantation, (40~50g / per box)



Fertilizer spraying after transplantation (40a / 6kg)



Reason why Acttosine granules should be used in small scale rice cultivation

'Acttosine granules' is to develop tillering followed by root development. Lodging decreases due to the strengthened stem. Faster tillering leads to the decreased external damage against climate change. This satisfies the need of using 'Acttosine granules' in small scale cultivation, with deepened roots and faster tillering.

03 High yield high quality Acttosine

1 Panicle formation stage (30 days prior to the heading stage)

Rice has its decrease in numbers from 30 days prior to the heading stage. Turn the table and make additional increase!



Rice straw (ear)



Effect after using ECTOCIN for 30 days prior to the heading stage (Woon Kwang Rice)



Sam Kwang Rice, Comparison with the treated case from 30 days prior to the heading stage



Acttosine 500ml

Acttosine SUDO 1000

Please ask for the purchase of Acttosine Gold, the organic agricultural ingredient, to the shop.

2 Heading and flowering stage: Fertility and thousand grain weight per straw increased (empty grains decreased)



Increase is greater in treating for 2 times, and it turns out that there is even an increase effect in self-fertilization in the panicle formation, flowering and fertilization stages.

- referenced from the test material in Seoul University in 2015.



Before Acttosine



After Acttosine

Application period and the effect after treatment

1. Panicle formation stage (30 days prior to the heading stage): the 1,000 times greater number of foliar dressings

- ① 30 days prior to the heading stage is when the rice gets ripened. Applying Acttosine will aid in increasing the flowering amount, enhancing rice quality, and decreasing the protein content.
- ② If you are worried for lodging, or excessive fertilization, we recommend additional spraying

2. Heading and flowering stage - the 1,000 times greater number of foliar dressings Fertility and thousand grain weight per straw will increase, and the number of empty grains will decrease. Due to increase in catabolism by its enzyme, the flower gets strengthened through accumulating heat energy.

Acttosine - 8kg: 20ml, 200kg: 500ml



① High pressure spray (4,000 square meters)



② Wide range sprayer (20,000~30,000 square meters)



③ Drone (8,000 square meters)



④ Solution sprayer (4,000 square meters),



⑤ Unmanned helicopter (20,000 square meters)

Reason why Acttosine should be used in small scale rice cultivation

Acttosine transfers the plant metabolism into the energy metabolism

It loses nitrogen from rice, decrease lodging, but increase the amount of photosynthesis by forming the vertical shape. Differentiation is developed through forming nutrients on leaf sheaths and leaf blades, while decreasing the number of unripen grains.

Use of Acttosine in small scale cultivation enables high yield with high quality, through low cost and low labor requirement.