LAB enzymatic solution

Test Results

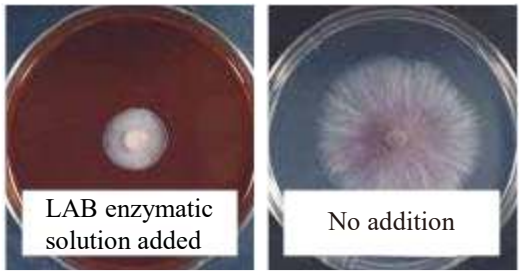
Prevention of plant diseases

1. Prevented colonization of soil-borne pathogens!

Method

Prepared culture media with and without the LAB enzymatic solution.
Placed and cultured 4 types of soil-borne pathogens in the culture media separately.

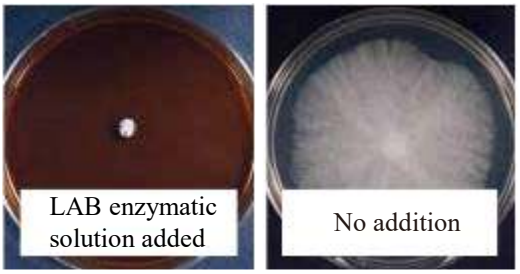
Fusarium fungus



Blast fungus

Pythium fungus

White root rot fungus



Result

Soil-borne pathogens increased in the culture media without the LAB enzymatic solution, but they didn't increase in the culture media added with the LAB enzymatic solution.

2. Prevent the diseases of lettuce!

Method

One week after the transplantation, applied the lettuce in the treated area with the LAB enzymatic solution (diluted 300 times).
(Watered the lettuce as usual in the untreated area)

Result

Incidence rate of soft rot and other diseases of lettuce:
Treated area: 7 lettuces affected out of 1,100
Untreated area: 20 lettuces affected out of 1,100

Incidence rate decreased to one third!

Increased level of sugar content and nutrients

3. Increased level of sugar content in peaches!

Method Irrigated peach trees with LAB enzymatic solution once a year over a 2 year period and measured the level of sugar content of the peaches.

Level of sugar content of white peach irrigated with the LAB enzymatic solution

Sample 1	Sample 2	Sample 3
		
14 Brix	15 Brix	13 Brix
Average sugar content: 14 Brix		

Level of sugar content of white peach (Shimizu Hakuto) in Okayama Prefecture

Measured by Okayama Peach Fair: 12.5~13 Brix

Result

Compared with the level of sugar content of peaches measured by the Okayama Peach Fair, the sugar level of peaches irrigated with the LAB enzymatic solution over a 2 year period is 1~1.5 higher.

4. Enhanced the root growth of peach trees!

Method Observed the root morphology of this year's estimated irrigation spot with the LAB enzymatic solution, and the spots for the previous 2 years, through digging at a distance of 1.5 meters away from the existing root of peach tree.

Only few fine roots could be seen

Rootlets increased

More rootlets came out from thickened roots

Result Many rootlets grew out from the root in the irrigation spot with LAB enzymatic solution.

Roots spread up → Promoted absorption of soil nutrients → Increased the level of sugar content

5. Increased catechin of leaves!

Method Applied the tea tree in the treated area with the LAB enzymatic solution (diluted 300~500 times) 1~2 times per month from March to October (8 months) during 4 years.
(The tea trees in the untreated areas were watered as usual)

Improved color and shape of leaves, their number has also increased. The vigor of the trees has been restored.

The tip of leaves are brown and curled up. This might be caused by undernourishment.

Result

Compared with the untreated areas, the catechin in leaves in the treated area increased by 9%.

(Photos taken during the third year of treatment)

LAB enzymatic solution

Test Results

Increased yield amount and plant vigor

6. Increased survival rate and yield amount of bok choy (qing-geng-cai)!

Method

Before field planting, soaked the bok choy according to each different area (with regular water, the LAB enzymatic solution, or with the product of a competitor).

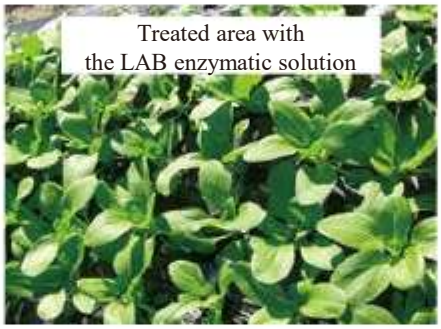
Watered all areas after field planting.

Applied liquid fertilizer on the 19th day.

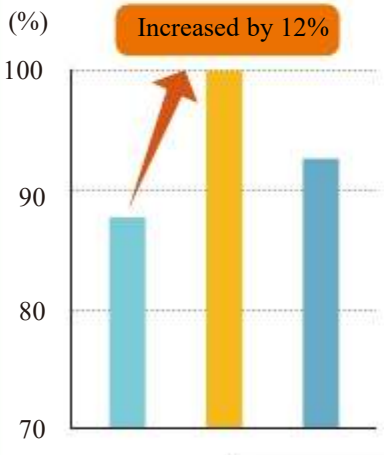
Harvested on the 30th day, and measured weight, etc.

Soaked 3 minutes in the solution

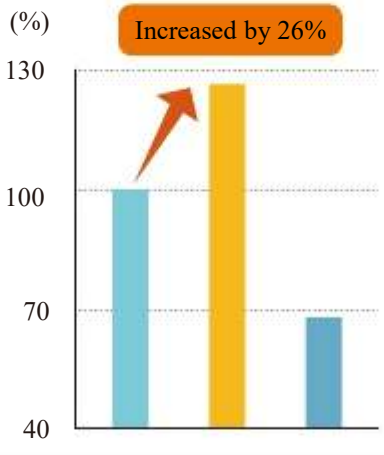
Solution Type:
Untreated area: Ordinary water (free from additive materials)
Designated area: LAB enzymatic solution (diluted 300 times)
Area utilizing product from a competitor: Accelerator for root growth (diluted 1,000 times (the standard concentration))



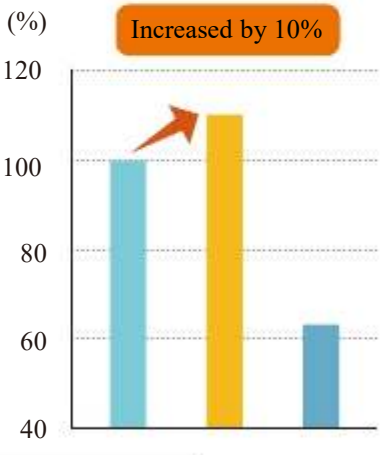
Survival rate

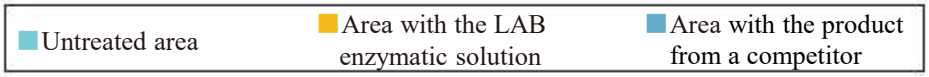


Comparison of total harvest weight



Comparison of individual weight per plant





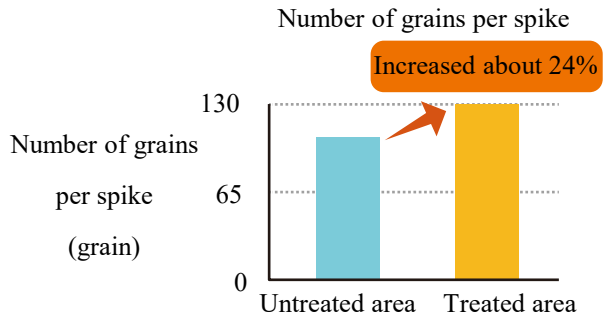
Result

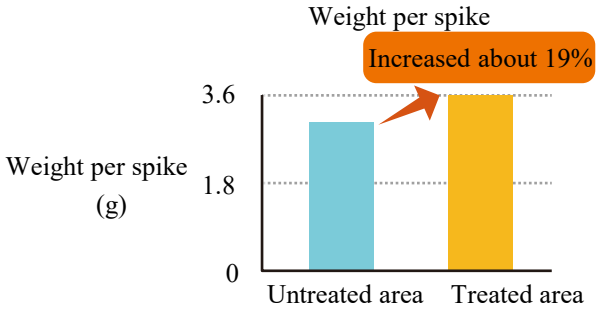
【Survival rate】
Compared with the untreated area, the losses at the rooting were prevented in the area treated with the LAB enzymatic solution as the survival rate increased by 12%.

【Yield amount】
Compared with the untreated area, the individual weight in the area treated with the LAB enzymatic solution increased by 10% and total harvest weight increased by 26%.

7. Increased yield amount of rice!

Method Applied rice (Hinohikari) in the area treated with the LAB enzymatic solution (diluted 300 times) before puddling soil. (Watered rice as usual in the untreated area)





Result Compared with the untreated area, the number of grains per spike in the treated area increased about 24%, and weight increased about 19%. (There was no particular change of weight per grain).

8. Positive influence on tree vigor of grapes!

Method Applied grapes (Pione) in the area treated with the LAB enzymatic solution (diluted 300 times). (Watered grapes as usual in the untreated area.)

	Treated area	Untreated area
New shoot extension period		
Leaf-fall period		

Result Leaves in the treated area are noticeably bigger, thicker and heavier. They fall slower and accumulate better nutrients than in the untreated area. The leaf surface area and growth condition are very important since the organic matter necessary for sustainable plant growth is mainly synthesized in the leaves. Also, an early drop of leaves during the leaf-fall period will lead to a lack of nutrient storage for winter, which may cause in turn a delay in the growth of the new shoots the next spring.