CONTROL OF THE GIANT SNAIL (ACHATINA FULICA) BY BAITING

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IN parts of New Guinea, where the Giant African Snail (*Achatina fulica*) occurs, successful planting of cacao at stake is almost impossible. Most plantings are made from seedlings grown in nurseries. Planting costs are higher and seedlings do not get such a good start.

In an attempt to find an effective and persistent snail bait, various mixtures have been tried at the Lowlands Agricultural Experiment Station, Keravat. So far, the only effective and practical control has been with baits containing metaldehyde, which is an attractant and a poison.

Following pilot trials, two forms of bait have been selected which are cheap and effective.

1. A cardboard ring coated with a Flintkote/Metaldehyde mixture.
2. Blocks made from cement, sawdust and metaldehyde.

Pilot trials show that the cardboard rings :—

Give complete protection for two to three months before the rings start to break down. Until breakdown occurs, snails have to pass over the rings to get at the seedlings.

The period of effectiveness reduces the snail population to such an extent that seedlings are safe for a considerable time afterwards.

Cement blocks also give good protection and last longer—for up to 12 months. However, our experience indicates that the cardboard rings are preferable.

Manufacture of Baits.

1. *Cardboard Rings.*—

(*a*) Proportions of materials used are :—

Metaldehyde	1 pound.
Flintkote	2 pints.
Dilute Teepol (.05 per cent.)	1 pint.
Water to make	1 gallon.

These amounts will make about 100 baits.

The cardboard rings are made from 0.2 in. plain chipboard strips, 3 ft. 6 in. long by 3 in. wide. This material can be purchased from Australian suppliers in ton lots, at 150 reels to the ton. The paper rolls are also handled in smaller lots by agents in New Guinea.

Cardboard rings protecting young cacao.

Plan view of rings showing extent of overlap.

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(*b*) Mixing.—To one pound of metaldehyde powder, add gradually one pint of water, to which has been added about 30 drops of detergent. Mix until metaldehyde is in suspension in the form of a paste.

Add two pints of Flintkote and stir thoroughly until the mixture blends. Top up to one gallon with water and again mix.

(*c*) Coating cardboard strips.—The strips are dipped in the mixture, allowed to drain and hung in the shade to dry. The use of shade while drying is important. When dry, staple the strips into rings with an overlap of about ten inches, to stiffen the rings. During the dipping, periodically stir the mixture as the metaldehyde tends to settle out.

2. *Cement Blocks.*—

(*a*) Proportions of materials are :—

Cement	....	1 part by volume.
Sawdust	....	1 part by volume.
Metaldehyde	....	1 part by volume.

(*b*) Mixing.—Before adding sawdust, sieve to remove the coarser material. A sieve with five meshes to the inch was used at Keravat. Thoroughly mix all dry materials and then add water until a fairly wet mixture is obtained.

(*c*) Drying.—Spread out the mixture on wooden trays to a depth of from a quarter to half an inch and allow to dry in the shade. When dry, the bait is broken up into pieces, each of about a square inch.

This bait can be stored for some time.

Costs.—

The cost to bait holes by either method is about twopence. Costs, which include labour, are based on bulk lots of material, landed at Rabaul.

Recommendations.—

From experience at Keravat, the cardboard rings are preferable. Local planters, who have used about 25,000 rings, have expressed complete satisfaction at the results. However, trials have not been critical enough for us to make a firm recommendation.

Methods of use.—

1. Cardboard rings.—Before planting seed, prepare holes in the usual manner and place a ring over each hole. Plant the seed inside the rings. Periodically, the dead snails must be cleared away.

2. Cement blocks.—After planting seed, place four cement blocks around the hole at a distance of about six inches from the centre of the hole. Periodically, clear away dead snails and move the blocks as they tend to become buried in litter.