



Princess Chulabhorn Science High School Trang



Developing equipment to help anchor seagrass seedling to increase seagrass survival rate



Members



Tanaporn Numuean



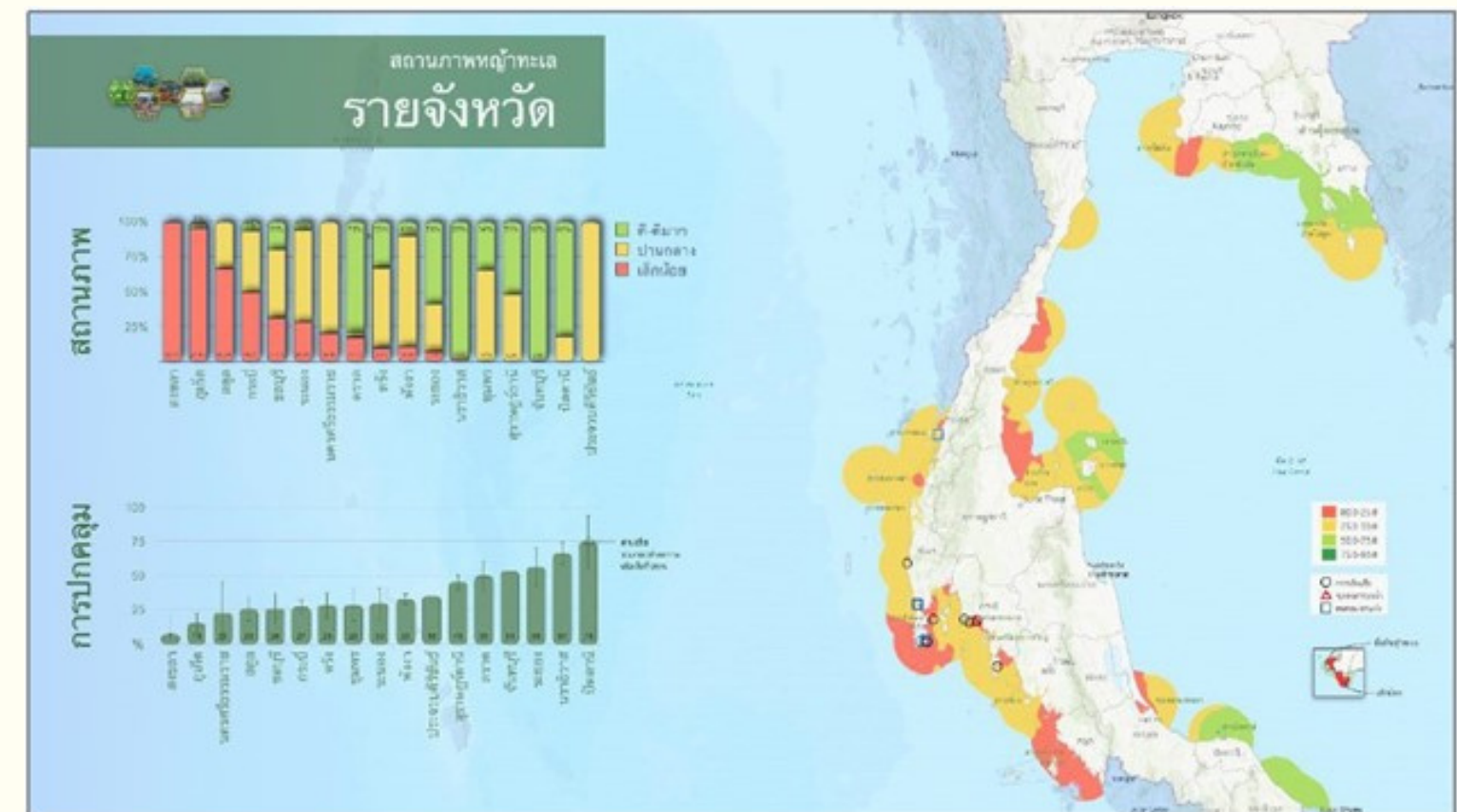
Nichapa Thongrod

Introduction



ref :

The seagrass ecosystem is one of the first ecosystems to be affected by various activities.



ref :

The seagrass had a low survival rate. Due to environmental limitations in nature in each area.



Research Questions

1

Is there a difference in water quality before and after planting seagrass?

2

Is there a difference in soil quality before and after planting seagrass?

3

Innovation for fasten seagrasses can increase the survival rate of seagrasses or not?



Hypothesis

1

Water quality before and after planting seagrass is difference.

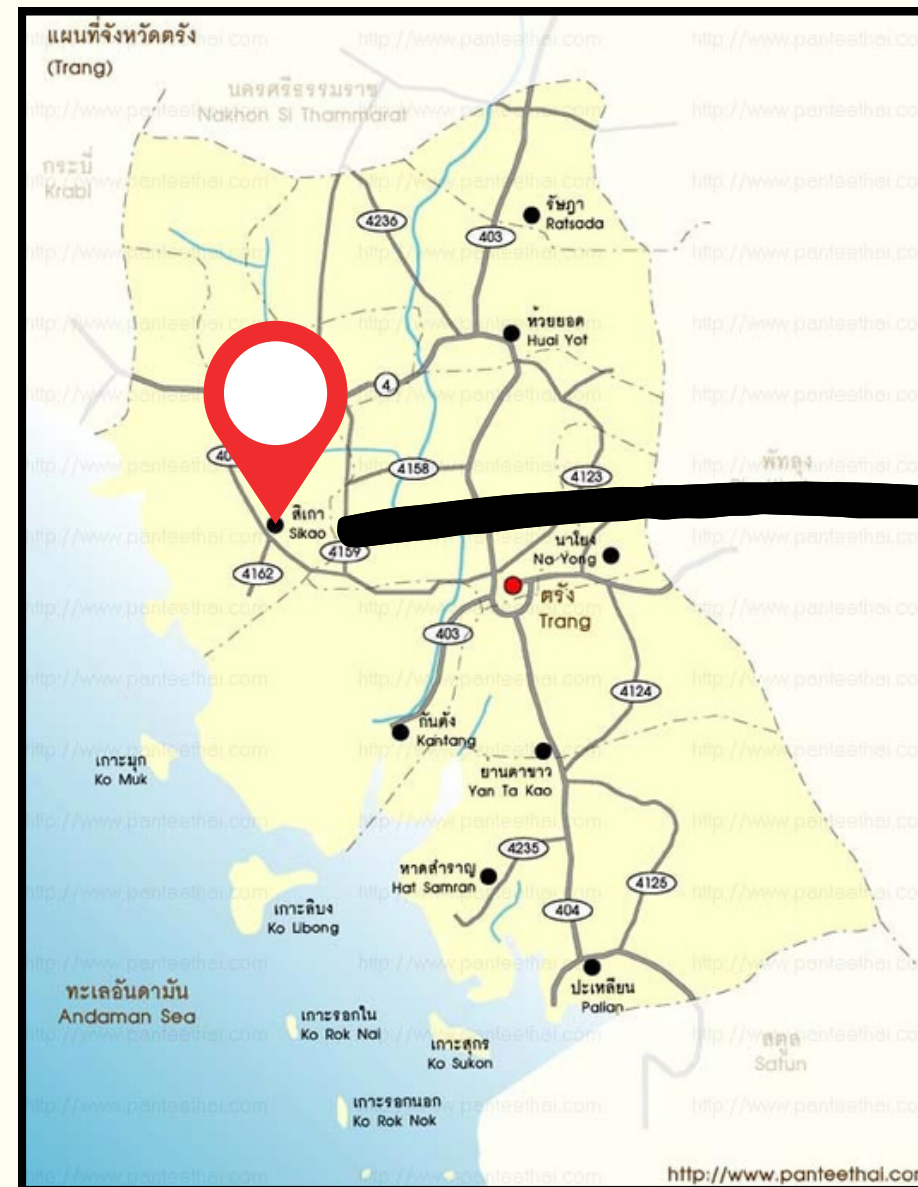
2

Soil quality before and after planting seagrass is difference.

3

Innovation for fasten seagrasses can increase the survival rate of seagrasses.

study sites



Trang province



Bunkong Bay

surveying the area



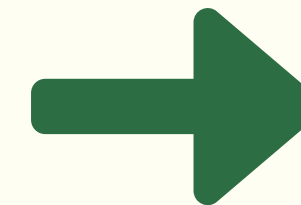
Bunkong Bay

Water quality

- Water temperature
- turbidity
- water surface temperature
- pH
- Dissolved oxygen

Soil quality

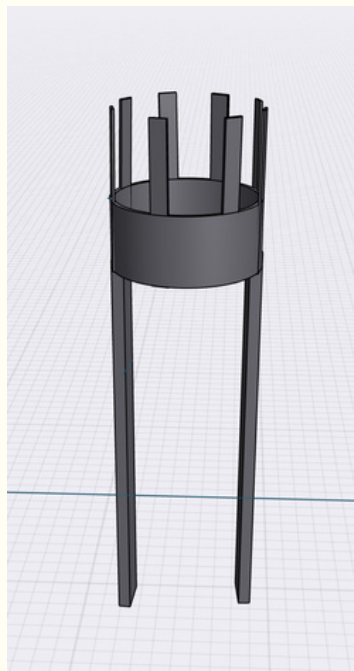
- Nitrogen
- Phosphorus
- Potassium
- organic matter



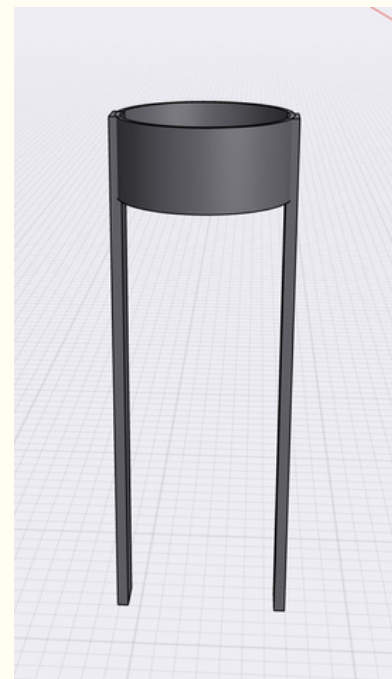
Sent data of water quality and soil quality to GLOBE data

Design innovation

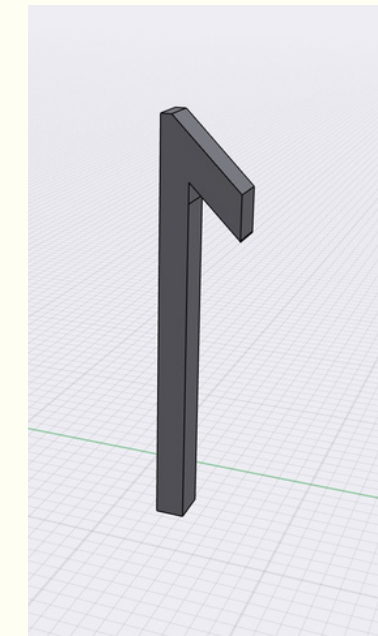
We use shapr3D application for design all type of innovation



Type 1



Type 2

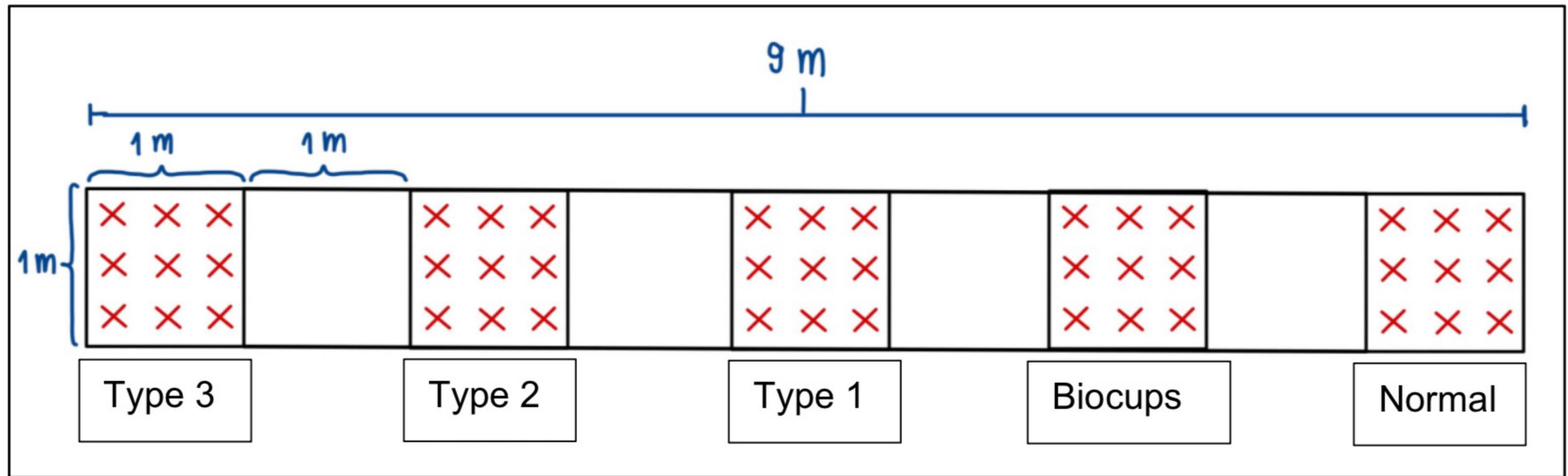


Type 3

Create innovation

- length of innovation is 5 inch
- width of this innovation is 0.6 inch
- create innovation 9 piece/type

Test the innovation



Result

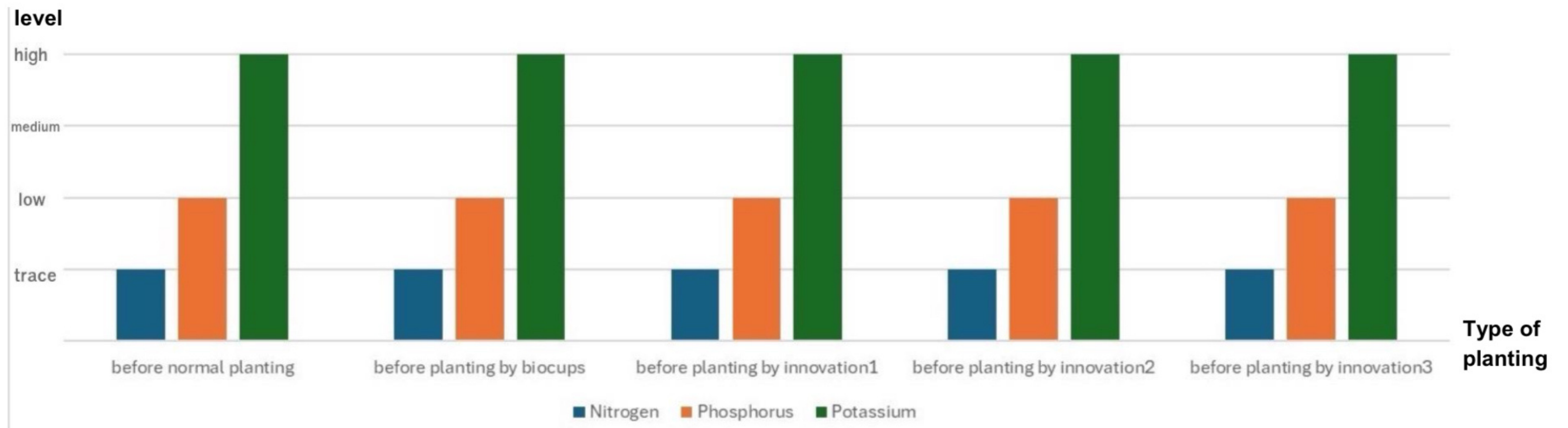
Results

Table 1: results of water quality before and after planting seagrass in Boon Kong Bay.

<div>time</div> <div>factors</div>	Water temperature	Surface water temperature	DO	pH	Turbidity
Before planting	29±0	28.5±0	5.3±0.2	7.8±0.1	9.33±1.52
After planting	27±0	27.5±0	5.6±0	7.6±0	10±2

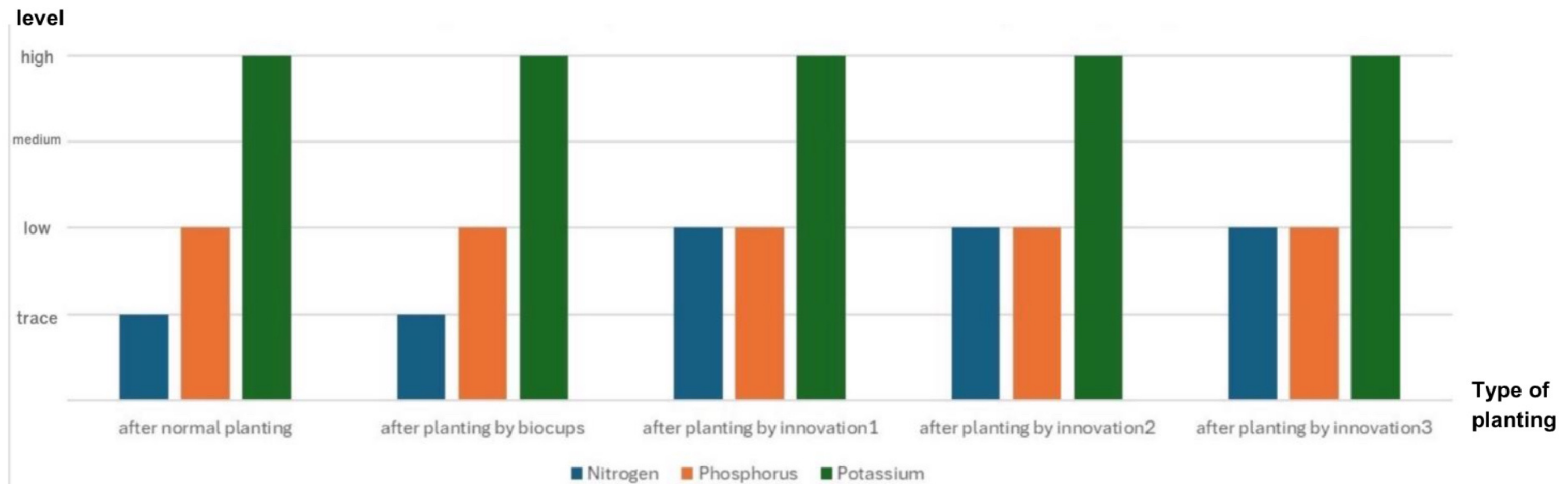
Result

Graph 1: result of nitrogen phosphorus and potassium values before planting seagrass.



Result

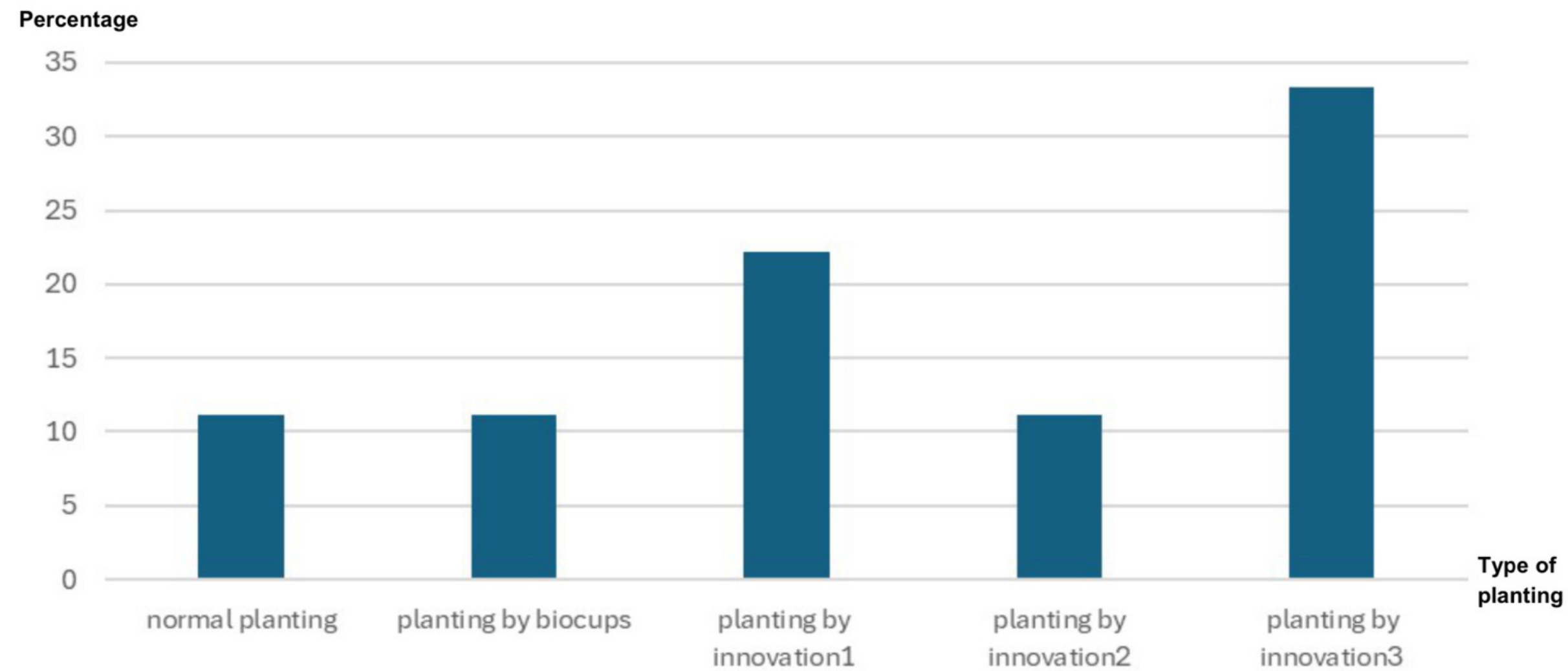
Graph 2: result of nitrogen phosphorus and potassium values after planting seagrass.



note: The soil in the area planted using innovation type 2 has become darker.

Result

Graph 3 : Comparison survival rates of seagrass grown using different types of innovation and normal planting.



Note : Seagrass have yellow leaf, survival rate is average of each planting plot

*Thank
you!*