



# The Planter

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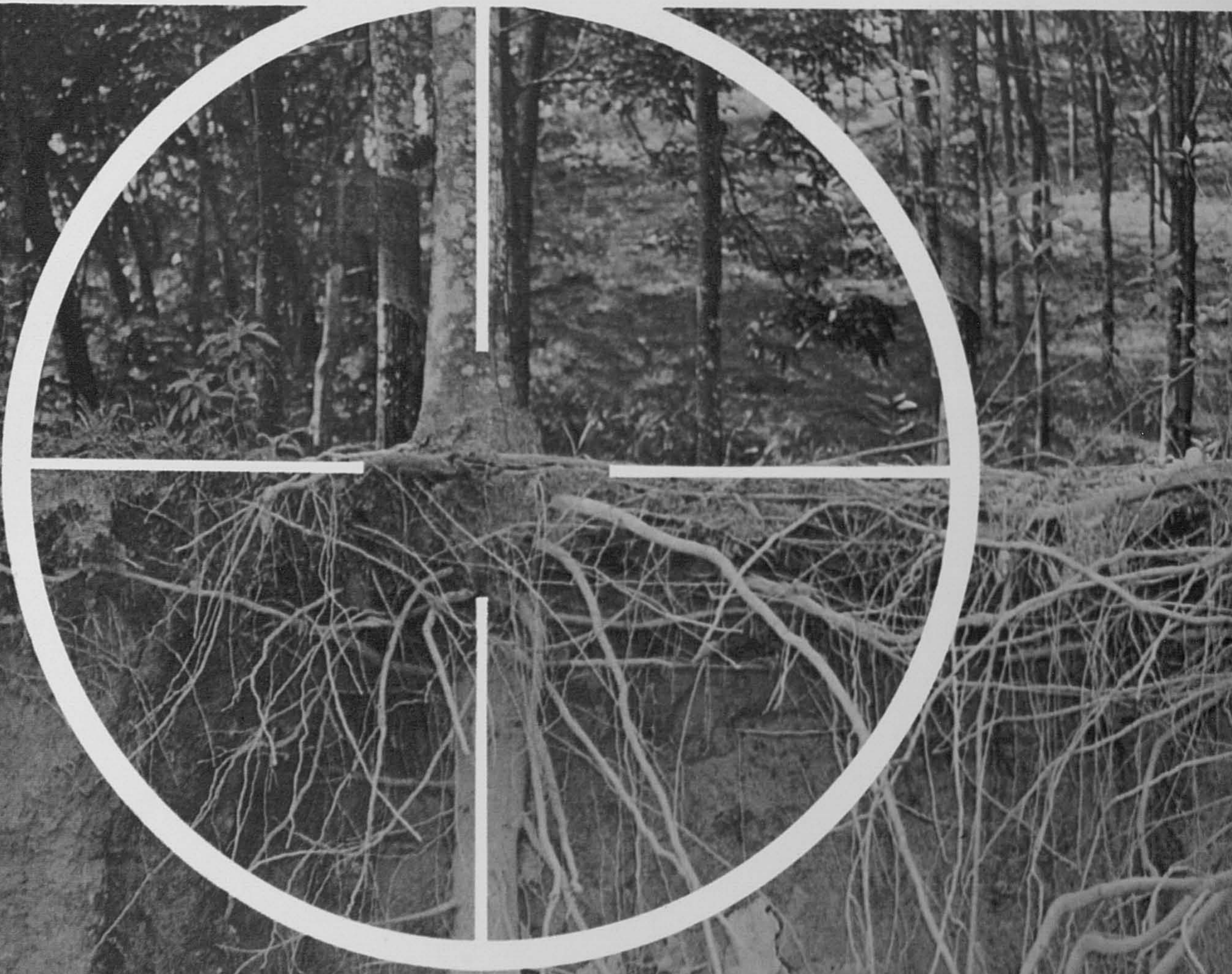
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# The Planter



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## Founded 1919

THE SOCIETY REPRESENTS the Planters of Malaysia and other territories, whose personal and professional interests it is bound to endeavour to secure and promote.

OBJECTS foremost in the Society's Memorandum of Association are:

To promote the general interests of the planting profession.

To promote the advancement and facilitate the acquisition of that knowledge which constitutes the professional qualification of planter.

To watch over, promote and protect the mutual and individual interests of its members in respect of matters pertaining to or arising from their employment in the planting profession.

To promote and maintain good feeling, co-operation and understanding between members and their employers.

ACHIEVEMENTS of the Society are a technical education scheme, the publication of authoritative works on tropical agriculture, a monthly magazine featuring original technical articles, the sponsorship of conferences and symposia on tropical crops, and the organisation of joint consultation with employers.

MEMBERSHIP of the Society is open to: —

A Those directly employed in plantation management such as estate managers, assistant managers, superintendents, supervisors and cadets, and

B Executive engineers, estate medical officers, and qualified scientific or administrative staff of estates or organisations mainly concerned with the planting industry.

Category B may include those employed in such other senior executive, administrative, professional or advisory capacities as may be deemed by the Executive Council as being equivalent thereto

Neither category shall include clerks, conductors, hospital assistants, etc.

ENTRANCE FEE for new and rejoining members is \$10/- and must accompany application.

ANNUAL SUBSCRIPTION RATES are as follows: —

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## NOTE

*The Planter assumes no responsibility for the statements and opinions expressed by contributors.*

*Editorial:*

## **An important newcomer**

We welcome the founding of the Malaysian Agricultural Chemical Association as a sensible move. The principal objective of the Association, whose members comprise the majority of important agricultural companies operating in Malaysia, is "to promote, foster and advance in a manner consistent with the public interest, the progress and development of the industries which manufacture, produce, process and/or distribute agricultural chemicals of all kinds". Co-operation with State and Federal authorities is provided for, and the Association's members will receive regular information regarding government legislation, reports of scientific committees—such as those of the Standards Institution of Malaysia—and of commercial and technical developments in a wide range of products. The latter will include any substance or mixture intended to control insects, fungi, rodents, nematodes or weeds. Plant regulators, defoliant, dessicants and, naturally, fertilisers also come within the scope of the Association.

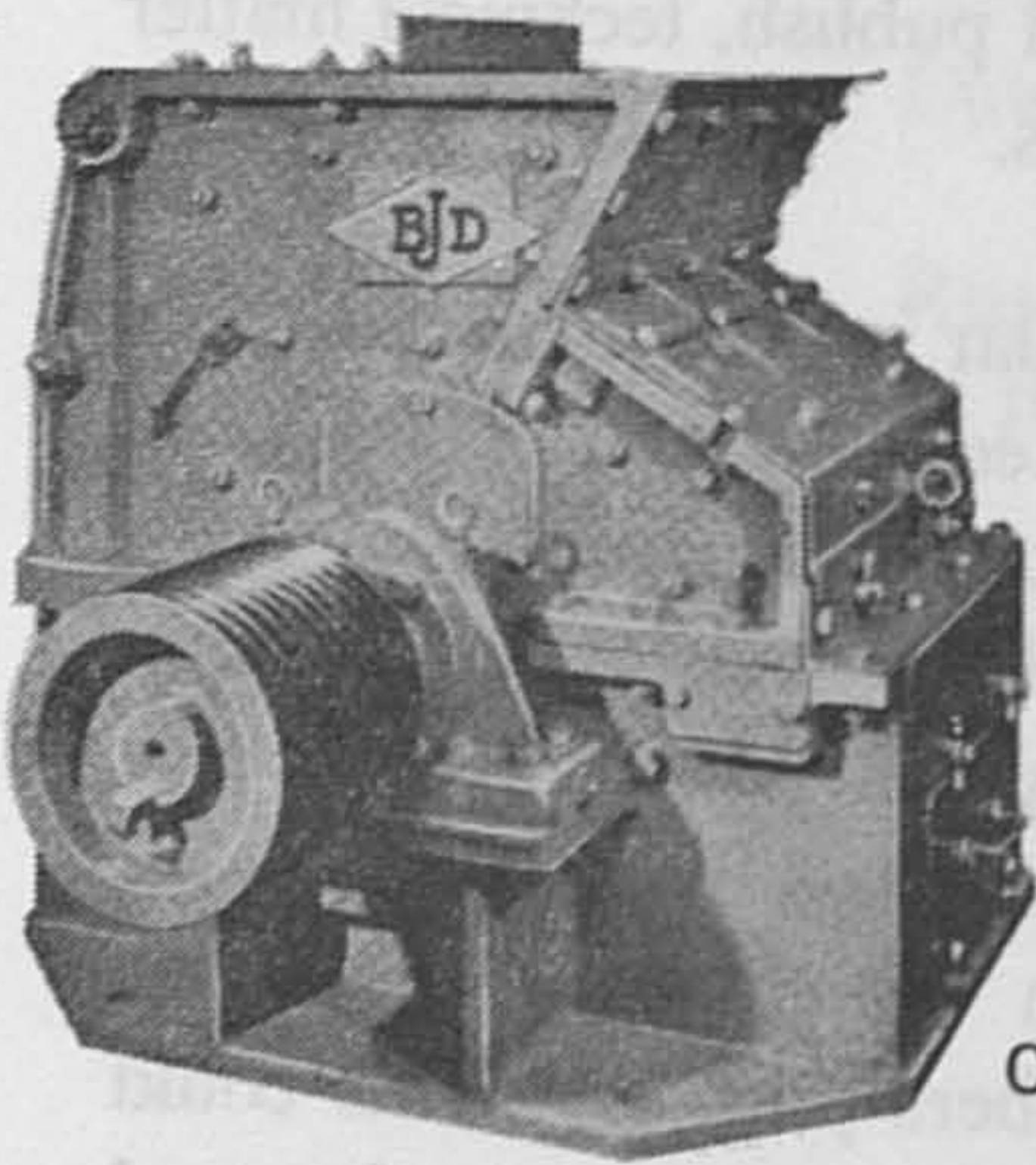
MACA, as the Association will doubtless become known, has plans to conduct industry meetings and conventions, and to acquire, edit and publish, technical matter relating to primary industry and of interest to its members.

The Department of Agriculture recently issued a circular inviting manufacturers and importers voluntarily to register pesticides being tested by them. There is at present no legislation obliging the industry to divulge such information, and some MACA members who were engaged on evaluating new and relatively unknown compounds risked exposure of trade secrets and trouble with patents were they to reply fully to the questionnaire. The Department is worried about possible health hazards where products of high mammalian toxicity are used in experimental quantities, particularly on edible crops. As a letter to MACA members puts it: "This could present hazards to the operators, and where experiments are undertaken on farmers' land, such as on vegetables in the Cameron Highlands, a contaminated crop could cause havoc throughout the country"

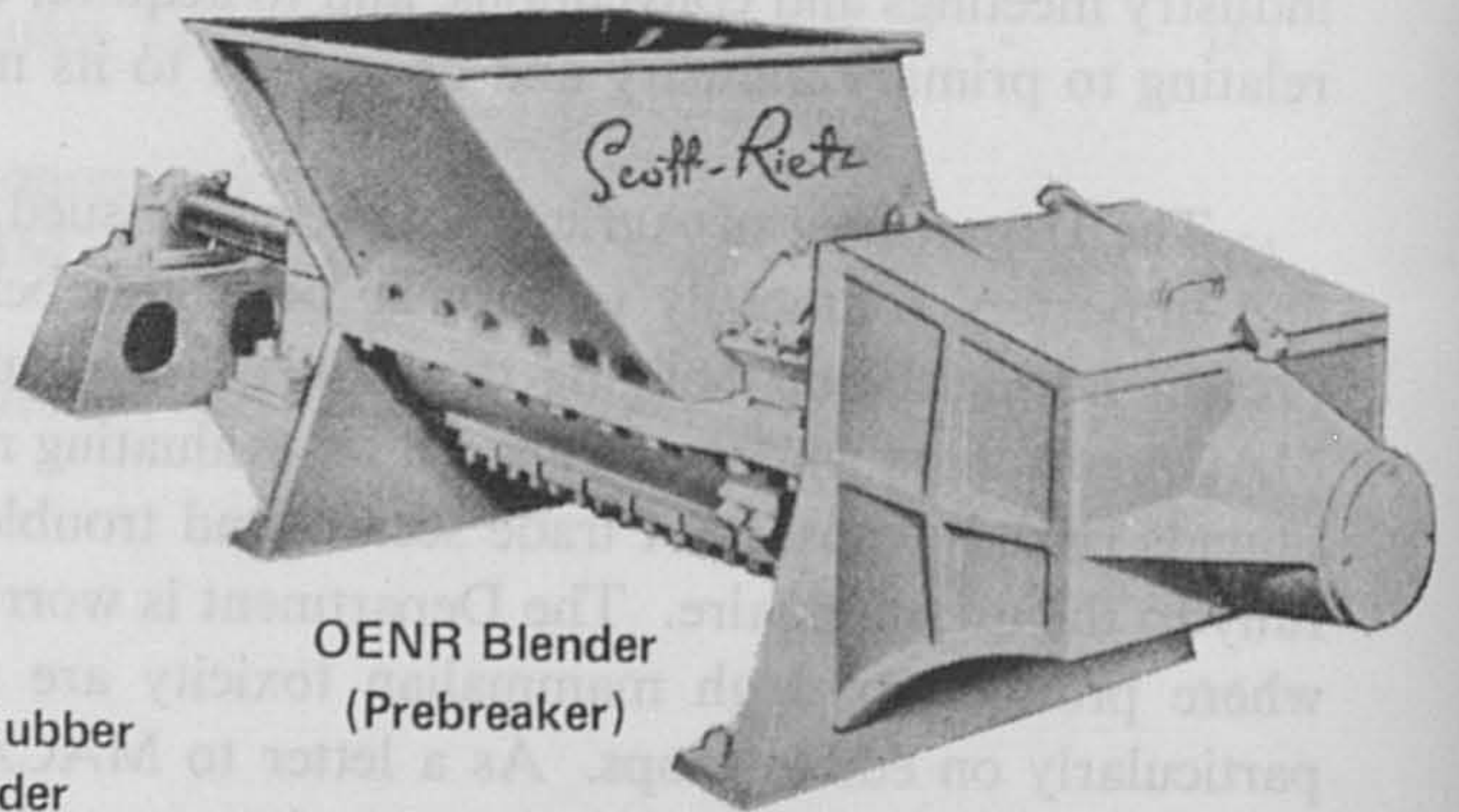
Following a meeting between the Deputy Director General of the Department of Agriculture and representatives of MACA a safe and workable compromise has now been agreed, compliance with which the Association has recommended to its members. The successful outcome of these representations to the Department of Agriculture augurs well for the Association's future and its performing a most useful function.



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A few days ago the Association invited representatives of both the public and private sectors, and the I.S.P., to a discussion concerning future representations to the Treasury on the removal of this tax.

The Society applauds the enterprise of those who have inaugurated the Malaysian Agricultural Chemicals Association, fully supports its objectives, and wishes it success.

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## 1972 ISP Oil Palm Conference

16-18 November

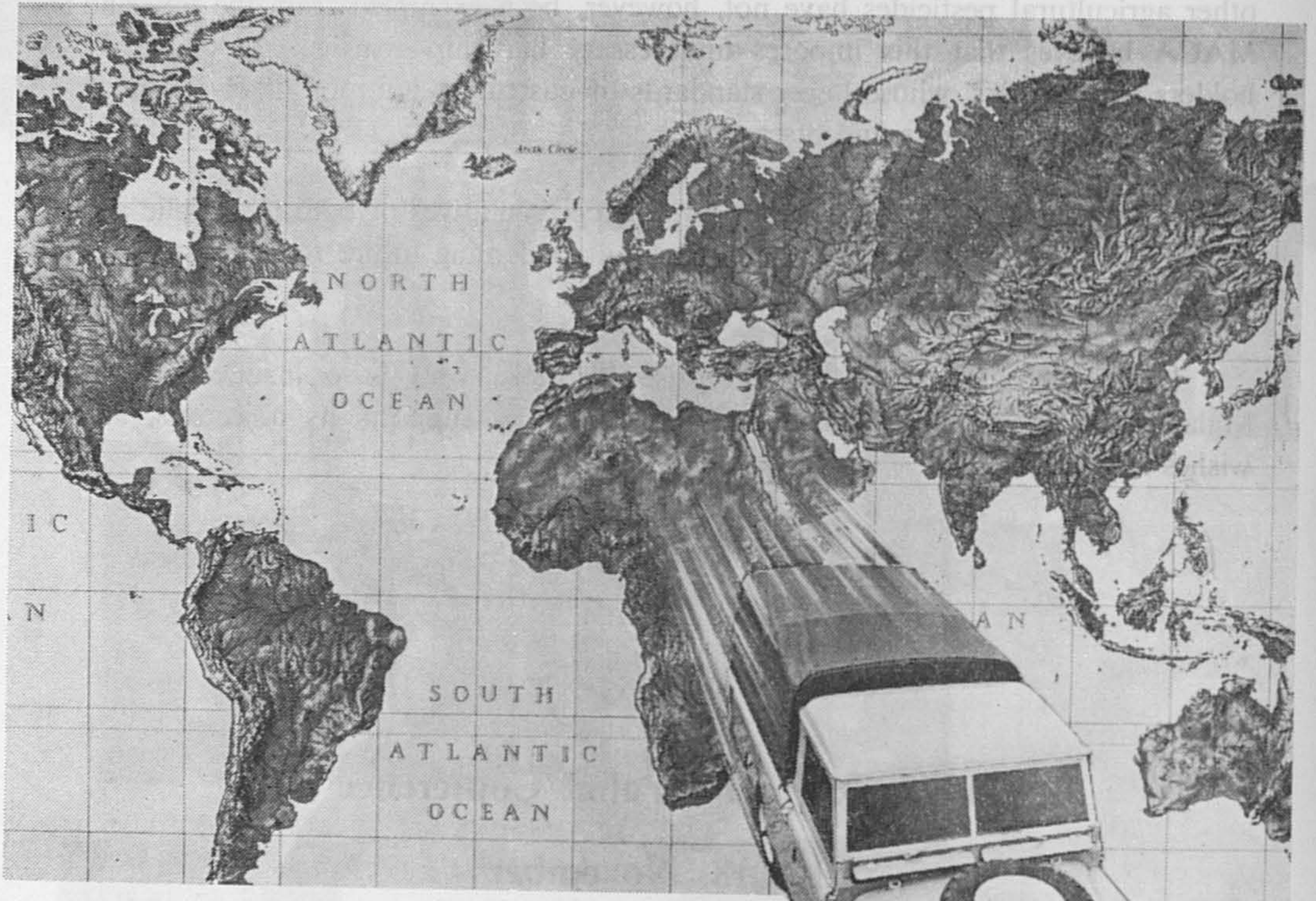
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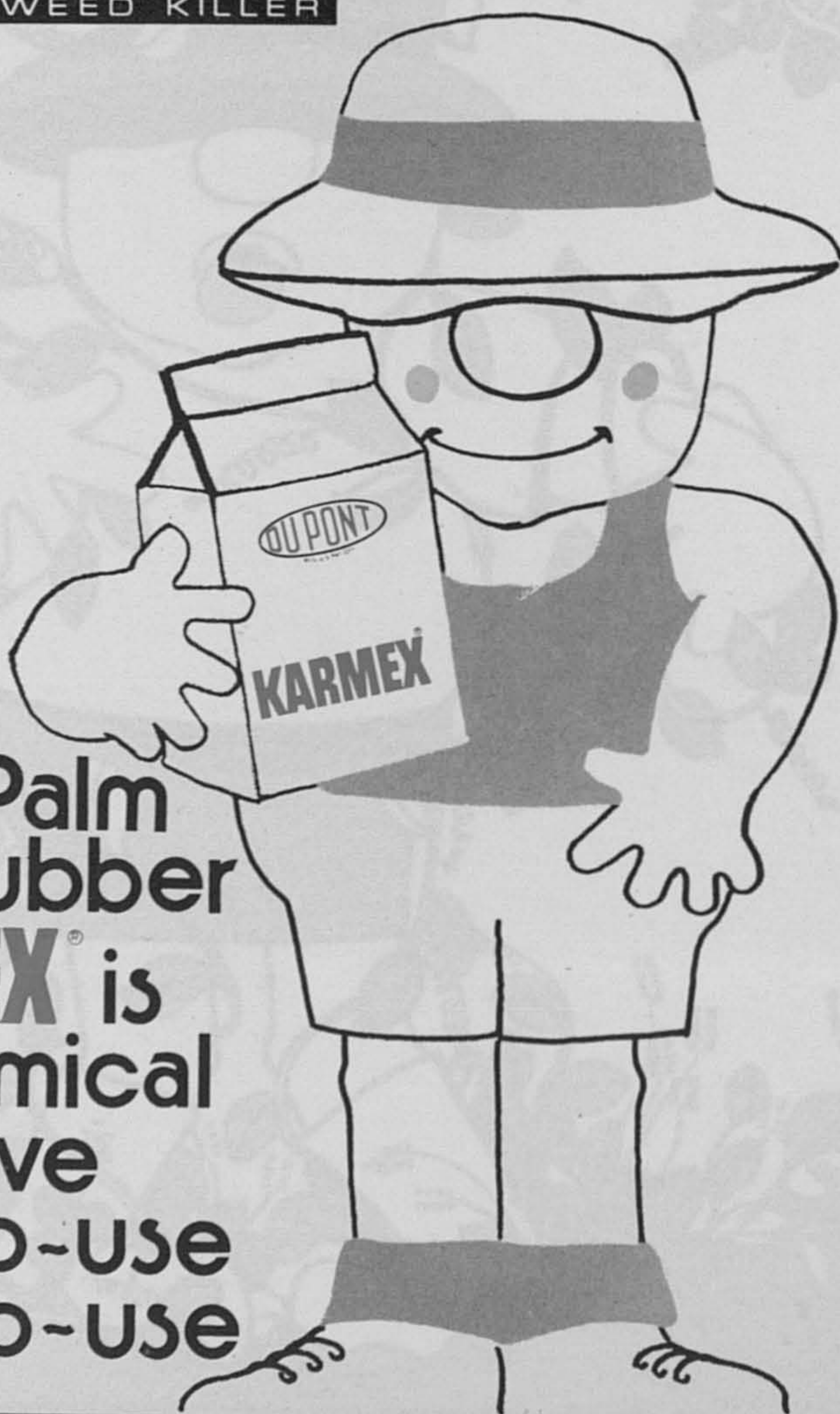


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GUTHRIE WAUGH

# Chemical control of *Cercospora* leafspot of groundnut

K. H. CHEE\*

## SUMMARY

Foliar applications of Benlate, Cercobin-M, Polyram Ultra, Daconil or Difolatan controlled leafspot of groundnut caused by *Cercospora personata*. When applied as 0.20 kg benomyl (Benlate), 0.28 kg thiophanate methyl (Cercobin-M) or 0.48 kg thiram (Polyram Ultra) in 300 litres of water per hectare, yield increases of 51%, 42% and 40% respectively were obtained. The insecticide Sevin (2.55 kg carbaryl in 300 litres of water) was included in all treatments and contributed to the increase in yield.

## INTRODUCTION

Leafspot of groundnut (*Arachis hypogaea* L.) caused by *Cercospora personata* (Berk & Curt.) Ell. & Ev., and possibly also by *C. arachidicola* Hori, is the most common and perhaps also the most important limiting factor in the production of groundnuts in the tropics. Severe defoliation as a result of heavy infection greatly reduces the photosynthetic ability of the leaves and thus curtails the yield potential of the plants. Substantial increases in yield from controlling the disease with benomyl (Benlate) have been demonstrated in the United States (Porter, 1970) and Thailand (Chalermchai & Brown, 1971). In Malaysia, heavy attacks of leafspot do not normally occur until the plants begin to flower; the depressant effect on yield may therefore be slight. Thus Sharom (1971) reported that Benlate and other fungicides reduced the intensity of leaf spotting but gave no significant improvement in yield. This paper presents data from field experiments in Selangor to show that increased yields can be obtained by controlling *Cercospora* leafspot with fungicides.

## MATERIALS AND METHODS

Experiments were carried out at the R.R.I. Experiment Station at Sungei Buloh, Selangor, on a Sungei Buloh series soil. Planting commenced 2-3 weeks after liming with magnesium limestone at 1 270 kg/hectare. Sulphate of ammonia (78 kg (16 kg N)/hectare), double superphosphate (168 kg (77 kg P<sub>2</sub>O<sub>5</sub>)/hectare), muriate of potash (56 kg (34 kg K<sub>2</sub>O)/hectare) and kieserite (22 kg (6 kg MgO)/hectare), were broadcast as a basal dressing before planting. A top-dressing of sulphate of ammonia (78 kg (16 kg N)/hectare) and muriate of potash (56 kg (34 kg K<sub>2</sub>O)/hectare) was supplied during flowering.

The plots were 8 m × 5.5 m (26 ft × 18 ft) or 6 m × 1.5 m (20 ft × 5 ft), and seeds of the cultivar Menglembu were planted at a distance of 0.3 m × 0.15 m (12 in. × 6 in.). Each treatment was replicated on four to eight plots arranged in a randomised block design. The plots were separated by a path 1 m wide.

---

\* The Rubber Research Institute of Malaya, Kuala Lumpur

The fungicides used were benomyl 50% (Benlate), thiophanate 50% (Cercobin), thiophanate methyl 70% (Cercobin-M), tetrachloroisophthalonitrile 75% (Daconil) and thiram 80% (Polyram Ultra). They were applied with a pneumatic hand sprayer at a rate of 300 litres of spray per hectare. The dilutions used are indicated in Table 1.

Table 1. Effect of fungicides on defoliation and yield of groundnuts affected by *Cercospora leafspot*†

| Treatment and usage rate‡ (%) | Application interval* (days) | Expt 1          |        | Expt 2          |        | Mean yield |      |
|-------------------------------|------------------------------|-----------------|--------|-----------------|--------|------------|------|
|                               |                              | Defoliation (%) | Yield† | Defoliation (%) | Yield† |            |      |
| Benlate                       | 0.1                          | 7               | 0      | 0.87            | 0      | 0.41       | 0.59 |
| Benlate                       | 0.1                          | 14              | 0      | 0.61            | 0      | 0.27       | 0.41 |
| Cercobin-M                    | 0.1                          | 7               | 0      | 0.89            | —      | 0.34       | 0.56 |
| Cercobin                      | 0.1                          | 7               | 32     | 0.58            | —      | 0.37       | 0.45 |
| Polyram Ultra                 | 0.2                          | 7               | 22     | 0.84            | 64     | 0.36       | 0.55 |
| Polyram Ultra                 | 0.2                          | 14              | 72     | 0.54            | 74     | 0.24       | 0.36 |
| Daconil                       | 0.2                          | 7               | 0      | 0.70            | 13     | 0.36       | 0.49 |
| Daconil                       | 0.2                          | 14              | 53     | 0.83            | 59     | 0.25       | 0.81 |
| Difolatan                     | 0.2                          | 7               | 37     | 0.64            | 48     | 0.36       | 0.48 |
| Difolatan                     | 0.2                          | 14              | 44     | 0.67            | 68     | 0.33       | 0.47 |
| Sevin check                   | 0.1                          | 7               | 70     | 0.76            | —      | 0.29       | 0.48 |
| Untreated control             | —                            | —               | 53     | 0.64            | 67     | 0.23       | 0.39 |
| Mean                          |                              |                 |        | 0.71            |        | 0.32       | 0.48 |
| s.e.                          |                              |                 |        | 0.07            |        | 0.05       | 0.04 |
| L.S.D. (5%)                   |                              |                 |        | 0.18            |        | 0.16       | 0.12 |

\* 7 days = 7 applications; 14 days = 4 applications

† Dry weight of shelled nuts (kg/100 plants)

‡ Applied in 300 litres of water per ha.

The fungicides were applied at intervals of 7, 10 and 14 days, beginning at the time of flowering. In addition, carbaryl (Sevin 85 @ 3 kg/ha) was used for insect control in all the fungicide treatments. The plants were harvested after 94 days.

Ten plants were taken at random from each plot the day before harvesting and the following measurements made: plant height; number of branches; number of leaves infected with *Cercospora leafspot*; number of leafspots per leaf (based on 100 four-leaflet leaves); percentage defoliation (calculated by dividing the number of leaves (both diseased and healthy) by the highest number of leaves given by any treatment); fresh weight of pods in each plot; dry weight of nuts calculated from 1.4 kg or 1.8 kg of fresh pods per plot.

## RESULTS AND DISCUSSION

There was little difference between treatments in plant height and in number of branches, with the exception that plants in the plot treated at 7-day intervals with Daconil had an average height of 70 cm, whereas with other treatments the average

height was between 55 and 60 cm. All plants had an average of five whorls of branches.

The average number of diseased leaves and the average number of leafspots on a leaf varied considerably. Treatments with Benlate and Daconil (7-day-spray intervals) in general produced fewer diseased leaves per plant (averaging seven diseased leaves compared with twenty-eight on the untreated control). There were also fewer spots per leaflet (four spots compared with twenty-nine) in these two treatments as well as in the treatment with Cercobin-M. Since the average number of diseased leaves per plant did not reflect the number of spots per leaf nor the average size of the spots, these two criteria are considered to be unsuitable for assessing the degree of disease control obtained, which is more accurately indicated by the percentage defoliation. *Figure 1* shows the differences in foliage appearance between the Cercobin-M treatment and the untreated control.

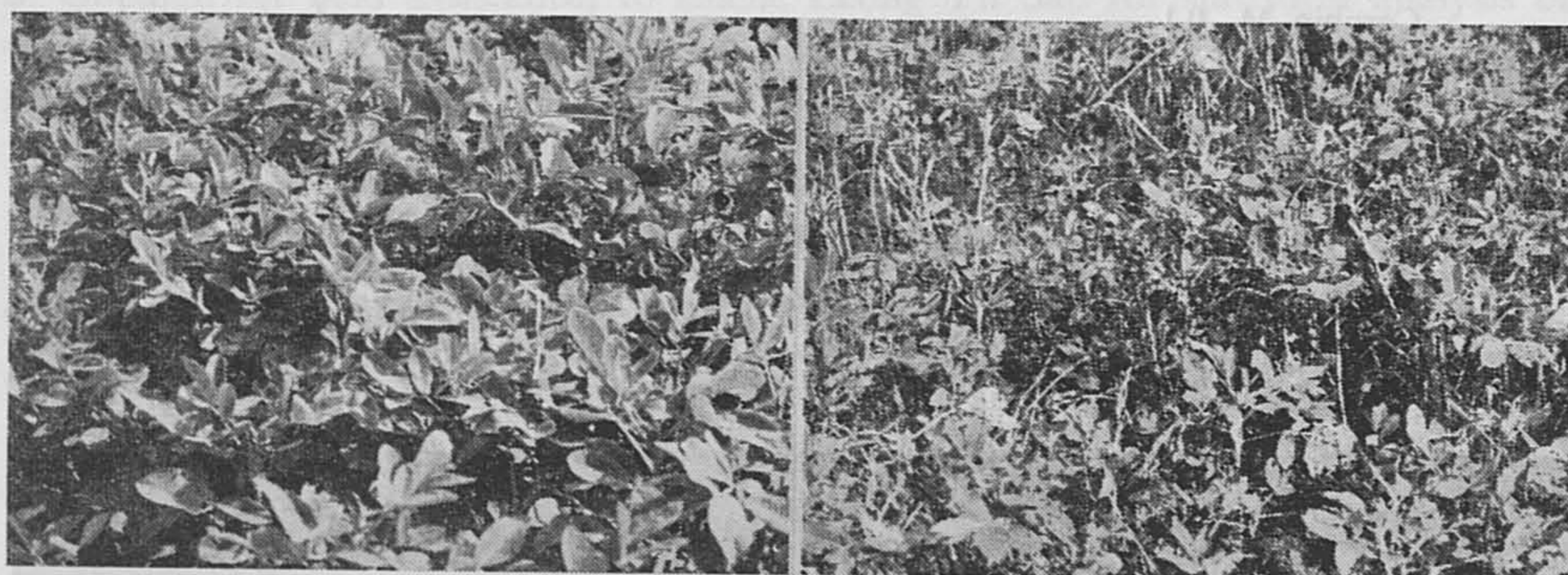


FIG. 1. *Cercospora* leafspot of groundnut. The plants on the left received four applications of Cercobin-M at 10-day intervals. An untreated control plot is shown on the right.

In order to calculate the approximate fresh weight of the unshelled nuts, the dry weight of the nuts was multiplied by 3.6 (Expt 1) or 1.6 (Expt 2). The total yield of nuts per plot is expressed as the dry weight from 100 plants (*Table 1*). This is done since in Expt 1 the number of plants per plot ranged from 650 to 1 000, with an average of 800, and in Expt 2 from 110 to 180 with an average of 150. Damage caused by diseases and pests at the early stage of planting account for the low number of plants in certain plots. In Expt 3 the variation in the number of plants among plots was small.

From the mean yields from Expt 1 and 2 (*Table 1*), it can be seen that with the exception of Polyram Ultra applied at 14-day spray intervals, which yielded slightly less than the untreated control, all fungicide-treated plots yielded more than the untreated control and the treatment with carbaryl alone. The best control (with an increase in yield of 51%) was obtained with Benlate, a fungicide which has residual and systemic effects on groundnut leaves (Porter, 1970). This was followed by Cercobin-M and Polyram Ultra, which respectively yielded 42% and 40% more than the untreated control. These levels of yield increases are partly attributable to the insecticide carbaryl, which by itself increased yield by 23%. Though an

assessment of insect attacks was not made, the extra yield due to carbaryl may be attributed to control of the Noctuid caterpillar *Etiella zinkenella*, a destructive pest of developing pods. The yield increase from the plots in Expt 3 which were treated with Cercobin-M plus carbaryl was 67% more than the untreated control plot (Table 2). Figure 2 shows the differences in yield of fresh pods between treated and untreated plants. Daconil and Difolatan are also efficient for overall leafspot control and contribute to yield increases (Table 1).

Table 2. Effect of Cercobin-M on yield of groundnut affected by *Cercospora* leafspot (Expt 3)

| Treatment* and usage rate ‡ (%) | Fresh weight of unshelled nuts (kg/44 sq. m) | Dry weight of shelled nuts (kg/44 sq. m) | Extrapolated yield of dry shelled nuts (kg/hectare) |
|---------------------------------|--|--|---|
| Cerobin-M 0.1<br>+<br>Sevin 0.1 | 22.57  | 14.81                                    | 3 405   |
| Untreated control               | 13.48  | 8.85                                     | 2 035   |

\* Six applications at 10-day intervals

‡ Applied in 300 litres of water per ha.



FIG. 2. Differences in foliage and yield between treatments. From left to right: Benlate (fortnightly), Difolatan (weekly), Difolatan (fortnightly), Daconil (weekly), Daconil (fortnightly), control.

The low dry weight of shelled nuts in Expt 1 is due to harvesting before the seeds were fully mature. Differences in sites and time of planting account for the low yields in Expt 2.

It appears that a fungicide which effectively controls *Cercospora* leafspot can delay maturity by several days. It is likely that higher yields could be obtained by delaying the harvest in this manner, thus allowing more nuts to reach maturity.

It was observed in one site at the R.R.I. Experiment Station that because of poor soil groundnuts always grew poorly, gave low yields, and did not respond to fungicidal treatment as far as yield was concerned. This observation, together with the fact that no insecticide was used, may explain why in the trial carried out by Sharom (1971) there was no yield response to fungicidal treatments.

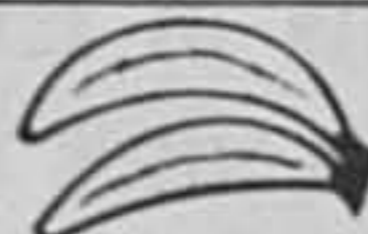


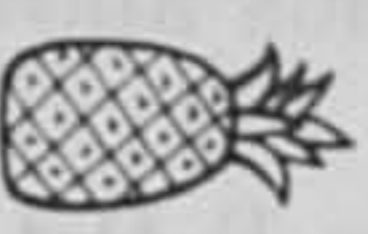


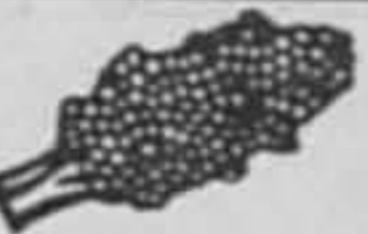

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|  Coffee lbs/acre (1784)        | 27       | 4         | 43     | 61  | 16      |
|  Oil Palm lbs/acre (13382)     | 80       | 18        | 120    | 18  | *       |
|  Pineapple plants/acre (15000) | 134      | 170       | 535    | 53  | *       |
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|  Tobacco lbs/acre (2000)       | 75       | 15        | 120    | 18  | 14      |
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\*No information

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# The conflict between conservation and exploitation in developing countries<sup>†</sup>

P. R. WYCHERLEY\*

Malaysia is an example of many developing countries which have gained independence and embarked upon democratic government in comparatively recent years. The population continues to grow. Campaigns for planned parenthood have perhaps reduced the rate of increase, but they have not arrested it. Therefore more food, schooling, houses and jobs are needed to meet this growth as well as raising the standard of living, which has often been low in underdeveloped countries. These human needs are pressing enough and governments all over the world strive to meet them, but they are intensified in the developing countries. The governments concerned wish to show that they can do more for their people than previous colonial administrations or their current political rivals.

## *Environmental pressures*

New towns, hospitals, schools, universities, factories, roads, docks and airports are being built. Forests are being cleared and plantations established to settle more people on the land. All these developments require capital. Plantations do not yield any palm oil or rubber for several years and it is even longer before they have amortised their capital cost. This is true in varying degrees of industrial development and investment in education. Therefore the government embarking on a programme of development needs money much in excess of normal revenue. Some of this can be obtained through foreign investment, but overseas capital is not always available or sometimes only at a high rate of interest, and in any case many newly independent countries do not wish to be unduly dependent financially on others. The approval by the international bodies concerned of the projects for which loans are requested may be regarded as an infringement of sovereignty. Therefore much of the capital for development must come as far as possible by the rapid exploitation of the country's own natural resources.

The standing crop of timber in virgin forest does not alter much over long periods. As some trees grow, others die and decay. If the timber is logged, a new crop can be grown in 70 years by appropriate management of the natural regeneration. If the timber is felled from one seventieth of all the reserved forest each year, a 70-year rotation of the whole will be developed, so establishing a permanent forest estate in the country steadily supplying timber and providing work in perpetuity. The disadvantage for a government hungry for money to invest immediately in development is that the capital locked up in existing virgin forest will become available but only spread over 70 years.

\* Director, King's Park and Botanic Garden, Perth, Western Australia.

<sup>†</sup> This article is based on an interview given by Dr P R Wycherley FISP before he left Malaysia in August 1971 and was prepared for the World Wildlife Fund in October 1971.

Thus there are very strong political pressures to realise all the capital in the timber of virgin forests now, and at the same time to provide the maximum employment for loggers and sawmillers during this period of accelerated felling. The famine of timber in later years will be someone else's problem, to be solved perhaps by pulp and plastic substitutes. Then there will also be a shortage of work for the loggers and sawmillers, only a few of whom can be absorbed in tending the regenerating forest. Most must be found work in industry or in plantations established on at least part of the logged forest, which involves destruction of the forest habitat. Even if all the logged forest is not cleared and planted with other crops, such extensive operations have drastic effects on the conservation of wildlife and natural resources.

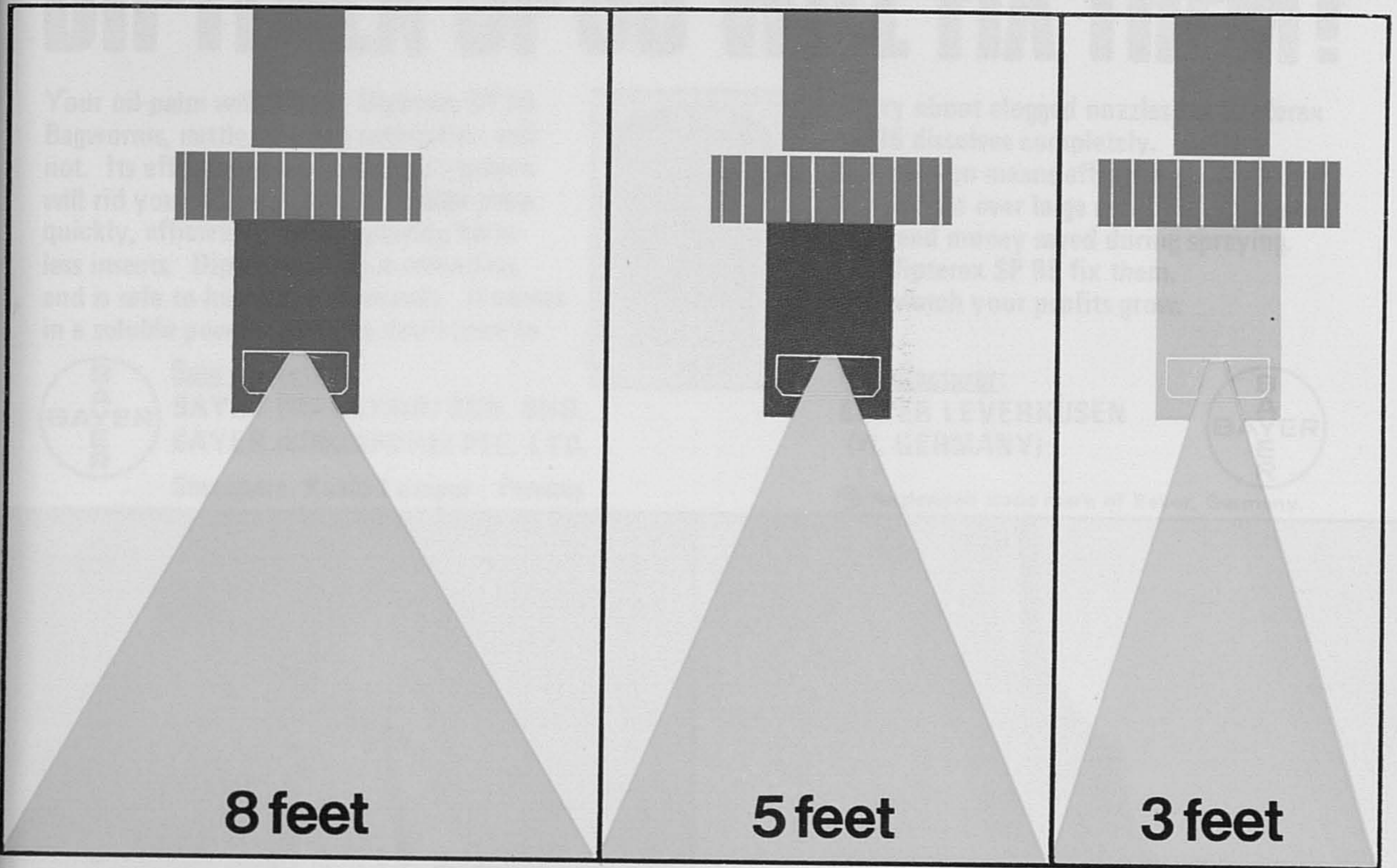
One of the reasons for the richness of the wildlife in tropical rain forest is that it consists of a mosaic of small parts at different stages: some mature, some where trees have fallen and new regeneration is beginning, and some showing all stages in between. The forest in the mature phase is stratified with a sparse herb and shrub layer, two storeys of trees plus some emergent trees. In the gaps caused by the loss of old trees, the ground flora is a dense thicket. Lianas are particularly evident during the intermediate stages. There are a multitude of micro-habitats distributed in time and space throughout the forest.

When the timber trees are felled and the 'weed species' are poisoned, this complex structure is destroyed. In particular the canopy habitat is gone, although conditions for herbivores browsing at ground level are temporarily improved. If a 70-year rotation is practised this too presents a mosaic of forest at different stages, even if the units are larger than in nature. But if vast areas are felled at once, even if the land is not cleared but regeneration is allowed, the canopy-dwellers are denied their habitat. The browsers and the larger predators upon them do well for a while until their habitat is shaded out. Thus, making large areas of forest much more uniform in age and structure impoverishes the variety of wildlife.

#### *Effects of interference*

It is often said with some justification that the rate of run-off of water and erosion of top-soil from logged areas is little higher than from undisturbed forest, and that the corresponding decrease in stream flow during dry spells is also little altered by logging. However, the scale of operations must be taken into account. When only one compartment in each reserve (or one seventieth) is logged each year, these small differences in run-off, erosion and stream-flow are hardly noticeable. But when the whole area is logged at once over an entire catchment the results can be dramatic and even disastrous. Large amounts of silt are deposited in the rivers, which with the accelerated run-off during storms leads to flooding, whereas the lower reaches where most urban, industrial and agricultural development occurs, may suffer drought during dry spells. Floods in recent years have caused loss of human life and of livestock and damage to private property and public works, especially in those parts of Malaysia where development has been most rapid.

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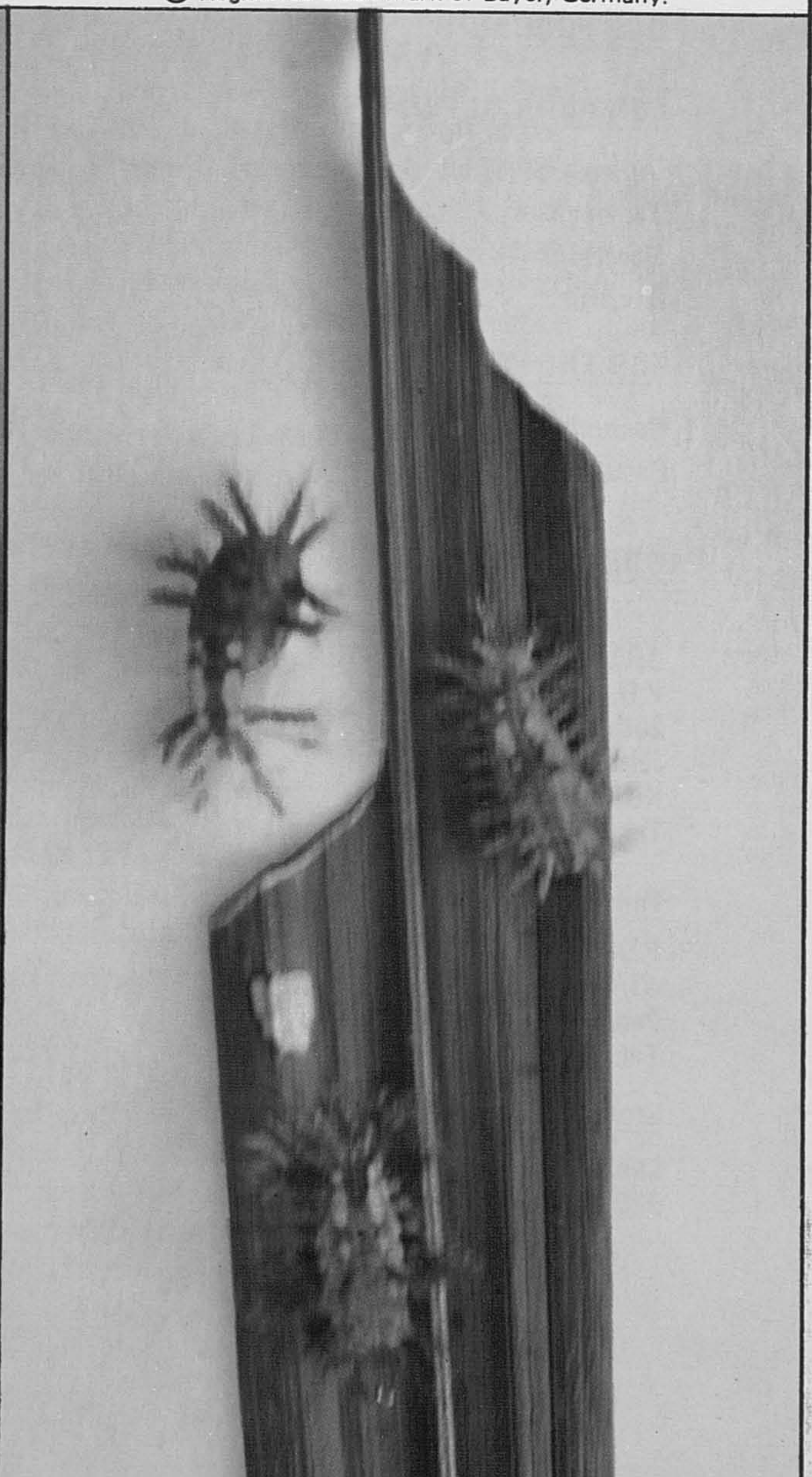
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Agricultural settlement is not the only way in which the forest is destroyed. Nearly all mining in Malaysia is open-cast. Tin is mined by hydraulic open-cast mining or dredging, in which not only is the forest or any other vegetation destroyed, but the soil is washed, its nutrients leached away and its structure destroyed. Tin-tailings remain barren for generations. This devastation of part of the nation's capital, the land itself and often the better alluvial soil at that, is accepted as a means of raising revenue quickly. At such cost it would seem wise to see if anything else can be conserved by co-ordinated planning of the operation of a whole.

It is often said that there are no other sources of limestone in West Malaysia except the hills, which are increasingly rare southward, and indeed are almost absent from the southern half of the country. This is not so, for extensive reserves of subterranean limestone are exposed by tin-mining. Already these have been used on a limited scale to provide calcite for cement and lime kilns and marble for building. Dolomite could be used as a fertiliser. Tin mines are not used extensively for such purposes because tin-ore is very valuable and few tin-miners will allow quarrying on their leases until the opportunity to do this cheaply in a co-ordinated manner is past. The cheapest way to get limestone now is by blasting the limestone hills and thereby destroying characteristic features of the landscape and wildlife of unique interest—including that of caves. Eventually if all the hills are quarried away the subterranean limestone will have to be used, when the new disturbance may be more expensive and unsightly than the current tin-mining, which is already destructive enough.

Undisturbed forest on raised beach over podsol is a rare community in Malaysia. Exploiters want to remove the silica sand by draglines because this land has not yet been alienated for any other purpose, whereas other sources are in land cleared for settlement and then often abandoned owing to the poverty of the soil. If these were used to meet requirements for silica sand the last examples of the raised beach vegetation could be saved. However, not only is there pressure to raise as much revenue as possible, but the legal complications of ownership and the titles of the leases specifying uses other than mining (although unsuitable for agriculture) prevent the preferential extraction of silica sand from the abandoned settlements.

This is not the only example of legal impediments to the co-ordination of development and conservation. A far more common situation is where it is simpler to alienate and clear more forest than to unravel the ownership, requisition and rehabilitate land which has been neglected, abandoned and allowed to run to waste, often constituting a fire hazard.

#### *Use of international aid*

The aspects of international aid in this rivalry between exploitation and conservation in development are weighted against the latter. The assistance in personnel and funds made available to developing countries by agencies of the United Nations, Colombo Plan and private foundations is concerned far more with exploitation than with conservation, because the former seems superficially to be a more positive contribution and achievement.

A soil survey can serve conservation by showing which areas are most suitable for different types of land utilisation and so enabling planning of the best multiple uses of the land, integrating development with conservation. However, the results are often interpreted narrowly to show that some project is possible on a given site, rather than that it is the best site for the project or the best use of the site.

Very understandably foreign specialists seconded to advise developing countries tend to plead strongly—sometimes exclusively—for projects which are the subject of their own expertise. Usually such advisers have been brought in because they have specialised in a field poorly represented in the developing country; as a result the background to their expertise may be poorly orientated in relation to all the possibly relevant aspects in the developing country. This is not necessarily balanced by local opinion, because no man is a prophet in his own country, least of all in the face of an expert provided by an international organisation (which is often not the same as an international expert).

For example there are no native pine-trees in Malaysia. Some species from other tropical countries have been recommended as fast growing producers of timber for pulping. Since there is little experience of these trees or of plantation-forestry (as distinct from plantation-horticulture) in Malaysia, foreign specialists have been brought in to advise on the large-scale planting of pines. It is difficult for them to know which, if any, combinations of soil and climate in Malaysia are ideal or even suitable for these introduced species or how they compare with alternative crops. Nevertheless personnel and funds are available to try, so try they must. Monocultures of exotics seldom provide as good a habitat for the native wildlife as natural forest, least of all in the tropics which are so rich in species. Some overseas specialists are well aware of these problems and the risks of over-confidence in new ventures. Yet the very terms of their appointment introduce a bias into their approach, which it would be superhuman to overcome. Pine growing is but one example of many possible projects which may prove profitable but could be expensive failures in both development and conservation if embarked upon with unjustified enthusiasm, which is a risk of the foreign adviser.

Hydrologists among the seconded experts are also usually conservationists, at least of soil and water, as are some pedologists, agriculturalists and foresters. But specialists in wildlife conservation as such are very rare indeed among those engaged in international aid and advice. Of the hundreds, indeed now thousands, of advisers and investigators seconded to Malaysia during the 14 years since independence, only five individuals were definitely concerned with wildlife and National Parks—one Colombo Plan specialist, two from the Peace Corps and two sponsored by private foundations. This reflects the lack of corresponding departments in Malaysia, where the Game Department (including the National Park) is the Cinderella of government service with few qualified or trained professional officers.

### *National Parks*

In some developing countries, especially in Africa, the National Parks, wildlife sanctuaries and their staffing are in a much more favourable position than in Malaysia,

because of their value as a tourist attraction. Although rain forest, in which so much of the action is in the canopy, is less easy to develop as a wildlife spectacle than savannah country, there is nevertheless a grand potential. If Malaysia and similar countries wish to establish a tourist industry based on wildlife and wilderness, their governments must invest in National Parks (including marine reserves such as coral reefs) as they would in any other development. This investment may prove even more significant in such aspects of national development as the generation of a love for and pride in their country among their citizens, free from any sectional associations. As industrialisation and urbanisation proceed as part of the development programme, so will be recreational needs of the people require more—not less—wilderness for relaxation.

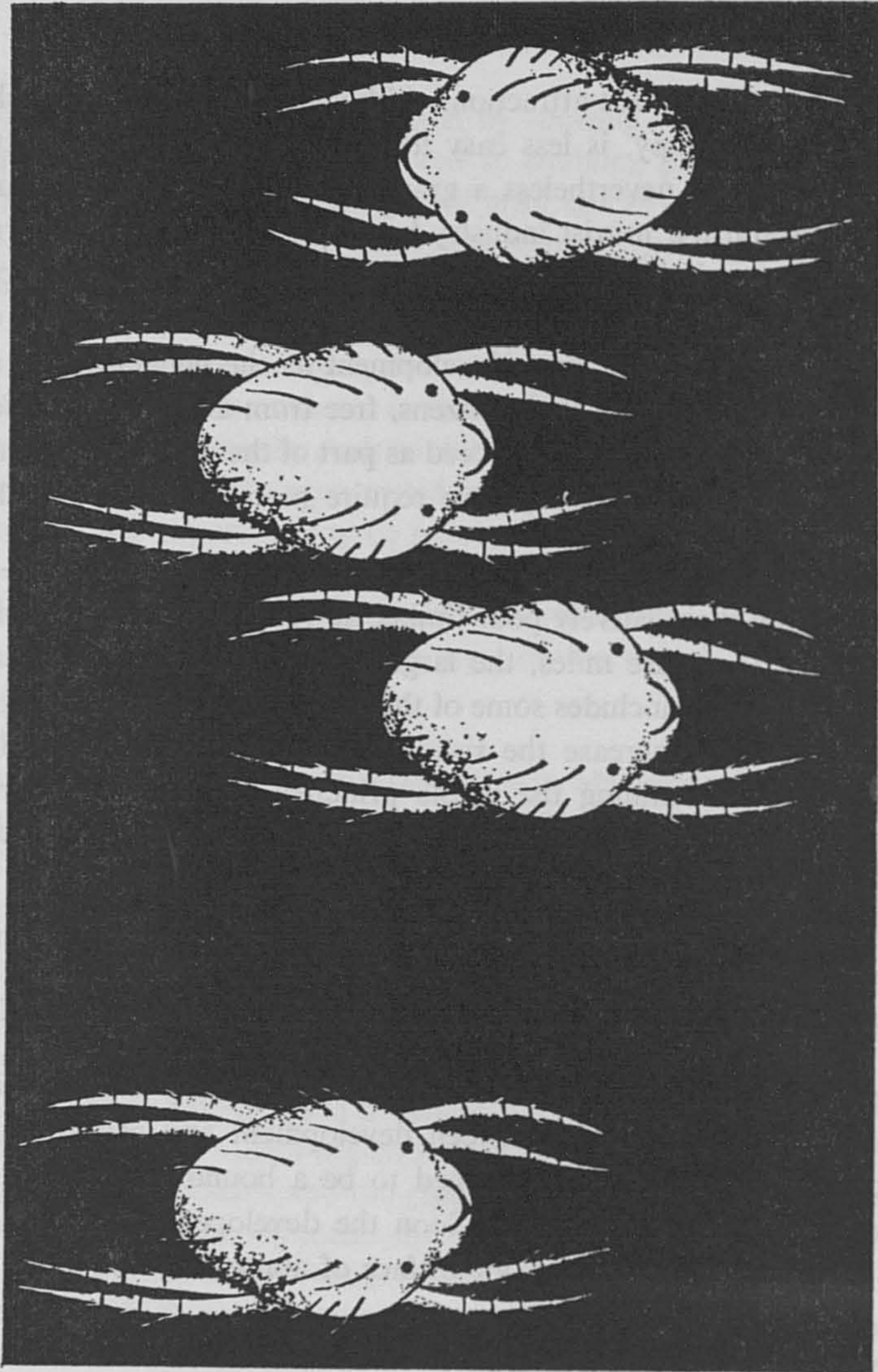
A proposal to log the relatively poor timber in Taman Negara (West Malaysia's National Park of 1 677 square miles, the largest in south-east Asia) threatened the wildlife and, since the Park includes some of the headwaters of the Pahang, Kelantan and Trengganu rivers, to increase the risks of flooding in areas already severely stricken, as well as undermining the whole principle of inviolate reserves. That proposal is being reconsidered and may never be implemented. However, that it was ever seriously suggested shows the intensity of the pressures upon State and Federal governments to exploit all resources now. Likewise, that it is being reconsidered shows that there are those among the politicians, planners and government officials who appreciate that exploitation without conservation is not development.

Worsening floods and growing pollution have given many in Malaysia cause to think again about the relationship between development and conservation. When most of the country was wild, there seemed to be a boundless capacity to absorb any interference with the environment. Soon the developed areas will exceed the wild and the resilience of the countryside in face of abuse may vanish.

### *Political aspects*

It is a crucial question whether it is reasonable to expect politicians seeking re-election for themselves and their parties to resist the pressures to exploit natural resources rapidly and indiscriminately—especially when such exploitation is a means independent of international aid or foreign investment to raise the immediate standard of living, to alleviate hardships and to finance new developments as investments for future prosperity. Often only such international aid as speeds exploitation and presumed independence of further aid is requested or received.

There must be mutual recognition of sincerity of purpose by both parties, namely the politicians, planners and developers on the one hand and those advocating restraint and conservation on the other. Both are concerned for the welfare of humanity, even if they emphasise different aspects and time-scales. There must be a sympathetic understanding of the people's aspiration to a fuller enjoyment of life, the politician's dedication to serve them, and the conservationist's fear that this is at the cost of a deteriorating environment on both the national and global scale.



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The developing countries can learn much from each other and from the developed nations, some of which deserve the new concept of over-development. This experience embraces both successes and mistakes: landscapes laid barren, wildlife saved for future enjoyment, catastrophic floods created, disastrous erosion prevented and quick profits paid for by later generations—and the converse in each case.

Many politicians are already aware of the conflict between conservation and exploitation in the developing countries. They are by no means all either convinced exploiters or conservationists. In seeking policies which integrate development and conservation for both the present and future benefit of their countries, the politicians and the electorate must be informed as fully as possible. Education at all levels through international agencies, the national press and in schools and universities can so mould public opinion that eventually only policies which strike a fair balance will be acceptable. Then the politicians will no longer be on the horns of this particular dilemma. Their present predicament is nonetheless real, and they must be encouraged to examine the question by a sober assessment of how best to save our environment for the enjoyment of future generations.



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## The monthly crop

**The retirement is announced** of Mr K S Lim, Assistant Secretary of the Society for the past 14 years. Mr Lim has served us extremely well and will be missed especially by senior members. Invariably friendly and obliging, he has done more than anyone to achieve the amiable atmosphere of the ISP's "front office". Mr Lim has also proved to be one of the Society's best salesmen, and many a visitor has gone away wearing a slightly dazed expression with more books than he thought he wanted. No new assistant secretary is to be appointed but Mr Moses Daniel has been engaged as bookkeeper and accountant and will assume most of the responsibilities previously borne by Mr Lim. We wish both of them a successful future.

**An advertisement for rat bait** in the April issue of *The Planter* was unwittingly positioned within the confines of an article, by Mr Brian J Wood, on developments in oil palm pest management. *The Planter* regrets any misconception which may have resulted from the location of this advertisement, and wishes to emphasise that the product advertised has no connection whatever with Mr Wood's Company.

**The publicity director** of Malaysia-Singapore Airlines has an awkward shopping list, according to a leading London daily. Mr Felix Teh is after one pangolin, two rhinoceros hornbills and a tapir. When MSA opened its London services last year, they thought it might be appropriate to offer London Zoo some representative of their homebase fauna: what would the Zoo like to have?

The Zoo requested a scaly ant-eater, and failing that, a pair of rhinoceros hornbills. The local authorities however refused to part with either. "They are very rare of course" said Mr Teh "but even if we could find them the only way to get them out would be by smuggling". Now the Zoo at Zurich, through which city MSA is to open a service in August, have asked the airline help them obtain a tapir. Mr Teh was last reported still tapir-hunting but in the meantime he was due to supply seven tons of fireworks for a Festival of London display on the Thames on 1 June, and to fill a street in Zurich with orchids in August.

**A life member** living in a newly restored cottage in Kent uses a distinctly bizarre euphemism when describing the sanitary arrangements. Pointing to what is clearly the lid of a septic tank he says: "And there you have the memory bank". Pressed for an explanation, he replies: "Simple; an effluent never forgets."

**MTUC Secretary General** Mr S J H Zaidi claims that Asian employers are generally anti-labour while their Western counterparts are "comparatively more progressive and more understanding." Speaking at the Malayan Chinese Association labour seminar on 30 April Mr Zaidi said: "Those employers who are apparently interested only in making quick profits and do not mind exploiting labour must not be surprised if one day they are faced with the collective force and might of unhappy workers. I am sure the MCA can do much to bring about a change in their attitude."



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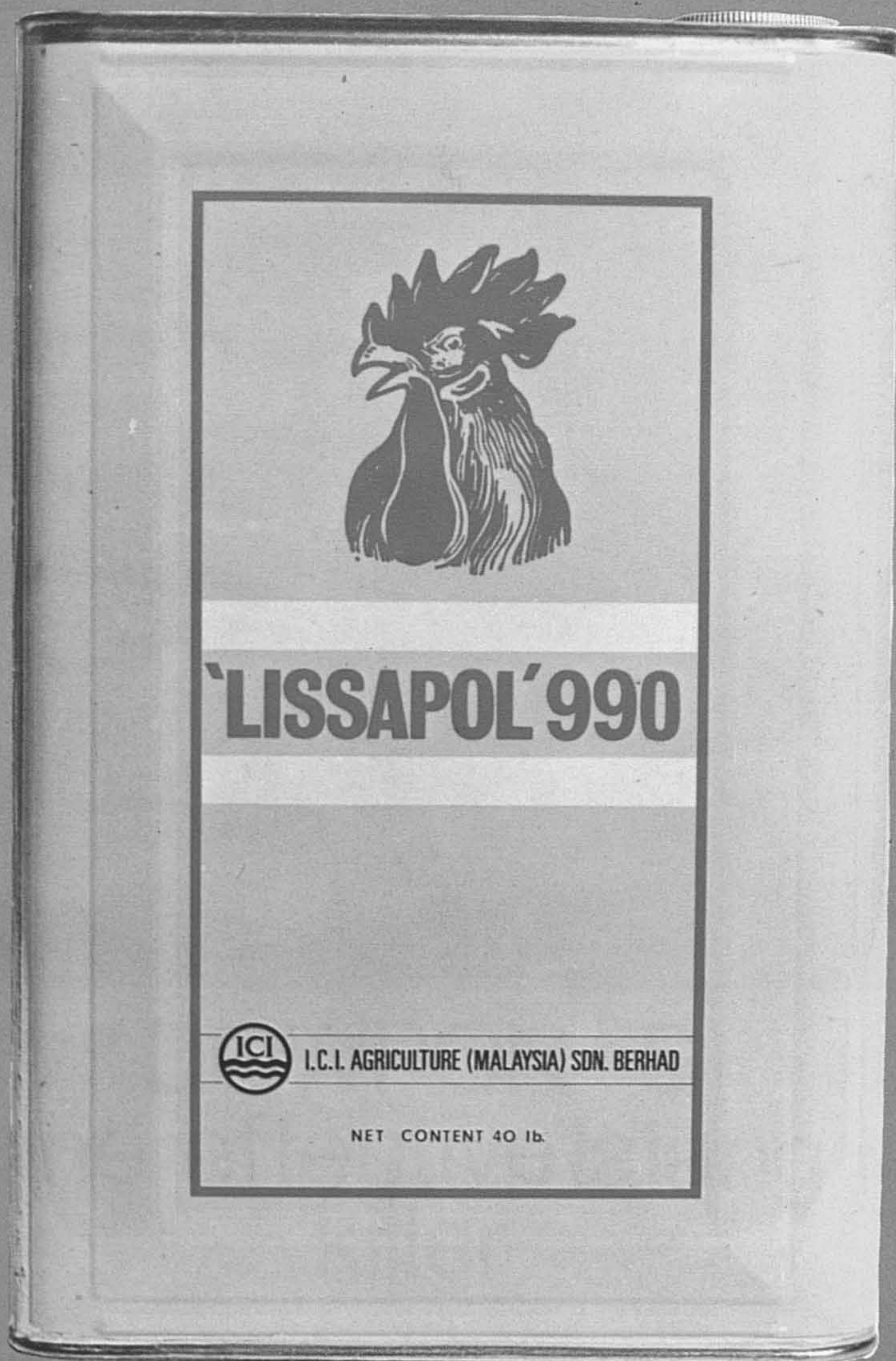
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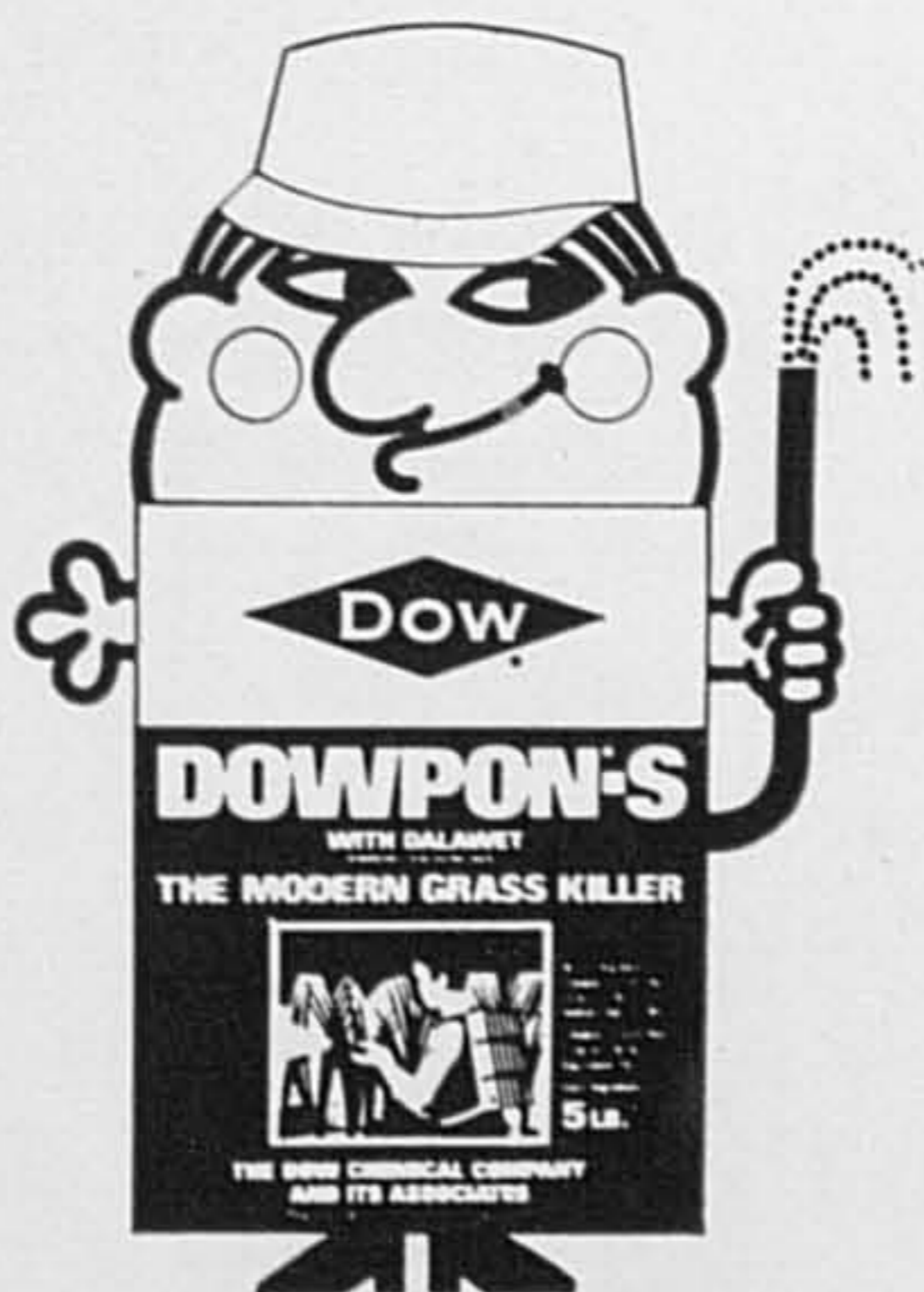






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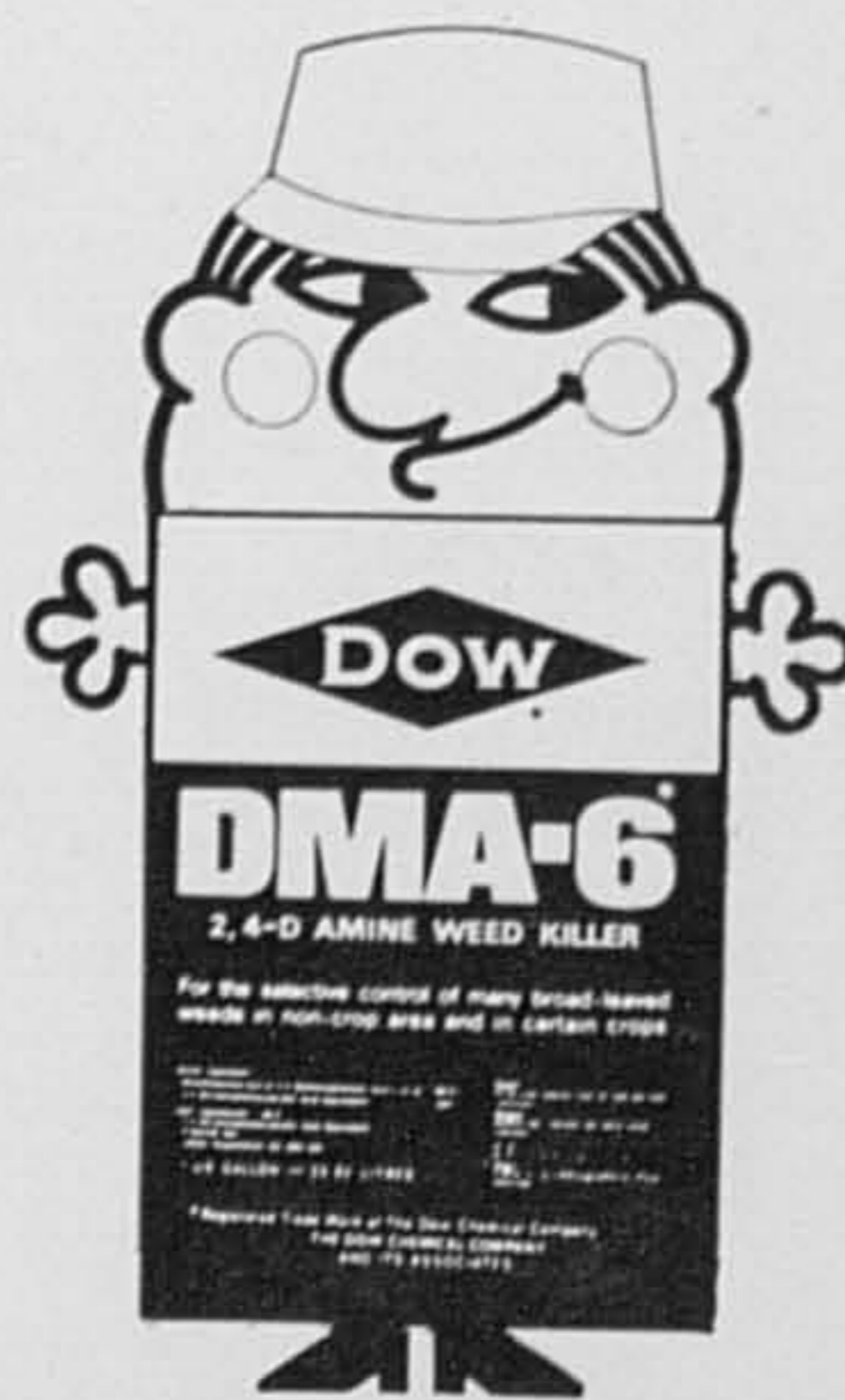
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## How to kill off all weed problems with one solution DMA-6

DMA-6 from Dow. No matter what your problem is, broad leaf weeds, hairy or woody stemmed weeds, a mixture of weeds of all shapes and sizes, even tough and hardy grasses, DMA-6 kills them all, completely. For selective weed control, just mix DMA-6 with water. It will kill off broad-leaf, hairy and woody stemmed weeds.

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**The National Union of Plantation Workers**, the nation's largest, is to build a \$20 million textile mill in Senawang near Seremban this year. This is a joint venture with an Indian firm and the State government, and will employ more than 1 200 people. NUPW general secretary Mr P P Narayanan said the endorsement of members would be sought at the union's delegates' conference for the investment of their money in other joint ventures.

**Shopping in London's West End** is usually a pleasant pastime; the professionalism of the selling techniques and the unquestioned probity of the managements provide constant encouragement to part with one's money. There are occasional exceptions of course; as when a lady shopper saw a notice: "GENUINE ALLIGATOR SKIN HANDBAGS—OUR PRICE £12" and promptly put down the cash. "That will be £15 madam" said the sales attendant. "But it says £12 up there!" she protested. "That, madam", he replied "is *our* price. Your price is fifteen." Apochryphal or not, this story shows what can happen if you are not very, very careful. A customer who wrote recently to complain of the quality of a purchase, received the following reply: "Thank you for your letter. We agree that our covering literature states MONEY BACK IF NOT ENTIRELY SATISFIED. We are, however, entirely satisfied."

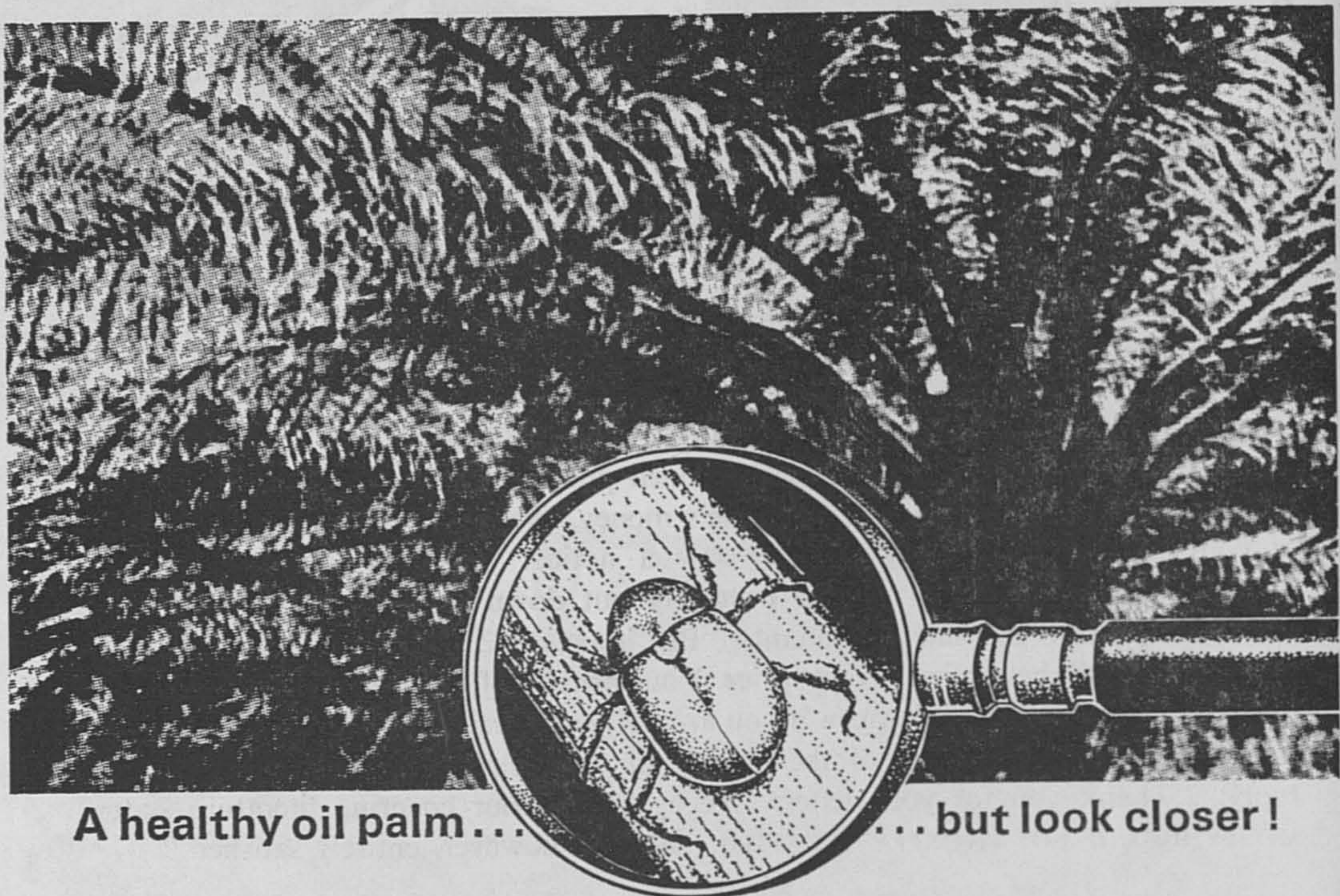
**No warfarin is Waterloo for supermice** ran a headline in *The Times* last month. Their medical reporter wrote: "Supermice, the strain that appears to be resistant to poisons and increasingly thrives and multiplies in centrally-heated homes have found their way into the pages of *The Lancet*. It could be their Waterloo. A writer, recording that the favourite foods of these mice are the two permitted poisons, chloralose and warfarin, says the one gives them good restful sleep and the other helps the blood to whip round their fit little bodies.

Late one night he came across two mice who had eaten all the warfarin in the canister and could find no more. A few days later one slowed-up mouse appeared, then another which was too weak to climb a table leg. Thereafter every day a corpse appeared, still sleek and well-nourished.

It took a lot of thought, the writer says, to arrive at a diagnosis. Not only were the mice warfarin resistant, they were warfarin dependent. The answer was: take away their warfarin and give them coronaries."

At the same time, the *Daily Mail* wrote of "Mighty mice gnawing the curtains in the elegant houses of moneyed Mayfair" and went on to confirm the residents' conviction that these rodents actually *flourish* on conventional poisons.

**The film critic** of *The Times* of London really let himself go the other day. You have to have plumbed the depths of disenchantment to write, as he did following a London première: "Tattily staged and abominably acted by a cast it is kinder not to name, this is the sort of movie which could give pollution a good name."



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**The great Stockholm Conference on the environment** will have ended by the time these notes appear, with or without the hoped-for communique agreed by all participating nations. Political and nationalistic squabbles have bedevilled the proceedings, and there were the inevitably contrasting views of the poor nations with those of the rich. The underdeveloped nations at the conference outnumbered the richer countries by two to one, and the former argued that the proposed ban on DDT is the latest example of selfishness on the part of developed nations which have profited in the past from pesticides but now seek to prevent the poorer ones from taking advantage of them.

A report in *The Economist* (10 June) includes the following:

“One of the few hopeful things about the conference, so far as practical measures are concerned, is that a new international organisation may be set up for monitoring the use and abuse of the earth’s resources. Among other things it would check the level of pollution in oceans, rivers and the atmosphere, and inspect other environmental hazards affecting crops, fisheries, and the preservation of vanishing species. But there is the problem of the cash needed to fund an environment programme. The United States, the country everyone loves to denounce, has offered to pay 40% of the \$100 million needed for the first five years of an environment protection fund. Japan has offered 10%, Britain a “suitable and substantial”—but not yet specified—amount. Before the conference disperses the other delegations will need to show that those who make brave speeches about the environment are willing to put their money where their mouth is.”

**Taking a rise out of the planter.** There will be few who disagree with the member writing about this in a letter published in the Supplement to this issue, and sadly, fewer still who will know what can be done about it.

**A man on trial** in one of those South American republics was reported to have received “a short suspended sentence”. He was duly hanged.

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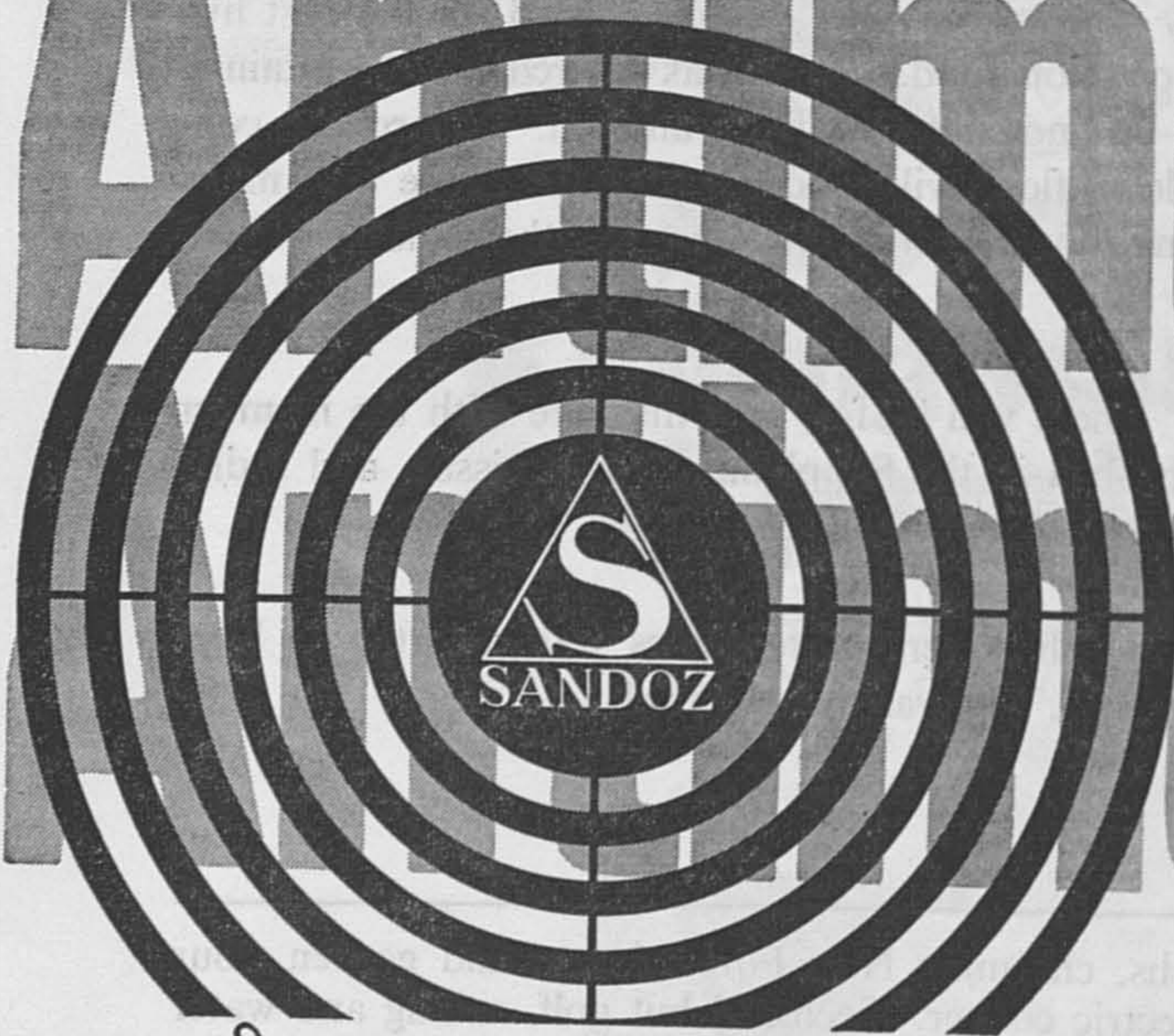
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# Hotel Concession Rates for ISP Members

We give below a list of hotels offering discounts on room rates to Members of the Society who present their current membership cards. All details listed have been provided by the hotels during the past three months.

*Will Members please note:*

- (a) Several hotels have imposed the condition that these discounts will not operate if bookings are made through travel agencies. Credit cards are likewise not favoured.
- (b) Discounts at hotels which have formally advised us of a 10% service charge are underlined.

Discounts at hotels which have stated that they do *not* impose a service charge are followed by the letters (NSC).

Information regarding service charges at all other hotels has not been provided.

- (c) Certain hotels have asked that their discounts to Members remain confidential. Details of these will be found in the Supplement which, Members are reminded, is issued for their confidential information.

## KUALA LUMPUR

| HOTEL    | DISCOUNT                                |
|----------|---|
| Federal  | — <u>15%</u>                            |
| Fortuna  | — <u>20%</u>                            |
| Hilton   | — <u>20%</u>                            |
| Majestic | — 10% (NSC) (30% for monthly residents) |
| Malaya   | — <u>10%</u>                            |
| Malaysia | — 15% (NSC)                             |
| Merlin   | — <u>10%</u>                            |
| Mirama   | — <u>20%</u>                            |
| Pacific  | — 10% (NSC)                             |
| Station  | — 10% (NSC)                             |

## SINGAPORE *All presumed liable to the 3% government tax*

|              |  |
|--------------|--|
| Cockpit      | — 20% (NSC)  |
| Hilton       | — 20%  |
| Miramar      | — 20%  |
| New Hongkong | — <u>10%</u> (Lower-rated rooms)<br>20% (Higher-rated rooms) |

## PENANG

|               |   |
|---------------|---|
| Ambassador    | — <u>20%</u>  |
| E & O         | — 10%   |
| International | — 10% (NSC) (Lower-rated rooms)<br>20% (NSC) (Higher-rated rooms) |
| Merlin        | — <u>20%</u>  |
| Town House    | — Not quoted. Rates reasonable, no service charge                 |
| United        | — 10% (NSC)   |

## IPOH

|          |                                       |
|----------|---------------------------------------|
| City     | — Undisclosed. Presumably negotiable. |
| Eastern  | — <u>10%</u>                          |
| Fairmont | — <u>20%</u>                          |

## KOTA KINABALU

|        |       |
|--------|-------|
| Borneo | — 15% |
|--------|-------|

## SANDAKAN

|     |       |
|-----|-------|
| Nak | — 10% |
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## TAWAU

|       |       |
|-------|-------|
| Royal | — 10% |
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# DATELINE KUALA LUMPUR



The wheel, it seems, has turned full circle. For the princely sum of £10 for every 1 000 seeds, Sir Henry Wickham smuggled some 70 000 seeds out of Brazil in 1876. About 2 000 of these *Hevea* seedlings found a home in Ceylon, Malaya and parts of the Far East. And from this rather seedy beginning, Malaysia has become the world's largest producer of natural rubber.

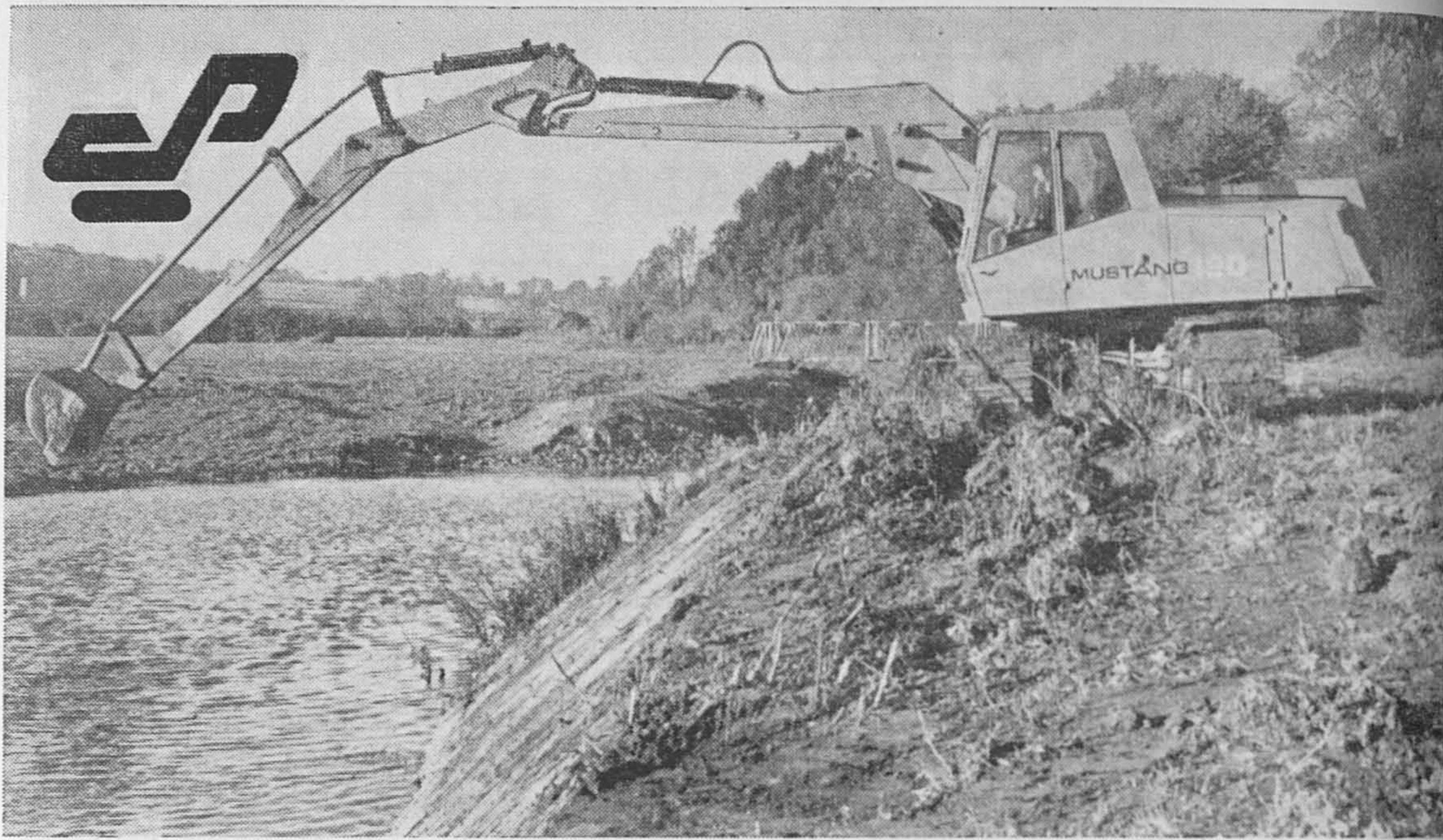
Today, she has also become the world's main exporter of palm oil. Much effort and research have been put into improving strains of seeds and planting methods. For a little while, apart from the direct export of palm oil, there was the lucrative sideline of exporting oil palm seeds. In April however, the Government slapped a ban on all exports of this material, the reason being that the rapid expansion of oil palm schemes had created a domestic shortage of seeds.

A Ministry of Primary Industries spokesman insinuated that charity begins at home and added that oil palm schemes would cover 1 312 000 acres by 1975—an increase of 500 000 acres over that of the First Malaysia Plan. In official parlance, “The restriction has been imposed after careful consideration of the supply in relation to the demand for the materials by oil palm schemes planned for implementation under the Second Malaysia Plan.”

An almost immediate reaction to the ban came from Papua & New Guinea where the territory's first major oil palm scheme is now faced with a dilemma. Although the £5.6 million Hoskins project has no immediate need for Malaysian strains of oil palm seeds, these will eventually be needed for hybridisation to improve local strains.

Ironically enough, most of Malaysia's oil palm seeds have been exported to South American countries—the home of *Hevea*. In December of 1969, 1½ tons of seed valued at \$120 000 were exported by a local estate to Costa Rica. Seeds were also sold to Colombia, Ecuador, Guatemala, the Philippines and India. As far back as August 1970, the shortage of good quality seeds was already being felt here. All the same, seeds worth more than \$1 million were exported by one estate to Ecuador, the Honduras and south east Asian countries.

It would indeed be ironical if a South American “Wickham” should manage to secrete a few precious oil palm seeds, send them overseas, and set up an oil palm



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Apply Lannate<sup>®</sup> as a spray at the rate of 4 oz. per 80 imp. gallons of water (6 grams in 4 gallons) and add a wetting agent at the manufacturer's recommended rate. Use a conical nozzle and adjust the spray until coarse. Use a high pressure to obtain good penetration into the bunches and spray to run-off.

#### **WHEN TO APPLY:**

Begin application when the first signs of insect attack are apparent on the bunches. Repeat at 14 day intervals as long as needed.





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**HOW TO APPLY:**

Apply Benlate<sup>®</sup> at 8 oz. per 80 Imperial gallons of water (6 grams in 2 gallons) either as a spray with a flat fan nozzle or with a brush at 4" above and 2" below the tapping panel.

**WHEN TO APPLY:**

Begin application when disease first appears on the tapping panel and repeat treatment at 7 day intervals as long as needed. Spot treatment may be necessary in case of re-infection.



industry to rival that of Malaysia. Poetic justice? The ban is perhaps rather necessary, but it might be just another case of closing the stable door after the horse has bolted.

At the same time, it is rather encouraging to note that Malaysia is now making a start in processing palm oil instead of merely milling fruit. Despite a number of false starts, and plans which never left the drawing boards, the Unitata plant at Teluk Anson has been set up. This \$7 million joint venture between United Plantations and the Tata Oil Mills of Bombay is to turn out edible oils, vanaspati, soap and other palm oil-based consumer products for export and local consumption. The factory is expected to go into production next year. The processing plant is a rational step towards the maximum utilisation of the country's agricultural resources.

Moreover, another processing firm—Edible Oil Products (M) Bhd—has been granted pioneer status. The project involves the setting up of a plant to fractionate crude oil into neutralised, bleached and deodorised liquid and solid oils. The plant, to be situated in Johore, is designed to have a maximum capacity of 80 tons daily.

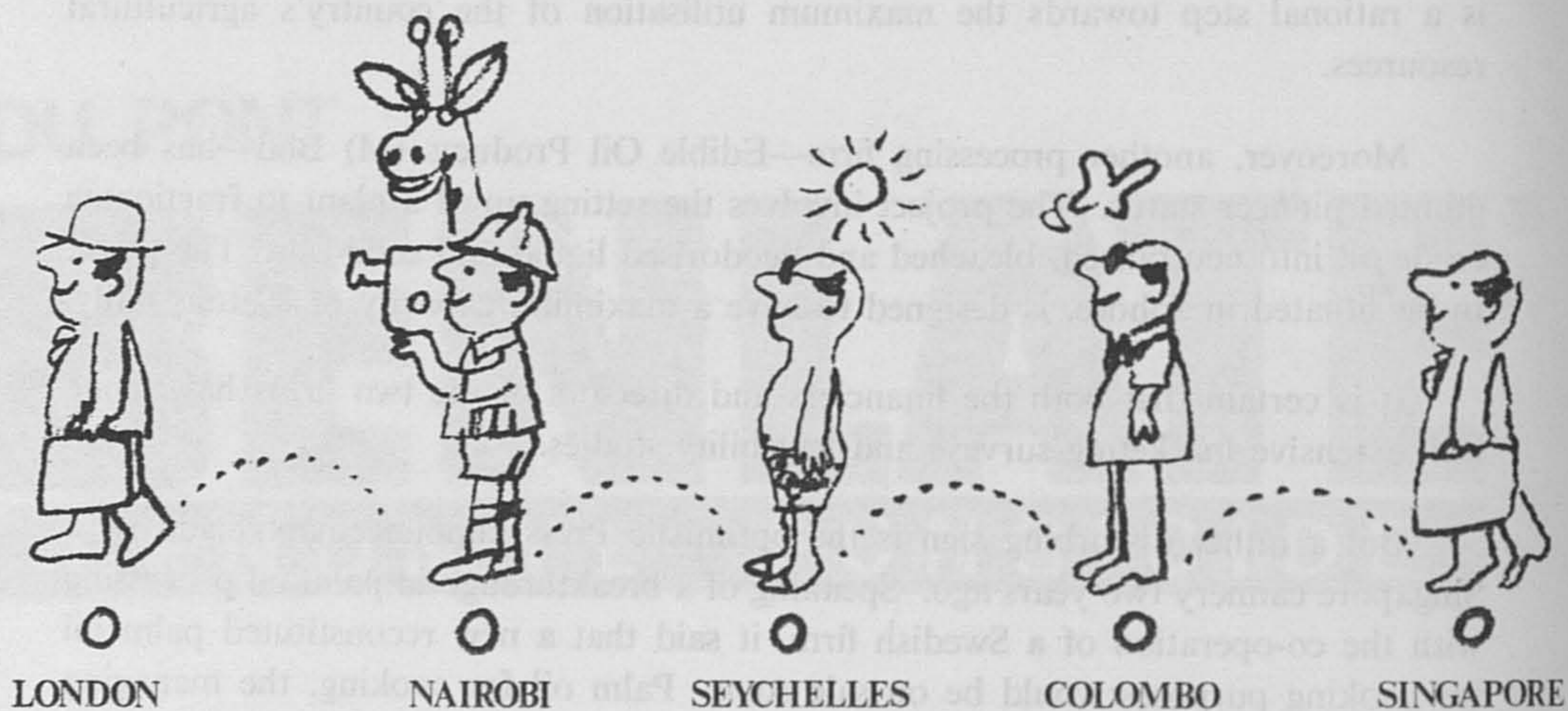
It is certain that both the financiers and directors of the two firms have gone into extensive marketing surveys and feasibility studies.

But a rather disturbing sign is the optimistic Press announcement made by a Singapore cannery two years ago. Speaking of a breakthrough in palm oil processing with the co-operation of a Swedish firm, it said that a new reconstituted palm oil for cooking purposes would be on sale soon. Palm oil for cooking, the managing director announced rather hopefully, would soon be vying for a place in the pans of housewives with corn and sunflower oil. But the tale seems to have ended there. In the two years since, there has been not a cheep about palm oil for cooking.

Palm oil for some reason or other seems to find little place in the hearts or stomachs of the Malaysian public. It must be supposed that ingrained prejudices and misconceptions have made it suspect.

Even when Parliament passed a Bill which allowed the use of vegetable oil or fat (specifically palm oil) in reconstituting tinned condensed milk a hue and cry was raised. Granted, little research has been done into the long-term nutritional effects of palm oil. The then acting Minister of Health, Dato Ghani Gilong, pointed out that the IMR and the Chemistry Department had carried out research into the nutritional value of palm oil. Long-term effects on children and babies remain unknown. The general feeling was that great care must be exercised in the introduction of palm oil as a food. This of course is axiomatic. Although the use of palm oil in milk might mean a saving of \$24 million on imported butterfats, more research into the nutritional properties of palm oil needs to be carried out. New refining processes might come out with an oil which is the equal of butterfats.

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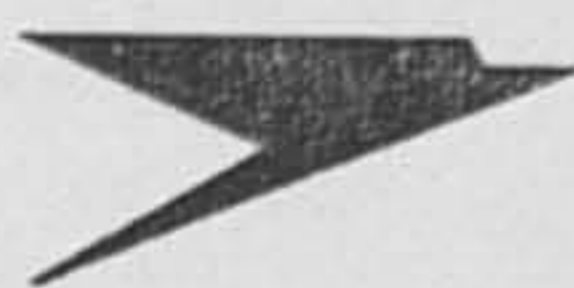
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There is no recorded instance of anyone dying or suffering from the ill-effects of properly refined palm oil. Add to this the fact that the scourge of oil palm estates—the rat—is usually a sleek, well-fed creature whose health would be the envy of many other denizens of the forest. We may be sure that this particular pest has exhibited no signs of any vitamin deficiency nor any tendency to suddenly turn over and expire. In fact, he goes from strength to strength on a diet of oil palm seeds and it is only nasty doses of certain pesticides which manage to persuade him to die.

On a more serious note, the palm oil industry should perhaps concentrate on methods of processing oils to specific consumer needs along the lines of SMR. A breakthrough in this direction would certainly give the industry a distinct advantage and commanding position in the world market.

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## Russian Economic Delegation impressed with research at the RRIM

A seven-man economic survey delegation from the Union of Soviet Socialist Republics was impressed with the 'profound research of international level' carried out by the Rubber Research Institute of Malaya in its effort to improve the economy of the country. This was stated by Mr G I Mamrykine, leader of the delegation, after their visit to the RRIM Headquarters, the SMR Building and the RRIM Experiment Station, Sungei Buloh on 8 June 1972.

"We are fortunate to have visited the Institute, otherwise we would have missed a lot. I was very impressed, especially with your SMR Scheme, your Heveacrumb production and the way the rubber is being tested and the guarantee that the Scheme offers.

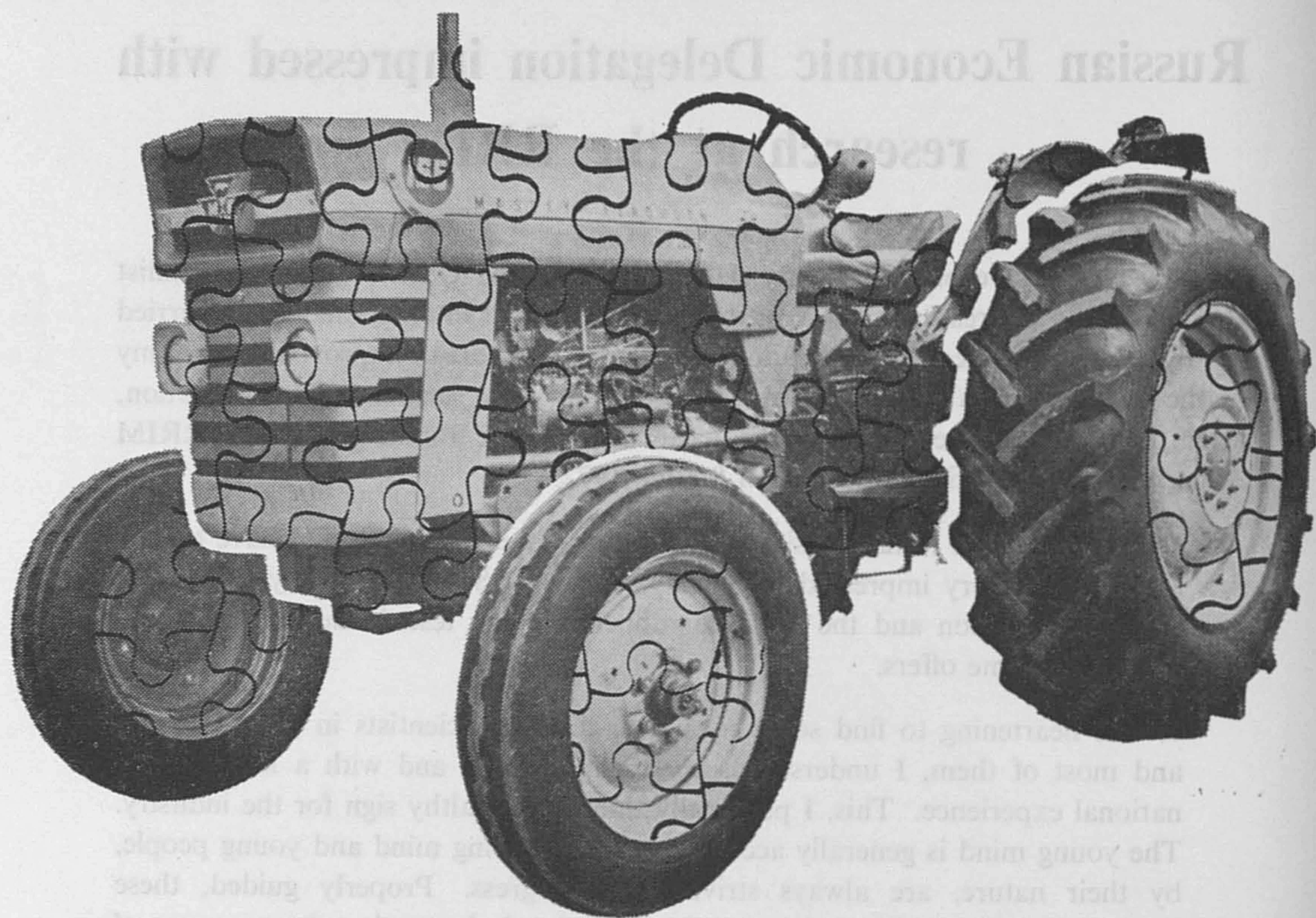
"It was heartening to find so many young research scientists in your Institute and most of them, I understand, are highly trained and with a lot of international experience. This, I personally think is a healthy sign for the industry. The young mind is generally accepted as an enquiring mind and young people, by their nature, are always striving for progress. Properly guided, these scientists could make a huge contribution towards improving the economy of your country. I wish you all the best and success in your efforts."

Mr Mamrykine also expressed the desire for an increased economic and technological contact between Malaysia and the USSR.

The delegation was met at the Institute by its Deputy Director, Dr Ng Siew Kee who briefed the visitors on the general aspects of the Natural Rubber Industry and the work of the Institute. They then visited the SMR Building in Jalan Kolam Ayer Lama where they were shown the various methods of testing SMR by Dr Lee Aik Kwong.

At the RRIM Experiment Station, Sungei Buloh, the visitors were briefed and shown techniques on green budding, crown budding and yield stimulation. They also toured the factory where they were shown Heveacrumb and Tyre Rubber production.

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## The potential for NR in China

On the 4th April return to Kuala Lumpur of a Malaysian group of NR experts invited to China to explain how Standard Malaysian Rubber (SMR) and other NRs could be applied to China's rubber needs, Dr B C Sekhar, Director, Rubber Research Institute of Malaya and Chief of the Mission, said "the Mission was very well received and has made a definite impact."

"There is a great potential for NR in China," Dr Sekhar stated. He noted that, as in the rest of the world, "the most important area of NR usage was in tires." With NR also being used in footwear, belting, hose, foam rubber and dipped goods, and with signs of increased industrial activity apparent throughout the Mission's 14-day visit, it was obvious that rubber usage is on the increase.

Dr Sekhar pointed out that currently, Chinese NR imports are supported by a substantial reclaiming industry and that China produces small amounts of NR in Hainan, Yunan, Kwangsi and Fukien. He added that China's increasing industrial activity and heavy usage of rubber will require far greater supplies of NR than can be generated either by reclaiming processes or production in the provinces mentioned.

Re Synthetic, Dr Sekhar stated, "the petro-chemical industry established in the suburbs of Peking produces small quantities of synthetic rubbers, fibers and plastics, and rubber chemicals, but China has no intention of going into *cis*,1-4 polyisoprene production."

The Mission met technical people and scientists from several factories in Peking, Shanghai, Tien Tsin and Tsing Tao, and also representatives of the Chemical Corporation. More than five technical sessions were held that activated keen discussion in which the Chinese showed genuine interest in SMR. The SMR Scheme was fully explained and "the Chinese consumers' doubts erased." Assurances were given that the Rubber Research Institute of Malaya's SMR Control Centre will give particular attention to SMR rubbers being shipped to China. Dr Sekhar said that the general purpose tire rubber developed by the RRIM evoked special interest. Tonnage quantities of several grades of SMR and special rubbers will be sent to China for extensive factory evaluation.

On the eve of the Mission's departure, the Chinese stated, "The Mission made a significant contribution to the understanding of natural rubber improvements in Malaysia and the technological standards guaranteed by the SMR Scheme." Dr Sekhar expressed the Mission's confidence that China's presence in the Malaysian NR market would be greater in the future. Concrete results are expected from the technical dialogue within the next few months.



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Mr Ian Joseph Sayer, JP, AISP, on being appointed to the Order of the British Empire (OBE) by Her Majesty Queen Elizabeth II.

## Awards of Associate Diploma

|                     |   |              |
|---------------------|---|--------------|
| Enche Quah Chok Kee | — | Lower Perak  |
| Enche Wong Non Lin  | — | Malacca/Muar |

## Examination successes

### Estate Practice (Rubber) Examination — 17 March 1972

|                     |               |        |
|---------------------|---------------|--------|
| Enche Quah Chok Kee | (Lower Perak) | Passed |
|---------------------|---------------|--------|

### Estate Practice (Oil Palm) Examination — 17 March 1972

|                     |                  |        |
|---------------------|------------------|--------|
| Enche Wong Non Lin  | (Malacca/Muar)   | Passed |
| Mr D F Lee          | (Central Johore) | ”      |
| Enche Pang Yen Yong | (Central Johore) | ”      |

## Donations to Hostel Fund

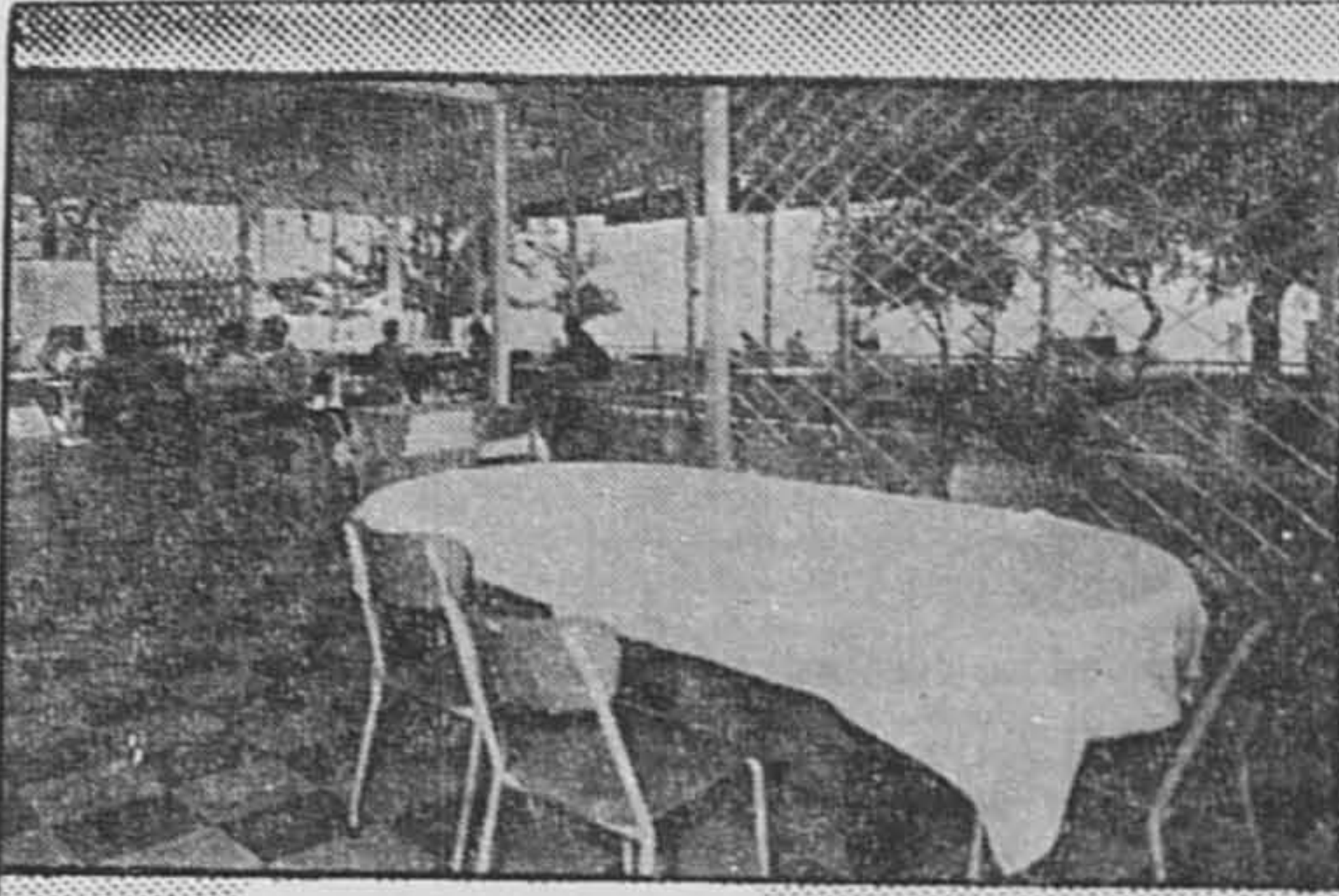
|                       |         |
|-----------------------|---------|
| Enche Chua Hood Chuan | (\$200) |
| Mr D A Earp           | (\$100) |

## On leave

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 4750 Lee Lye Huat, Robert, No 6, Road 35, Petaling Jaya, Selangor.  
 4470 Wilkinson, A I, c/o Raj Wilkinson, Ibrahim Secondary School, Sungei Patani, Kedah.

## Returned from leave

- 3432 Earp, D A, P O Box 262, Kuala Lumpur.  
 3208 Grant, A R, Bukit Cheraka Estate, Jeram, Selangor.  
 4732 Muirhead, P R S, Edinburgh Estate, Kepong, Selangor.  
 3706 Walker, G L, Riverside Estate, Kuala Selangor.



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### Change of address

- 4871 Abu Hassim bin Sa'at, Bukit Benut Estate, Kluang, Johore.
- 5588 Allaries, M E, 49 Kali Besar Barat, Djakarta, Indonesia.
- 5064 Balachandran, M, Sungei Tekal Estate, Mentakab, Pahang.
- 5742 Chong Lim Siong, Michael, 4 Jalan Dato Teoh Siew Khor, Kluang, Johore.
- 5015 Clifton-Brown, N, BSc (Agri) AISP, Sungei Mahang Estate, Nilai, Negri Sembilan.
- 3646 Cooper, J S H, 73 Barnhorn Road, Little Common, Bexhill-on-Sea, Sussex, England.
- 4830 Eastaugh, G C, NDA, AISP, East Estate, Carey Island, Port Klang, Selangor.
- 5689 Hansen, J N, Solomon Islands Plantations Ltd, P O Box 350, Honiara, British Solomon Islands Protectorate.
- 4550 Kam Cheng Eng, AISP, T1, Lot 7, Taman Cheras, Jalan Cheras, Kuala Lumpur.
- 4878 Lee Beng Huat, Broome Estate, Bangi, Selangor.
- 5730 Leong Ah Soo, Kuala Gris Estate, Bukit Abu, Kelantan.
- 5555 Loh Hang Pai, Kemuning Estate, Tebong, Malacca.
- 4987 Menon, M E, AISP, c/o J A Russell & Co Sdn Bhd, P O Box 245, Kuala Lumpur.
- 4096 Martin, W S, Hope Cottage, Muirhouses, Bo'ness, West Lothian, Scotland.
- 4068 Probert, W H, Motel Malaysia, P O Box 224, Wangaratta, Victoria 3677, Australia.
- 5347 Quah Chok Kee, AISP, Bagan Datoh Estate, Bagan Datoh, Perak.
- 4208 Stone, P J, AISP, Mirlin International Ltd, Arawak P O, St Annas Bay, Jamaica.
- 4539 Subramaniam, K, Paloh Estate Group, P O Box 106, Paloh, Johore.
- 5265 Soo Fook Ngun, AISP, Seldings Estate, Selama, Perak.
- 5599 Selvadurai, M, Selamat Plantations Ltd, c/o Ghim Khoon Estate, Serdang, Kedah.
- 5315 Tan Keng Hean, Santi Estate, P O Box 103, Pengerang, Johore.
- 4823 Wong Yook Foo, AISP, Midlands Estate, P O Box 206, Klang, Selangor.
- 4832 Young, S N, Diamond Jubilee Estate, Jasin, Malacca.

### Births

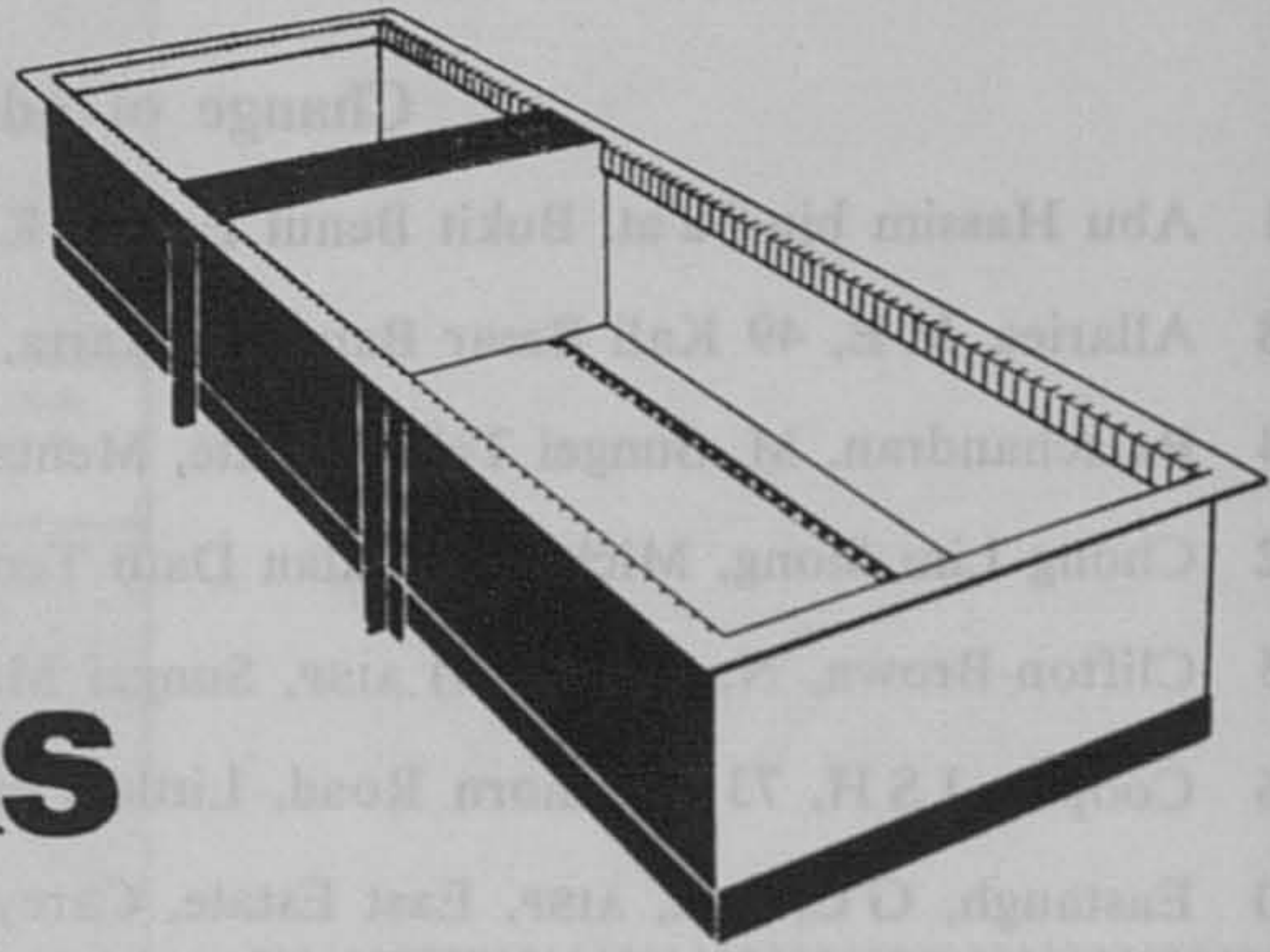
*Congratulations to:—*

- ROBERTON: On May 28 1972 at Redhill General Hospital to Rosemary and Neil Robertson, a daughter (Juliet Sarah).
- GLENNIE: On June 9, 1972, to Joan and David, a daughter (Jane Helen), a sister for Michael, Christopher and Ian. Now at 33 Offington Gardens, Worthing, Sussex.

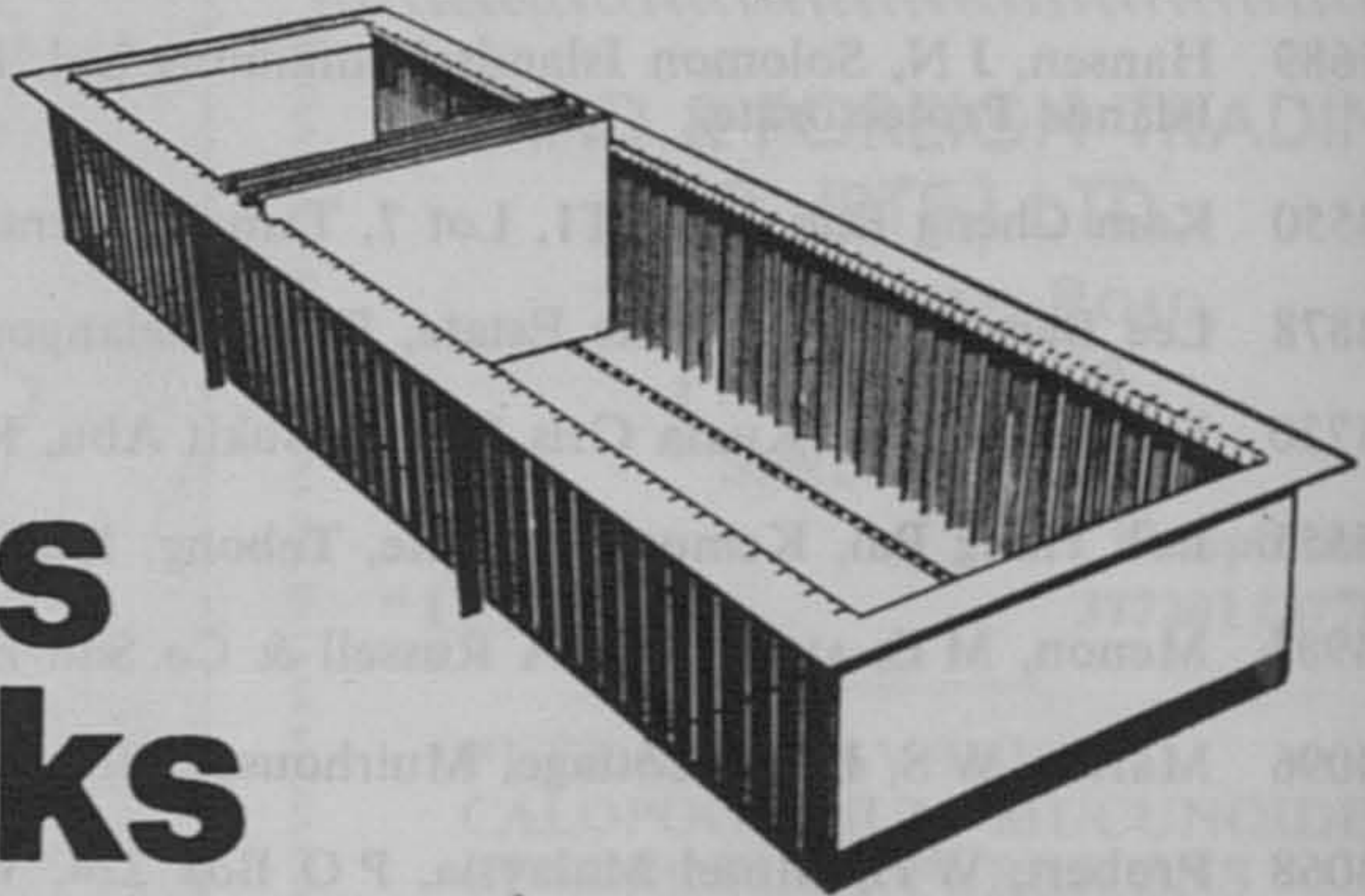
### Deaths

- PINHEY (1957): Lt Cmdr Jack W in Cascais, Portugal, May 1972.
- DENSHAM (1199): F (Soldier) 28 May 1972 in Penang.

# DCL all-aluminium separate sheet tanks



# DCL all-aluminium continuous sheet tanks



# 5 reasons you should use an all-aluminium coagulating tank.

- 1 No upkeep is required; periodical painting and repairs are eliminated.
- 2 No woodwork to warp or rot; storing for any length of time without deterioration at all.
- 3 Easy cleaning.
- 4 Non-corrosive, unaffected by chemicals used for latex.
- 5 Cheaper in the long run.



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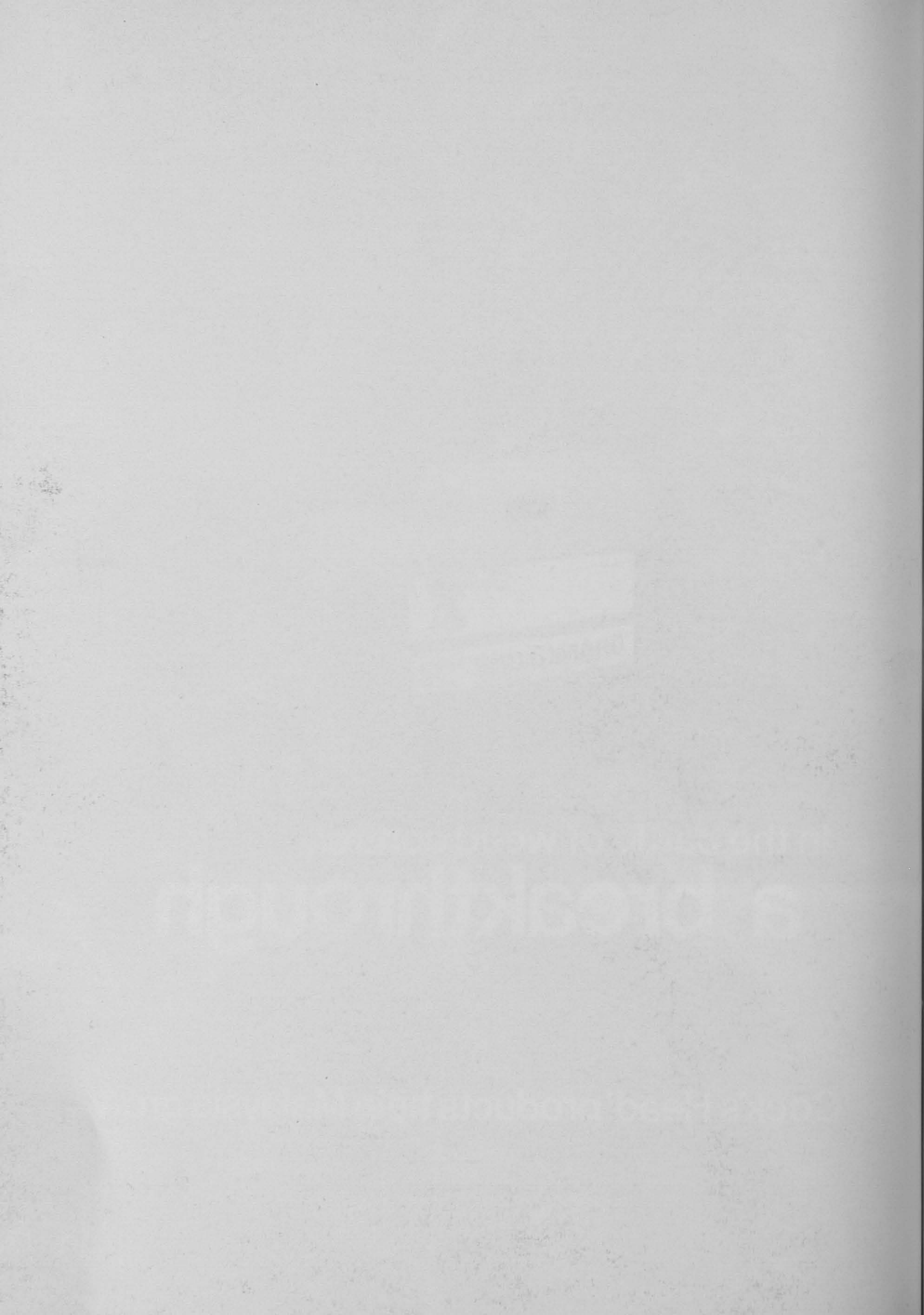


In the battle of weed control...

# a breakthrough

'Cock's Head' products help Malaysia grow





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