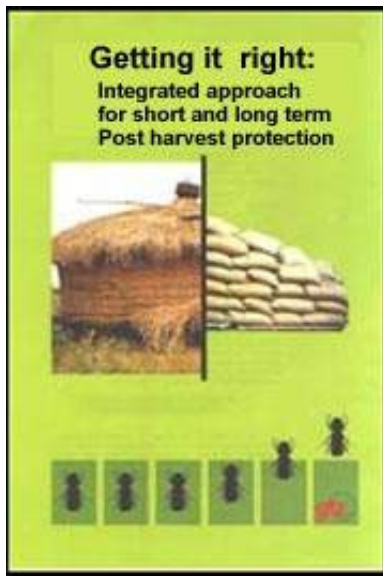












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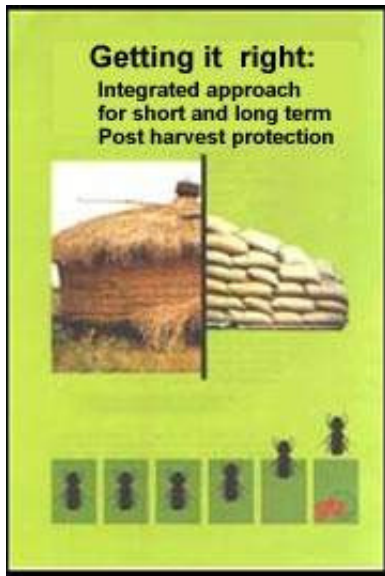
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-  **The problem**
-  **Protective clothes**
-  **Source**
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Introduction and aspects of application

Maize and cassava are the most important staple foods in West Africa. These foods in particular are becoming more and more infested by the Larger Grain Borer a storage pest which has recently been introduced and which causes exceptionally high losses in the farm-level storage of maize and cassava. More and more farmers are now trying to control the pest by using chemicals for storage protection These are referred to as insecticides, and have been used by farmers in storage protection for a long time now, although many are still not fully informed on efficacy, use, costs or risks

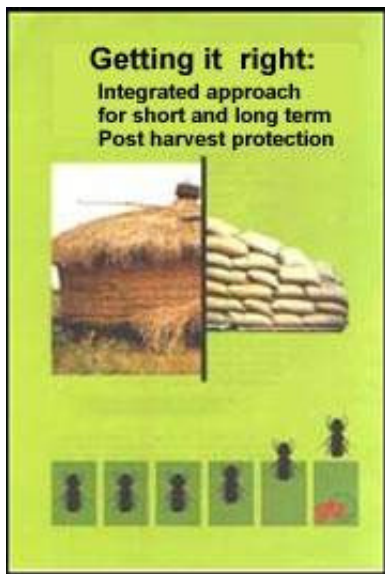
Losses in maize storage cannot be avoided by using insecticides if the stored produce is not sufficiently dried or carefully sorted, if the hygienic conditions are lousy and the storage place is not suitable Insecticides do not work miracles

The target group for this information leaflet comprises staff of agricultural extension and plant protection services and nongovernmental organisations in rural Africa south of the Sahara in addition it is to make manufacturers and sellers of insecticides and trade organizations think about improvements








The text in the brochure is oriented to the problem and to action so that it can also be used theatrically in villages and in rural radio programmes

There is frequently a different, particular situation for each farmer in West/East Africa, which is why no details on use or other exact "rules" have been given in this leaflet The farmer and the person he is talking to should be helped to find a creative and specific solution to the problem in each case which could also involve

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Insecticide choice

Edem: We recommend Pyrimiphos-methyl or Deltamethrin to control the storage pests which have so far appeared And wherever the "new one", the Larger Grain *Borer*, occurs there are also combined products containing both of the active substances mentioned Which "powder" did you buy?

Yao: Here, I've got a bit of the insecticide left

Edem: This is an insecticide we recommend Normally, when it is used properly, it provides good results

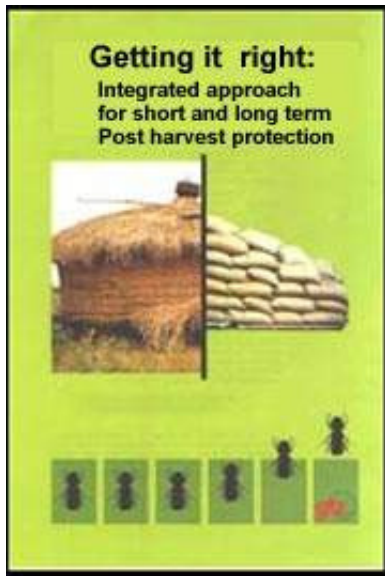
Only use insecticides recommended by the plant protection services !



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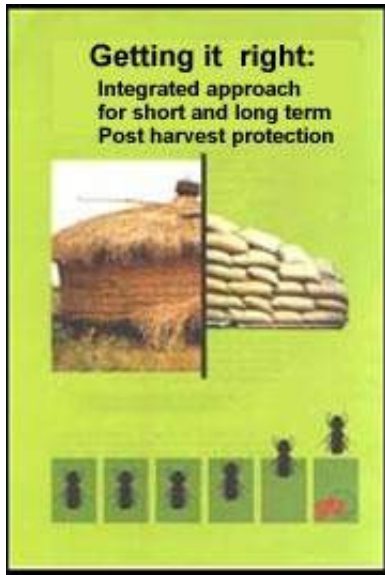
The problem

Yao K also had to pay dearly for this The small-scale farmer in South Togo bought insecticides from a dealer at the market Afterwards, he divided his maize into two stores, one for his own consumption during the next three to four months, and one for long term storage He only treated the latter store with the insecticide as recommended by the Togo plant protection service.

Dividing the harvested produce means more economical use of insecticides.

An inspection of the storage six months later, however, showed disastrous results. The "new one", as farmers in Togo call the Larger Grain Borer, had caused substantial damage More than half of the maize grains treated with the insecticide was inedible: it consisted virtually of shells which had been hollowed out and lots of white flour, nothing *more*

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Protective clothes

**Edem What is important is to avoid contact between the skin and the insecticides
When you are using chemicals for storage protection you have to wear long
trousers a long-sleeved shirt closed shoes— best of all boots—plastic or rubber
gloves and something to cover your head**

Yao I didn't have my gloves but I did put plastic bags over my hands

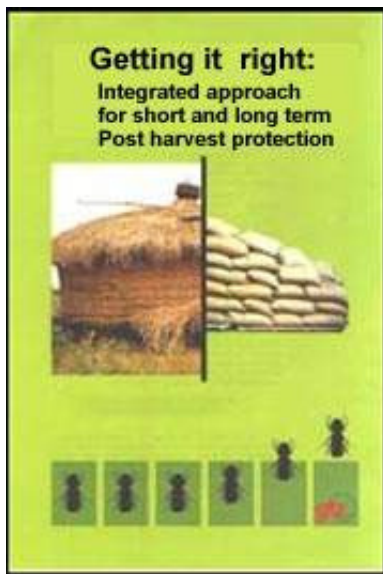
Safety measures

Edem That's right, you can do that too in addition to this you must not eat drink or smoke whilst you are working with the insecticides And then afterwards you should wash yourself thoroughly and change your clothes if anything does happen despite this or if you do not feel well go immediately to the next health centre and do not forget to take along the insecticide package so the doctor *knows* the possible cause of the poisoning









Do not come into contact with insecticides!



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Source

HENCKES C. investigations into insect population dynamics damage and losses of stored maize - An approach in IPM on small farms with special reference to *Prostephanus truncatus* (Horn)
Berlin 1992

Dr. Agouk

Directeur de la Direction de la Protection des Vgtaux

B P. 1263

Lom - Cacaveli

Togo

Albert Bell, Project Coordinator

„Integrated control of the Larger Grain Borer -

Small Farmer Post-Harvest-Systems"

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Published by

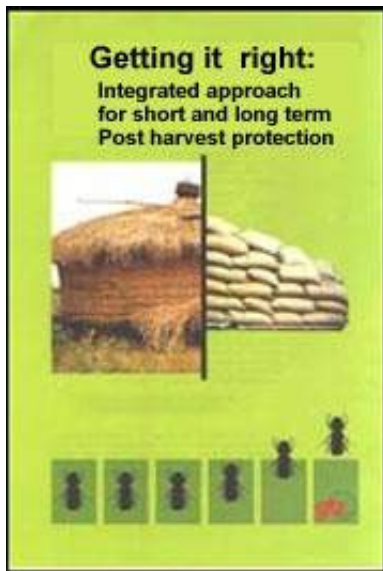
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Recommendations for use

Edem: Did you read the manufacturer's instructions on the package carefully and exactly adhere to the amount of insecticide to be used? If you used less powder than prescribed it will not have any effect; too much is waste and is dangerous for the consumer Did you spread the right amount of insecticide evenly over the maize and mix these carefully?

Yao: Yes, I followed the instructions on the package exactly and only stored immaculate, dry maize

The right dosage of insecticide: too little has no effect, too much is waste and causes health risks.



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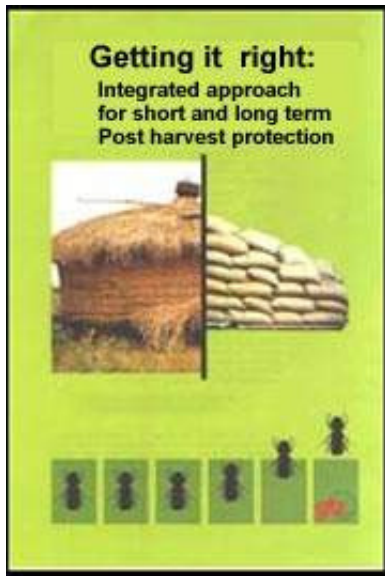
 The problem

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 Recommendations for use





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Right storage of insecticides

Edem B. is also wondering why Yao K has suffered such huge losses although he seems to have done everything correctly He divided up the harvest as recommended, thinks Edem B. he used the right insecticide, he only treated the long-term maize store with it He looks at the remaining powder again, and notices that it is very lumpy

Edem: Was the powder as lumpy as that when you treated your cons? Or was it finer?

Yao: it had lots of smaller and bigger lumps in it that I crumbled before using it, and it was damp

Edem: Ah! Now I know what caused the damage There are unfortunately a lot of unscrupulous money-makers who sell powder that of en has no effect at all, or is

even dangerous

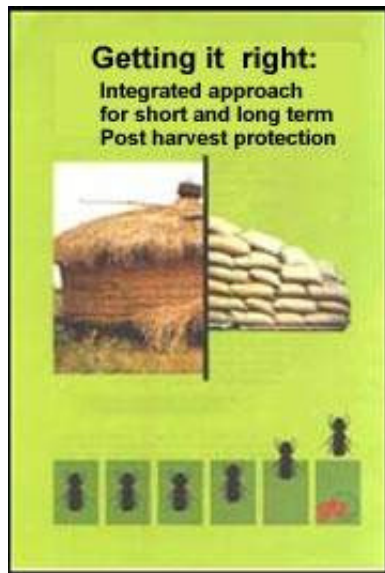
Careful-tricksters !

Edem: Your insecticide is useless it has not been properly stored and has possibly been stored too long which makes it lose its effect












Ask your specialised dealer for products in original packages



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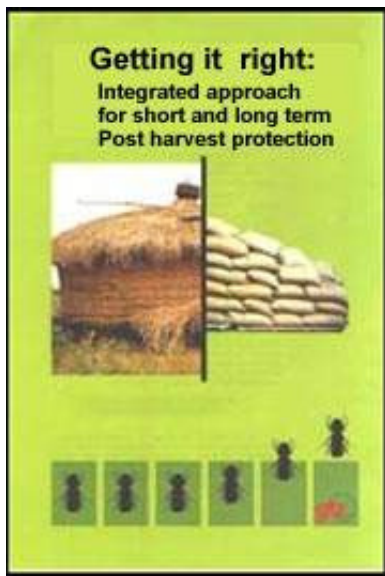
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Precaution for the use

Of course, Yao K. is now furious, but Edem B. takes the opportunity to again point out a number of important precautionary measures to take when handling chemicals for storage protection. Insecticides are mostly used by farmers in Africa in the form of powder, which is normally simple to handle. Fumigants are strictly prohibited for private use as they could poison people. However, the trained expert Edem B. knows that the poisonous substances are often treated without due care and that improper handling can cause accidents and illness.

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Observation of damage

Yao K is in a dilemma The loss has torn a huge hole in his budget And apart from that, he had followed the advice of the plant protection service and divided his produce up He had carefully thought about how much maize he would need for his own consumption and how much he should store for the long term He had discussed with his wife how much they would need them self and now this! All that trouble for nothings

After a scolding from his wife, he contacted the national plant protection service Before long, plant protection extensionist Edem B came to examine Yao's stores to try and discover the reason for the damage

Edem: Did you treat the maize you wanted to eat soon with insecticide or the maize you wanted to store long term?

Yao: I sprinkled the powder on the stored produce that was to be stored for several months I did not treat the maize I want to eat in



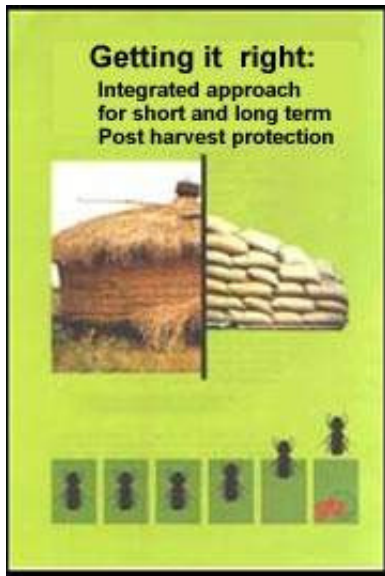
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Development of attack by the pest

Edem: That's right: joint investigations between the Togo plant protection service and the GTZ have shown that the Larger Grain *Borer* does not cause damage worth mentioning during the first three to four months Only later, when the "new one" has multiplied, will it cause considerable damage to the harvest

The new one" cause damage after three or four months.

Edem But did you buy an insecticide that we recommend?

