

# Spraying Cocoa: 10 Essentials

## 1. Keep tree height under control



Tall trees are difficult:

- to spray
- to monitor
- to harvest

Prune trees regularly, or else

... tree surgery can make spraying easier: if you can wait for the next crop!



courtesy J.Cooper, NRI

## 2. Know your target

What are you trying to control?

... so what product and how will you apply it?

Examples:



Make sure it is not **too late** to spray.

## 3. What will you spray?

Choose and use the right pesticide :

think safety first ...

...and efficacy ...

**Read the label** – is it the best pesticide for your problem?



this sign means the product is harmful

## Do NOT use dangerous products

If you do not have special personal protective equipment (PPE): mask, goggles, gloves\* etc...



this sign means danger

\* **NOTE:** it is safer to use no gloves at all than gloves with holes in them!

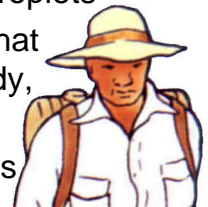
## 4. Minimum Personal Protection

✓ **Wear a hat** against falling droplets


✓ Wear comfortable clothing that protects as much of the body, arms and legs as possible.

✓ Some types of national dress are especially suitable ...

✗ ... but never put on previously contaminated overalls or other clothing



✓ Wear trousers on outside of boots

✓  If you use a **motorised mistblower** ear defenders are essential.

## 5. Is your sprayer working properly?

Choose a robust sprayer ...and will you be able to find spare parts for it?

**before** each spray operation **check** equipment using clean water:

- Are there any faults or blockages? Check pump, valves, filters and nozzle.
- Are there any leakages? If spare parts are not available repair joints with PTFE (plumber's) tape or rubber seals (can be made out of old tyre inner tubes). Replace worn and leaking hoses.

## 6a. How to treat the target?

Where must the spray deposit be put?

- pod & trunks
- shoots
- whole tree

## Select the right nozzle

if your sprayer has a variable hollow cone nozzle – what setting should be selected?

Variable nozzles are difficult to calibrate - it is better to select the correct nozzle for the job - more details are available from .....

... please see next page

# Spraying Cocoa (2)

## 6b. Know your spray nozzles:

Squirting with a jet is often wasteful.



For narrow targets like pods and branches you need a narrow angle of spray



A wide spray cone is good for general canopy treatment, but can be wasteful for pods and narrow branches



... and remember:

**High flow rates mean**

bigger droplets  
greater risk of run-off  
**wasted money!**

## 7. It pays to Calibrate

Use the right amount of water (volume rate) and pesticide mixture. Ask the questions:

- How many trees per tank load?
- How tank loads are required to spray the whole farm?
- Only mix as much pesticide as you need for the day



how many litres in the tank?

how many trees treated per tank?

how many tank loads?

## 8. Application technique

- Be systematic: make sure you don't miss any target areas...
- ...or spray them twice!
- Are all the targets being sprayed effectively?
- Is there dripping from the pods or leaves?
- ... if so, you are **spraying too much**



## 9. Containers and Hygiene

- ✓ If you use sachets - dispose of carefully
- ✓ If you use pesticide bottles: rinse 3 times before disposal: use rinsing water to dilute the next spray tank load
- ✗ **Never** use your **mouth** to clean nozzles ... or to prime your sprayer
- ✗ Never eat, drink or smoke while spraying
- ✓ After spraying:
  - clean out the sprayer first
  - then wash yourself and your clothes



## 10. Will you do better next time?

- Did you spray the number of tank loads expected?
- Was it difficult to reach high pods and branches? If so - start pruning your trees
- Did the spray operation work? ... continue monitoring your crop ...
- if not, change your pesticide, timing or improve your application technique.



for more information visit:  
<http://www.dropdata.net>

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Several diagrams are courtesy of CropLife International (<http://www.croplife.org>) who provide further information on PPE, safe use of pesticides, storage, etc.

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