

Sustainable Agriculture of Cocoa

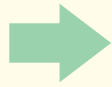
- for smallholders in Indonesia -



Water conservation



Do not spray herbicide or pesticide near water source.



Weed manually/mechanically to keep vegetative ground cover.

Soil conservation



Spraying herbicide kills microorganisms in the soil and makes the soil poorer.



Keep the ground mulched with leaves and pruned branches. Keep the weeds at a low level with manual weeding.

Shade trees



Trees get dehydrated and stressed without shade.



Shade trees protect cocoa trees and sustains the productivity in a long run.

Benefits of shade trees:

1. Extra income from timber and fruits from the shade trees (Durian, Bread fruit, Duku, Coconut, Beale nut etc.)
2. Protection of cocoa trees from strong sunlight
3. Weed control
4. Soil erosion control (Bamboo, etc.)
5. Fallen leaves add organic matter to the soil.
6. Some shade trees can fix nitrogen in the soil (Leucaena, Gliricidia, etc.)
7. You can make natural insect repellent from certain trees (Neem, Suren, Mindi etc.).
8. Sustainability of cocoa production



Protective clothing



Chemical application without protection damages your health.



- Wear the following:
- Hat
 - Mask with chemical filter
 - Goggles
 - Long sleeves
 - Apron
 - Gloves
 - Boots

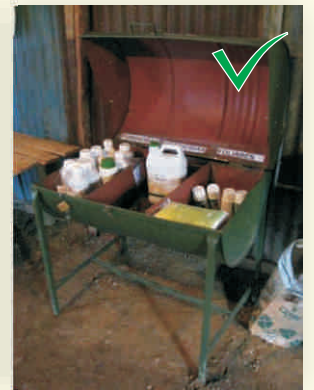
Chemical storage



Do not store chemicals in the house



Keep the chemicals out of children's reach. Keep them in water-proof material.



Waste management



Do not burn wastes



Do not throw away wastes



Do not heap opened cocoa pods (:source of diseases)



Collect organic waste and non-organic waste separately. Give the non-organic waste to the collectors. (If there is no collection service, give it to the group administrator.)



Compost the organic waste.



Collect empty containers and give them to the group administrator.

Recordkeeping

✓	Nama Produk/ Kandungan	Jumlah (kg)	Biaya (Rp)
20/02/2011	Urea	200	2.400.000
10/06/2011	Phoska	500	6.000.000
10/09/2011	Phoska	200	2.800.000

Keep records of the following:

- Fertilizer application (date, product, quantity)
- Chemical application (date, product, quantity)
- Paid workers (date, number, salary)
- Cocoa beans harvested (quantity)

Wildlife protection



Do not hunt wild animals.



Let your family and neighbors know that hunting is prohibited.