

BEST PRACTICE GUIDE

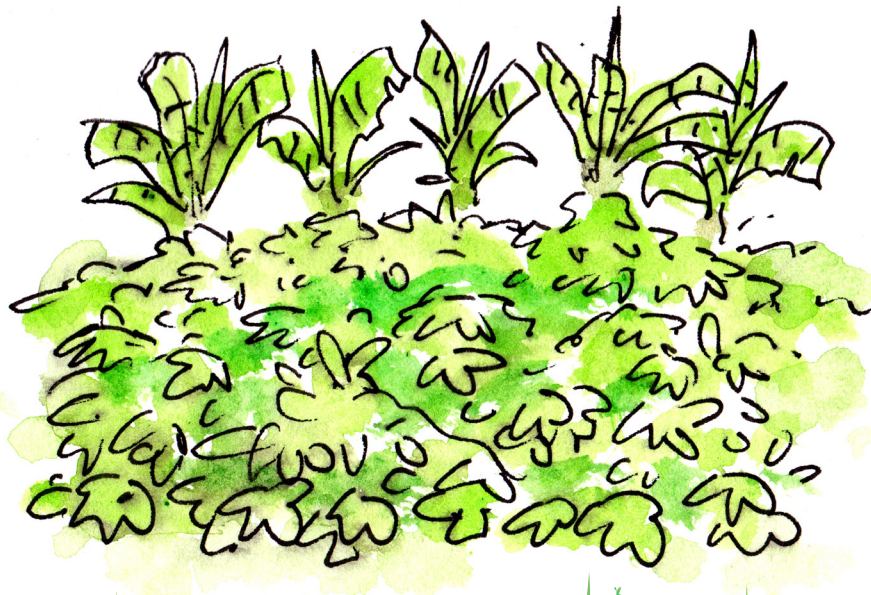
Cover Cropping

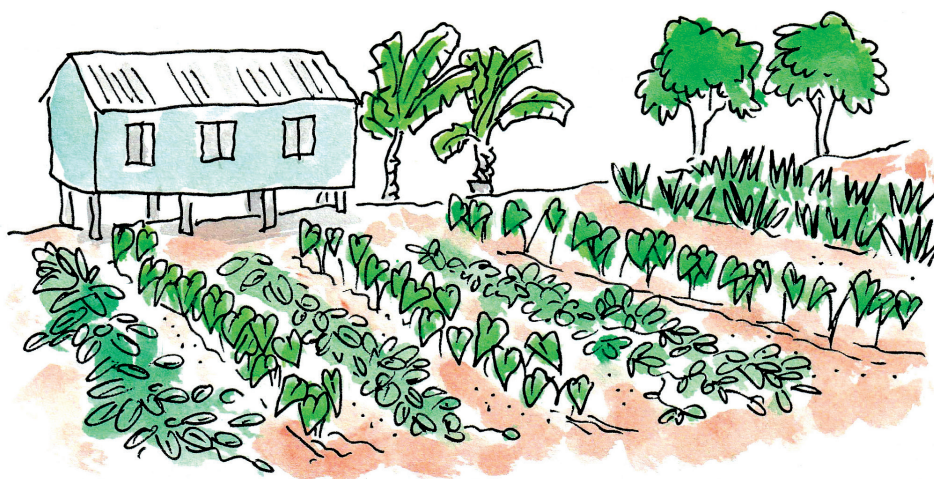
Introduction

In the Solomon Islands, soil fertility, or the ability of the soil to produce good crops, is declining. Valuable topsoil is also being eroded by wind and rain. Floods and drought and not looking after the soil make this worse. These problems are being made worse by climate change.

In 2020 Live & Learn Solomon Islands surveyed 180 village farmers from across the Solomon Islands about their challenges and successes in farming. Many of them are already using good farming practices, but there was high interest in improving their knowledge and skills in preventing soil erosion and loss of topsoil, increasing crop yields on existing lands, and reducing the impacts of flood and drought.

Cover cropping is a valuable method for preventing erosion and water loss and for improving soil quality. Cover cropping involves growing low-lying plants that cover the soil surface when crops are not being grown and land would normally lie fallow, or between cash crops. Using cover crops reduces topsoil loss, maintains soil moisture and reduces the ability of weeds to take hold. They also protect the soil from the impacts of severe rain and wind. Although cover crops can also provide a secondary food source for humans and animals, in the Solomon Islands cover crops usually involve legume crops for replacing nitrogen and carbon in the soil, thereby raising soil fertility, and for preventing erosion and weed growth.





How are cover crops used?

“I use cover crops such as Pueraria phaseoloides (Pueraria) to cover my soil from erosion as well as to enrich the soil fertility.” - Lionel, Central Kwara’ae, Malaita

Cover cropping can protect soil, prevent weeds and help control pests. The spreading roots of cover crops hold soil while the foliage shades the soil from hot sun, preventing drying. The covering of soil also prevents wind or rain eroding valuable topsoil. This in turn prevents soil washing into and silting rivers or ocean. Some cover crops can attract helpful pollinators and pest predators.

Legumes, or plants from the pea family, are good for cover cropping because they help plants to absorb nitrogen from the soil. Ensuring nitrogen is available means that plants have energy available when they need it. This is especially important for ‘heavy feeder’ crops such as sweet potato, tomatoes, peppers, and corn.

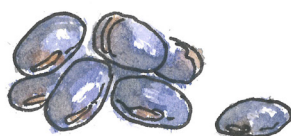
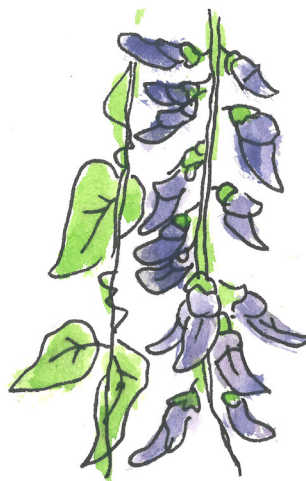
Pueraria is one of the best and most common cover crops in the Solomon Islands. When planning your own cover crop you will need to choose one that fits into your current rotation, or develop a new rotation to take advantage of cover cropping benefits. Cover crops are generally sown between key planting periods.



The following steps can help in planning your cover crops:

1. Make a timeline of your crop rotation, mapping out where and when you typically seed and harvest your crops over the course of several years.
2. Add extra information such as high-rainfall locations, expected dry periods, when you use the most labour, and so on.
3. Now look for open periods and take note of underutilised spaces throughout the year. If some spaces are unused in certain seasons or periods, you can fill these with a cover crop.

Common cover crops are *Pueraria*, *mucuna*, and *calopo*. You can mix two or more species of cover crop or even try several options in small areas. You may need to do some weeding first.



Benefits of cover cropping

“In terms of cover crop, soil fertility is a major issue addressed in this practice.” — Lionel

Cover crops take up nutrients from the soil that might be lost in runoff or erosion and return them when they rot as green manure. They also provide year-round weed control, protection from soil erosion and water retention.

Cover crops can also help reduce attacks by insects, weeds and diseases. They feed other crops, strengthening them against pests and diseases, and help minimise reliance on pesticides. Most importantly, legume cover crops can reduce the need for additional fertilisers, thereby saving money.

Challenges of cover cropping

One difficulty faced by farmers who choose to use cover crops is that the practice can be time- and labour-intensive, particularly at the beginning. A reliable supply of seeds and planting material for cover crops can also be an issue, as can the lack of technical skills and knowledge to implement this practice.

However, once these challenges are addressed, cover cropping can provide long-term benefits to your farm or garden.

How can this be scaled up/how can others get involved?

“The use of cover cropping is a skill that needs to be furnished as a means to maintain soil fertility.”

Some farmers may be familiar with the practice of cover crops. However, the practice of fallowing is common in the Solomon Islands. With more pressure on land, and the need to increase agricultural productivity, there are great benefits in cover crops becoming part of common practice in the Solomon Islands. To achieve this, awareness needs to be raised about the benefits of this approach (e.g. through demonstrations), and families need to know where they can access seeds for cover crops. They also need guidance from extension officers about how to add cover crops into their existing crop rotation and fallowing practices.



For further information on the benefits of cover crops and how to plant them, see Live & Learn’s guide **Woakem Land Kum Up Gud Fala**.