Seaweed Farming in Solomon Islands: Practical guide for seaweed farmers.

Seaweed Farming in Solomon Islands: *A practical guide for seaweed farmers*

Author: Gideon Tiroba

&

Illustrator: John Iarifu

Edited by Mahuri Robertson

January 2007

Acknowledgement

The author would like to thank the European Union for the support in financing the publication of this manual.

Purpose of this manual

The purpose of this manual is to provide seaweed farmers the basic information in culturing the seaweed *Kappaphycus alvarezii* (Commonly known as cottonii).

For more information please contact:

Commercialisation of Seaweed Production in SI
P.O Box 883,
Honiara
Ph: (677) 39092 Fax: (677) 39093
Email: cospsi@solomon.com.sb

Or

Permanent Secretary,
Department of Fisheries and Marine Resources
P.O Box G13, Honiara
Ph: (677) 30564 Fax: (677) 38730

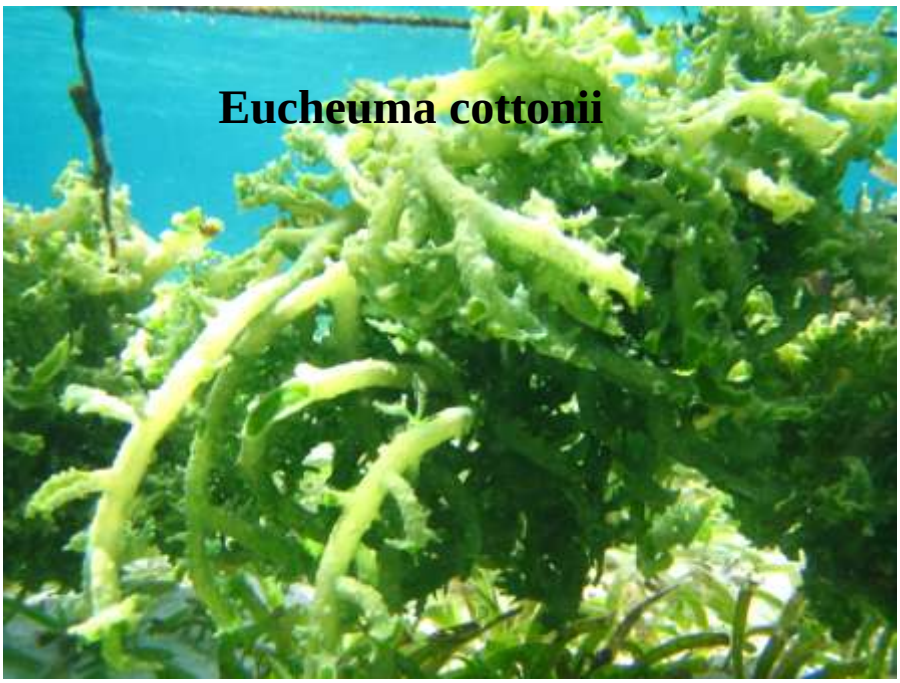
Other Publication

Seaweed Quality Manual

Table of contents

Seaweed Culture

What is Seaweed?



Seaweeds grown in the Solomon Islands are red algae or sea plants similar to terrestrial plants that require sunlight for food energy. Other important commercial species of seaweeds are: *Gracilaria* and *Gelidium*

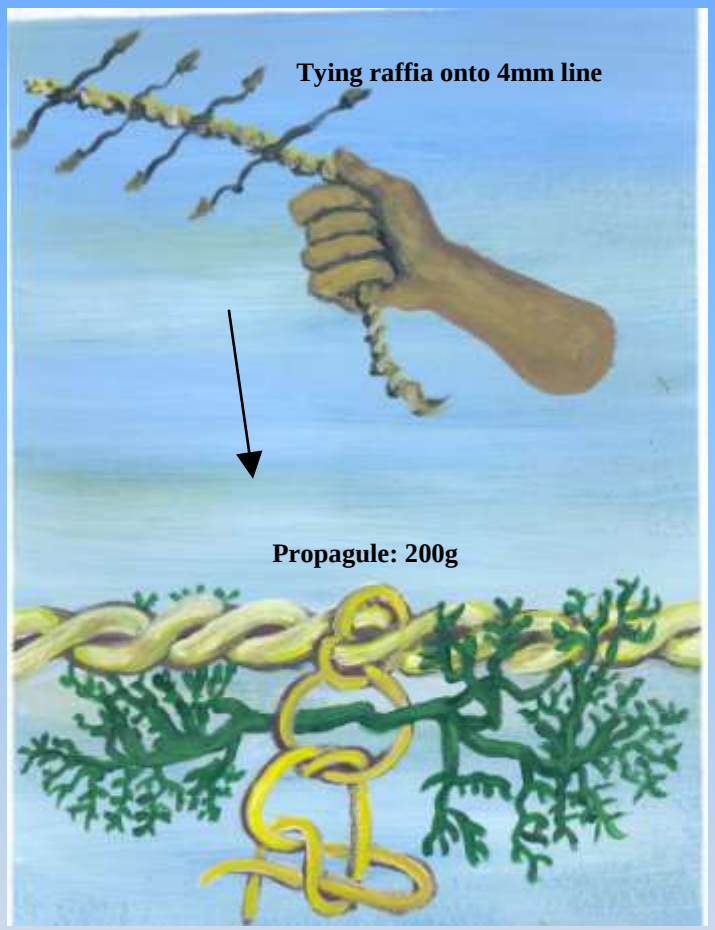
. Starting a farm

Selecting a good site for your farm is the first step you have to do. Sites with good current flow and high salinity and away from rivers and streams are appropriate for seaweed farming. A test plot consists of few plants can be trialed at the selected site. If growth of plant is good then a farm can be established. You require sufficient amount of seed stocks.

Farm Materials you require

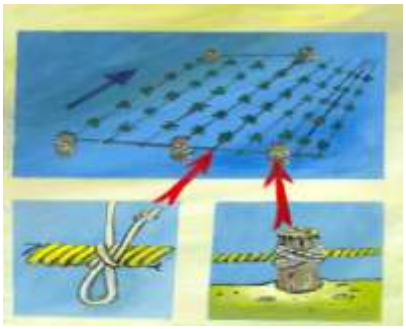
Basic farm materials required to establish a farm are raffia, 4 mm rope, 6 mm rope, knife, crow bar, and measuring rope

Preparing lines



Cut your raffia and 4 mm length rope to a required length. Your propagule must weigh about 200 g.

Farm methods



Post to post method or off-bottom is suitable to shallow areas and sandy bottom where posts can be used.

Long lines are suitable in deeper waters. Drinking bottles can be used as floats.

Rafts require bamboos for floating and can be used in deeper or shallow areas.

Six Weeks Cycle

The Six Weeks Cycle is important to attain a maximum harvest. Planting each block every week will provide you a weekly rotational harvest.

Harvest time

During harvest, use empty sacks and dug out canoes to speed the harvesting process. After harvest, ensure that unwanted debris such as leaves, small fish and other organisms are removed.

Drying Seaweed

Drying tables: platforms are normally raised to avoid chickens and pigs.

Drying table with raised cover avoid seaweed from rain and condensation.

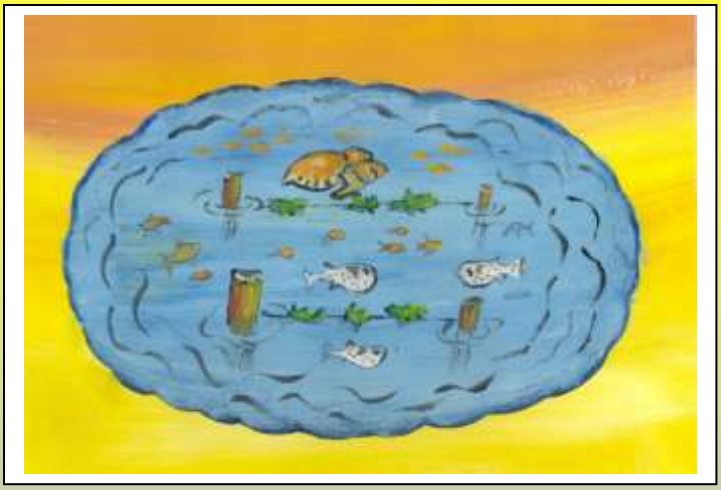
Solar Dryers

In the Solomon Islands, sites where persistent rain occurs can be a problem in drying seaweed. Proper drying tables with clear plastic cover of 250um can be used to avoid rushing during rainy days. Proper working platform can be set up to keep the seaweed from rain.

Problem in Seaweed farming

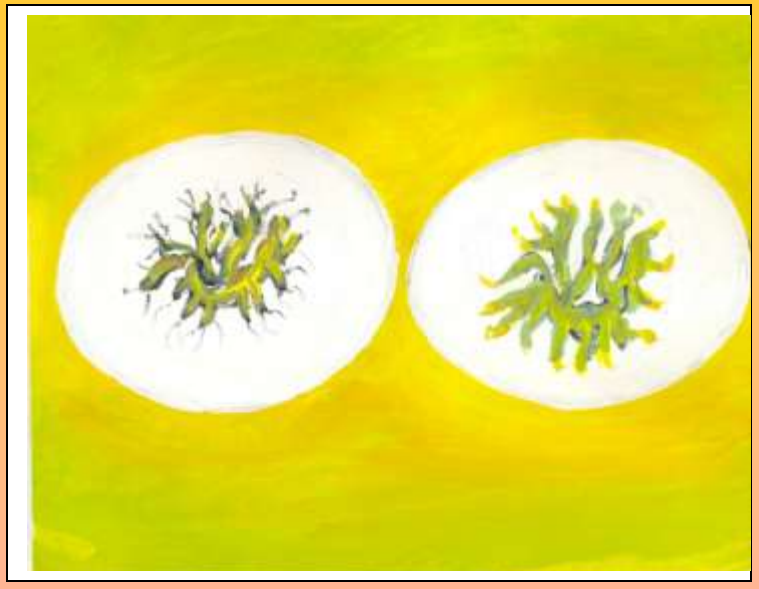
Seasonal grazing happens during certain seasons e.g. rabbit fish grazed on seaweed in Wagina and Reef Islands during certain seasons where large schools gathered together on the reef flats and wiped out few farms.
When you see them on your farm, harvest immediately and wait until the rabbit fish have gone before starting a new farm.

Territorial Grazing



Territorial fish grazing is when seaweeds are attacked by territorial fish close to the farm. For example bigger animals such as turtles, puffer fish and porcupine are common territorial animals. The turtles are getting rare and should be scarred away.

Ice - Ice and Epiphytes



Epiphytes and Ice - ice are seasonal problems. Ice-ice is when the plants are turned white in color. Epiphytes are caused by long threads of algae which can grow on the skin of the seaweed and will be a problem when they spread out through out the farm. Epiphytes and ice-ice occurred when the seaweed is under stress, when the water temperature is too high, less water flow and winds are light. Ensure that plants are grown in good current areas where water flow is good. Avoid planting sick plants. Strong winds and tsunami can destroy your farms. Transfer wet healthy weeds from unaffected sites.

Quality

Understanding seaweed quality is important. Maintain high quality of seaweed by applying proper drying methods, planting good healthy plants at good selected sites, avoid rain on dried seaweed, use raised covers to avoid condensation. Do not overgrown your seaweed where it will take time to dry. Properly pack your dried seaweed in sacks under the shade. Refer to the quality manual for further assistance.

Farm management

Maintenance work on the farm will include: cleaning debris, keep the plots tidy and strong, keep lines tightly stretched and retie any seaweed that has fallen off. Keep records of available farm materials and sales record. Regularly visit your farm and note any fish grazing.

Uses of Seaweed

The seaweed we are growing in the Solomon Islands is a red algae commonly called by its trade name Cottonii.

Species (Common Name) (Scientific name)
Eucheuma cottonii…… (Kappa) ***Kappaphycus alvarezii***
Eucheuma spinosum…….(Iota)

Uses and applications
Carrageenan is extracted from seaweed and its applications are provided below:

Eucheuma cottoni (Kappa)
- **Dairy products**
- **Meat and poultry**
- **Water gels**
- **Processed human foods & pet foods**
- **Pharmaceutical**
- **Personal care**

Eucheuma spinosum (Iota)
- **Toothpaste**
- **Other dairy products**
- **Pharmaceutical**

Application of carrageenan (Uses of Seaweed)

food

Plant & animal nutrition

personal care

Process aids