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Summary of Sandworm Breeding Experiment In Indonesia

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The cultivation of sandworm

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Project Background

Shrimp larva farm PT.WAHANA in Serang Island supplies shrimp larva to two nearby large shrimp farms. The nearby sandworm (white) is not attractive to the broodstock with the spawning only about 160,000 larva after feeding. It is necessary to look for new sandworm species (red) which more attractive to the broodstock in other areas. The number of eggs laid was significantly higher than that of white sandworm, reaching about 220,000.

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Project Background

Current problems:

1. The collection and transportation of red sandworm is very difficult, which takes 7 hours to drive from the larva farm, and another hour or so by boat to reach the digging site. In addition, the boat needs to pass through the mangrove area. When the tide is low, the water is very shallow, and the boat cannot be sailed. Therefore, it is necessary to watch the tide and make plans.

2. Non-professional villagers do the digging, mainly children. This red sandworm is easy to be pulled off because it is slender . After four large-scale digging of sandworm, the number in this area is obviously much less, which is unsustainable. Therefore, the cultivation and breeding of sandworms is an indispensable part of the larva farm in Serang Island.

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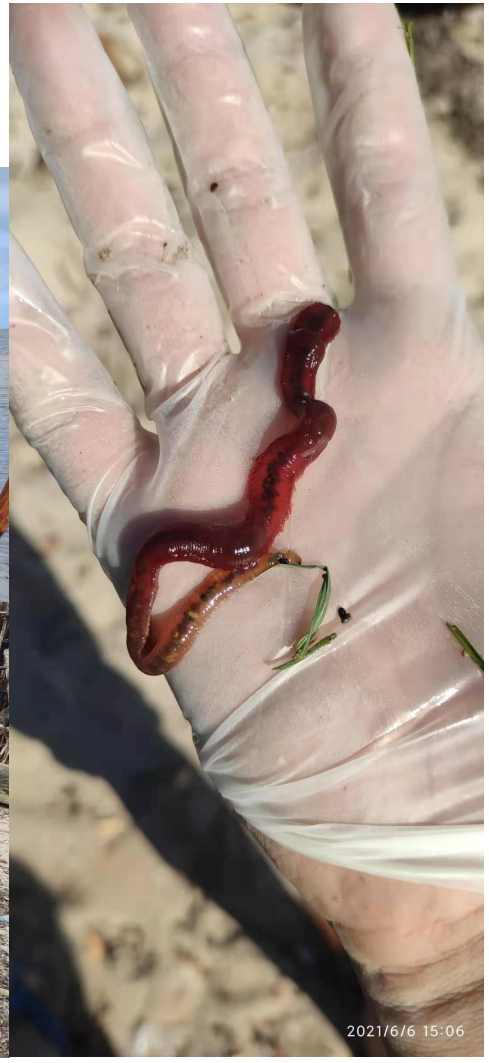
Sandworm digging in the beach



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Red sandworm excavation and transportation

1. Hay for moisturizing
2. Ice sticks to keep cold

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Sandworm selection

Since the sandworm have been transported for nearly ten hours, there is basically no vitality when arrived in the farm, died in the next day. Therefore, another white sandworm, which is closer to the larva farm, have better vitality.

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Test facility

The Artemia hatching bucket is used as a breeding facility for sandworm. There are three types of soil about 15cm in three buckets respectively. A pipe is used to facilitate drainage, and fill with sea water with a hose;

Density and daily operations

1. Each barrel contained 30 sandworm;

2. Fill with sea water at 7 a.m. and 4 p.m., cover the sand about 3cm, drain it after one hour, leave a small amount of water in the bucket, and feed the shrimp crushed feed;

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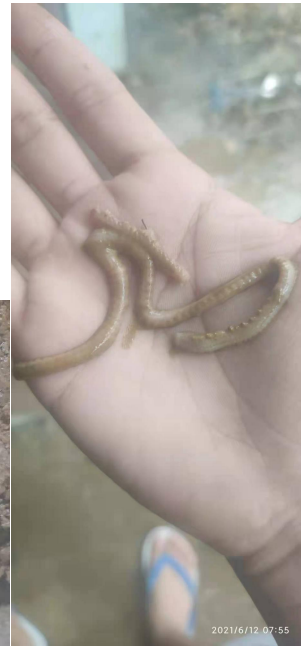
Yellow sandy soil

Low sand content, pH6.8, high viscosity

Breeding days: 7 days

Culture situation :: The sandworms seemed normal in first four days , but the depth of sandworm living was mostly shallow. After 4 days,sandworm started to have tail docking problem and died, and almost all died after 7 days.



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Black clay

The clay dug from the shrimp pond has very little sand content, pH 7.2 with high viscosity

Breeding days: 2 days

Culture situation: a small amount of sandworm dives into the clay, but most of them only stay on the clay surface, and all die after 2 days.

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Black sand clay

Black clay was mixed with sand, pH 7.2, moderate viscosity

Breeding days: 9 days

Culture situation : Since it contains more sand, the sandworms generally burrow deep in the sand, basically invisible. There are crawling traces after entering and draining water, which are very active;

A small number of deaths, but generally normal, suitable for sandworm living

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The main points of Indonesian sandworm breeding

1. Sandy

Indonesian sandworms are Eunicidae, which require a higher ratio of sand, so sand: mud = 1-2:1

2. pH

The pH value of the silt should be greater than 7.5, generally use quicklime and silt to stir to achieve sterilization and disinfection while adjusting the pH value

3. Intake and drainage

It needs to fill in and drain water twice a day to simulate the tide, and the water cannot be completely drained. A certain amount of water must be reserved to moisturize the sediment

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Difficulties of sandworm breeding in Indonesia

1.Breeding

The sandworm in Indonesia is Eunicidae, which is a species that is difficult to breed. In China, breeding trials of similar species have been unsuccessful. Eventually Perinereis aibuhitensis were selected to be the major culture species in China. The characteristic of Perinereis aibuhitensis is that it can reproduce and hatch throughout the year. This method is suitable for large-scale reproduction and production. However, Eunicidae in Indonesia has a specific reproduction cycle throughout the year, and the reproduction method is to lay eggs in the sand, which is more difficult to control;

2. Feeding

The crushed shrimp feed were used for feeding. But the sandworms were not observed to eat. The feed for this kind of sandworms remains to be studied;

3. Culture mode

The Culture mode still needs to be further improved to achieve good vitality, and the survival rate of the complete sand silkworm need to be above 95%;

Thank you for your attention!

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