

# SUSTAINABLE AGRICULTURE

Sustainable agriculture is a long-term farm management strategy, which ideally can be maintained indefinitely without degrading the land, the environment, or the community.

Sustainable agriculture is economically viable and ecologically sound. Farms must be profitable to survive and must have minimal impact on the human and natural environment to be sustainable.

Sustainable agriculture employs traditional farming practices combined with modern innovations to improve soil structure and soil fertility without harming the environment. Improving the soil while farming the soil is the goal of sustainable agriculture.

Sustainable agriculture:

- Uses regular soil tests to monitor soil conditions.
- Increases the organic matter in the soil. Organic matter or humus improves the nutrient status of the soil, the soil structure, the water holding capacity of the soil, and it activates the organisms in the soil. Organic matter can be increased by mulching, composting or utilising crop rotations, which include deep rooting plant species and legumes which are incorporated into the top soil before they set seed. This is called a green manure crop. For example: - Cowpeas, Dolichus Lab (summer growing legumes), Oats, forage Sorghum, Safflower, Lucerne, Clover or Medics (in a short term rotation).
- Increases sub-soil aeration by deep ripping, growing deep rooting plant species and by activating soil organisms.
- Improves the nutrient status of the soil by using natural mineral sources. For example crushed rock dust and natural seaweed preparations.
- Grazes ruminant animals with crop rotations to recycle nutrients.
- Retains stubble - to increase organic matter and protect the soil from wind and water erosion. Soil ideally should not be left bare for extended periods.
- Reduces tillage of the soil, to maintain soil structure, reduce soil compaction and reduce erosion.
- Cultivates on the contour to slow water runoff.
- Implements natural pest control methods:-

- ❖ avoids monoculture if possible, to reduce pest burden.
- ❖ ongoing tree planting program, to attract predators to pests.
- ❖ establishes healthy active soil, which produces healthy plants and stock, which are less palatable to pest and disease organisms.
  
- ❖ uses natural pesticides to target the problem rather than the beneficial organisms.
- ❖ uses crop rotations to break the cycle of pests and diseases. By alternating the planting pattern, pests can be reduced. For example a flower crop or grain crop could be followed by a root crop or by a green manure legume crop.
- ❖ Introduces dung beetles.
  
- Emphasises that healthy stock require mineral-rich pasture. Since most Australian soils are mineral deficient, natural mineral fertilisers are initially essential to improve soil nutrition and an ongoing stock supplementation program is necessary (ground rock minerals, rock salt, and perhaps seaweed products). A balanced pasture is a mix of grasses and legumes, including deep rooted species.
  
- Understands that the current use of chemical fertilisers is unsustainable, because they acidify the soil, create imbalances in soil chemistry, and pollute rivers and lakes with farm runoff. Soil ecology is damaged by acidic fertilisers, therefore soil structure deteriorates and erosion increases.
  
- Treats acidic soil to raise the pH and improve soil life. Many minerals are locked up in chemical complexes and unavailable to plants in acidic soil.

**ALROC the ORIGINAL SOIL BUILDER**

Alroc Mineral Fertiliser is manufactured by Sustainable Agriculture & Food Enterprises Pty. Ltd. - (S.A.F.E.) in response to the need for society to move in a more ecological and sustainable direction.

**Alroc** is a blend of crushed volcanic Basalt, Granite, Dolomite, Bentonite, Rock Phosphate, Rock Potash and Coal fines, chosen for their mineral content. The Coal fines have been composting for over 20 years and are added as a dry, micro-fine dust to provide carbon for our soils in the form of organic matter. S.A.F.E. produces 6 different mixes of **Alroc** which are Certified Organic by the Biological Farmers of Australia (**BFA**). **Alroc** is suitable for home gardeners, commercial farmers, golf courses and councils - anybody interested in perfect plants and a safe planet. It comes in 20kg (home gardeners' blend), 40kg, 1 tonne bulka bags or bulk.

Applying rock dust to the soil is not new. **Alroc** takes this traditional farming technique to a new level of sophistication, with the blend of rock types in the mix and a prilling process to make for ease of application with any spreader, hand or mechanical.

Micro-organisms decompose rock-dust from the surface of tiny **Alroc** particles and combine this with organic matter to form humus. The rejuvenated soil supports an enormous variety of soil organisms, some of which capture nitrogen from the air and make it available to plants. The plants grow nutrient-rich and withstand pest and disease infestations much better. Because the plants develop an extensive feeder root system, they are also better able to withstand dry spells.

By utilising the soil organisms, **Alroc** uses a natural renewable energy source to process nutrients for plants. Sustainable farming makes use of on-farm resources and natural biological processes.