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# The Planter

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*N O T E*

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

# The Incorporated Society of Planters

**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: —

| | During the calendar year in which eligibility for membership occurred and the 4 succeeding calendar years. | Subsequently. |
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| Malaya and Singapore | $ 48 | $ 78 |
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| **Category B** | | |
| *Ordinary Members employed as Executive Engineers, Estate Medical Officers, Research Staff etc., wherever resident* | $ 48 | $ 48 |
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*Editorial:*

# The road ahead for rubber

*In place of our usual editorial we reproduce below the full text of an article, titled as above, from the latest edition of* Rubber Developments, *published by the Natural Rubber Producers' Research Association. The article is written by Dr P W Allen, a Senior Principal Scientist at the NRPRA and we shall shortly be publishing a review of Dr Allen's new book* Natural Rubber & the Synthetics.

The road ahead for the natural rubber industry has, in recent months, increasingly been made plain. Bills placed before the Malaysian Parliament during the summer formally embody a series of changes which are to reorganize the industry along realistically modern and progressive lines. These measures cover all aspects of the industry: marketing, smallholder services and research and development. On the marketing front in Malaysia there has been dissatisfaction about the way in which both price fixing and quality control have been taking place for many years now. Although the Kuala Lumpur market has been open for 10 years now it still controls only about 45% of the Malaysian rubber exports, the Singapore market controlling the rest.

The bodies at present responsible for marketing operations are the Malaysian Rubber Exchange (MRE) and the Malaysian Rubber Export Registration Board (MRERB). The role of the former in price fixing is, in fact, only subsidiary to that of the Singapore Exchange. The latter is a joint Malaysia-Singapore body empowered to 'police' the quality of exports, but there is substantial evidence, believe the Malaysians, to indicate that it has not been effective and what they describe as 'malpractices' are eroding confidence in the SMR symbol.

These points were made recently by the Malaysian Finance Minister Tun Tan Siew Sin, when he introduced the primary reform Bill to the Malaysian Parliament and announced the intended formation of a new board to take over the functions of these two bodies, but entirely excluding Singapore. This board, the Malaysian Rubber Exchange and Licensing Board, will additionally assume responsibility for rubber licensing and the issuing of dealers licences at present exercised by the various state governments, and will co-ordinate with markets in producing and consuming countries to promote efficient marketing of Malaysian rubber. This is essentially a short-term provision aimed mainly at tidying up the domestic scene: it seems likely that measures will follow to change the marketing structure still further—a world-wide study of rubber markets, sponsored by the Association for Natural Rubber Producing Countries (ANRPC), at present being carried out by an economist from the Rubber Research Institute of Malaya (RRIM), could well form the basis for such changes.

Another new body to be formed, covering both East and West Malaysia, is the Rubber Industry Smallholders Development Authority. The expressed purpose of this authority will be to provide 'an implementation agency through which the fruits

of research and development efforts on all aspects of agriculture pertaining to rubber can be effectively funnelled into the smallholder sector' and to consolidate 'the replanting efforts in both the estate and smallholder sector through a unified approach to cess collection and disbursement'. Liaison with other bodies in this smallholder field will be part of the authority's brief.

One such body concerned with the smallholder sector is the Malaysian Rubber Development Corporation (MRDC), now operating central factories for the processing of smallholders' rubber with considerable success and planning to build more such factories. This corporation is to be expanded to enter the marketing field both on behalf of smallholders and eventually for the small estate and various land development schemes. As soon as practicable the MRDC aims to set up external marketing arms in all major consuming countries.

The remaining major aspect of the natural rubber industry concerned in the new Malaysian legislation is research and development (R & D). Reflecting the new role expected of it, the Malayan Rubber Fund Board will become the Malaysian Rubber Research and Development Board (MRRDB). Research and development is already centred on the Board and its three component units, the Rubber Research Institute of Malaya, the Natural Rubber Producers' Research Association (NRPRA) in London, and the Natural Rubber Bureaux providing a technical advisory service to manufacturers in the world's main consumer areas, which operate in 10 countries. The Board at present promotes and co-ordinates research activities in production, consumption and use of natural rubber, and these activities will be expanded. In addition, it is envisaged that the Board will become the focal point for the collation and analysis of economic and technological intelligence—a commercial intelligence unit will be formed to aid long range planning. RRIM, which it is proposed to rename the Rubber Research Institute of Malaysia, will take on general consumption research to become the major R & D unit for Malayan rubber. A new uses 'think tank' is to be set up in January. NRPRA will continue to undertake direct consumption and applications research in purpose-built new laboratories where it will be able to cope more efficiently with the needs of the consumers of the Western world.

Another study being promoted by the ANRPC and to be undertaken by RRIM and NRPRA staff is an end-use survey. Quantitative knowledge on present day end uses is confined mainly to such sweeping statements as 'about 60% of the world's rubber goes into tyres'—not quite the detailed information needed for planning purposes. Results for this special analytical study are expected early in 1973.

One result of the determination to advance and expand and of all the debate on rubber's future that there has been this summer is the firm decision on, and legislative backing for, a policy of true expansion of industrialization—a decision to make rubber goods in Malaysia for export, not just for the home market. There is considerable motivation to try to tap wider markets: this would both promote employment and generate added value from rubber.

Malaysia has a unique portfolio: high-quality rubber, low-cost and efficient labour, a stable economy able to attract investment and skills in rubber technology. A team of NRPRA rubber technologists has recently been in Malaysia working with the RRIM in an initial survey of industrialization possibilities. The RRIM is also about to set up a technological centre to provide the necessary technical infrastructure for new ventures. It would be most surprising if this were not the start of an extremely significant trend.

None of the 1972 changes should be seen simply as name-changing operations. Many things are about to change and the industry of a few years hence will take on new dimensions. One thing is certain: the 1972 Acts in no way resemble the legislation of 50 years ago, the Stevenson Scheme. Then, the authorities reacted to crisis by restriction; now, the reaction is towards planned expansion into new fields. The Stevenson Scheme was disastrous in its long term consequences: by contrast the 1972 Acts will serve to help the industry along the road to fresh prosperity.

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## ANNOUNCEMENT

The post of Executive Secretary of the Incorporated Society of Planters will fall vacant on 28 February 1974 and will be advertised in this magazine and the daily press six months before that date.

The person or persons engaged to carry out the present duties of the Executive Secretary will be Malaysian citizens and will be expected to understudy him for at least three months prior to assuming appointment.

Applications received prior to publication of the official advertisement in **The Planter** will not be considered under any circumstances.

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*Planter, Kuala Lumpur* **49:** 68–82 (1973)

# Conservation in Malaysia

P. R. WYCHERLEY

## PART SIX — THREATENED SPECIES

Malaysia has an avifauna of more than six hundred species of birds. Some are resident the whole year round whereas others are migrants. The migrants may be further divided into those which only briefly visit on their passage from one place to another and those which spend part of the year here. The latter may again be subdivided into those which come here to rest and breed and those which come here to overwinter during the adverse season in their breeding grounds. Some of these winter migrants come from as far distant as Siberia. Migrant birds pass through several countries and, especially for those species of economic value as food or importance as predators of pests, all the countries concerned have a mutual responsibility for their protection.

Some birds are found in every natural habitat in Malaysia from the coasts to the mountain tops. The sea birds are largely restricted to the coast; but some species such as the sparrows are found over a wide altitudinal range, wherever they can find man-made conditions. Birds are threatened in the same ways as other species, by destruction of their habitat and by accidental or deliberate killing more rapidly than they can reproduce. Habitat destruction is most serious if the species is strictly limited in range to a particular habitat in order to obtain food and cover, the situation is progressively worse the more specialised or restricted is the habitat. Since the lowland forest is the habitat which is liable to suffer the most widespread modification and destruction throughout Malaysia, its consequences for birdlife must be examined.

Preliminary studies indicate that less than 5% of the local species increase in numbers and adapt to the new conditions when a predominantly forest area is cleared and displaced by agriculture or residential areas with gardens. Some birds of the forest have very specialised requirements, the Hornbills require large hollow trees to nest in and the Argus pheasants need an open floor in the forest for their courtship ritual. Even in forest managed according to the natural regeneration system inadequate old hollow trees may be left standing, because they are not growing economic timber, and the dense undershrub after opening the canopy may deny the pheasants their dancing ground. The altitudinal range of the lowland birds is not always known, the boundary between lowland and montane seems to be about 3000 ft (1000 m) in East Malaysia, but it is probably lower in West Malaysia. It cannot be assumed that the birds can retreat upwards as the lowland forest disappears. Some birds may be limited to food available only in the lowlands, and all would have to compete for living space with the present incumbents. The—at least relative—increase in Macaques and other carnivorous arboreal animals in disturbed forest may militate against the nesting of some birds in managed productive forest. There is some hope that management might modify the upper-lowland and hill forests to carry a greater stocking of a few threatened large mammals, but the

prospects are not bright to do the same for many different species of birds. There are too many species requiring individual ecological studies to make scientific management possible.

Neither are plantations with tree and palm crops a good substitute for forest in the case of most birds. A small number of species are abundant in the early open phase of rubber, but the avifauna is definitely poor in mature rubber, especially as there is usually little undergrowth. Three species of parrots and four other birds have been reported eating oil palm fruit and are regarded as real or potential pests. A few more species tolerant of man-made habitats occur in palm plantations. In some cases birds of prey increase by feeding on rodents. The overall contribution to the preservation of the typical forest avifauna is poor, because oil palm essentially supports larger populations of a reduced number of species. The retention of as much natural lowland forest as possible in reserves and parks must be encouraged and coupled with general conservation measures for the protection of birds. These general measures should be put into practice now before the problem is acute in Malaysia. In this way birds which are likely to become rare due to habitat destruction will be relieved of additional pressures which might cause their extinction before their critical condition is realised.

**Birds as Food**

Wildfowl and game birds are a traditional source of food throughout the world. The wild Malaysian Jungle Fowl is the ancestor of domestic poultry and, with pheasants, has always been trapped or shot by aborigines. Doves and other medium-sized birds are also taken. While the bird population has been widely dispersed and is relatively large compared with the human population, the light cropping or culling of these birds has had little effect. However, as this situation changes, the enforcement of further controls on licensing and limiting of catches, observance of closed seasons during the breeding months or even for several years when species are threatened, will become increasingly important.

A distressing feature of recent years in countries neighbouring Malaysia has been the modernisation of lamp and net methods of attracting and trapping migrant birds. Powerful pressure lamps and the fine 'mist' nets of nylon used by bird-banders have been brought into use. Thousands of birds of all species and size classes are trapped with a total kill during the migrations along the main flight paths. This has already lead to noticeable reductions in some birds. Perhaps the best long-term solution will be to provide the protein-hungry people concerned with cheaper, more attractive and easily obtained meat. Malaysia must prevent the adoption of such techniques here and exercise influence in the interests of the region as a whole in halting this destruction of migrants, which are the heritage of many peoples.

Birds as a food resource includes their eggs and in the case of some swiflets their edible nests. The collection of edible nests is reasonably well-organised and controlled in East Malaysia to allow adequate broods to be raised to maintain the species. This provides a good example of how a natural resource can be both

conserved and subject to controlled exploitation at the same time, preserving the wildlife and yielding a profit. More publicity might be given to these homegrown examples of successful conservation. Large-scale collections of wild birds' eggs are local and rare in Malaysia, limited largely to a few sea birds, although constituting an added threat to the Megapode in East Malaysia.

In the currently developing situation it is desirable that all birdlife should be protected fully and that exceptions, that is when eggs or birds may be taken for food or destroyed as pests, should be defined as specific exemptions stating species, locality and season. Existing legislation in both East and West Malaysia affords considerable protection to many but not all birds; there are anomalies, but the main need for revision arises from the ordinances being framed for conditions now past, rather than for the likely future.

**Birds and Agriculture**

Birds are like insects in that the role of most in rural and agricultural life is beneficial, but a minority have become the specialised pests of crop plants. Nesting activity of birds resident in Malaysia shows a cycle from low at the end of the calendar year, rising rapidly to a maximum about the vernal equinox, falling somewhat to midsummer and then more markedly to the trough at the end of the year. This cycle in nesting activity is similar to that in the intensity of solar radiation throughout the year and also to the variation in maximum temperature. (Correlations between these at 14 stations in the region account for 25% and 23% of the variation in nesting activity, or 41% for the two meteorological variates combined. The nesting of resident birds may be synchronised by the combination of low sunshine, temperature and heavy rainfall four months before peak nesting (68% of the variation is accounted for by the multiple regressions at the 14 stations). These environmental factors may have a direct influence on the physiological behaviour of the birds or there may be an adaptation to parallel changes throughout the food chain. The rate of photosynthesis and plant growth in turn determining the secondary productivity of insects and that of the birds which feed upon them. Birds are most active when hunting insects to feed their young. It would be unwise to underestimate the benefit due to avian control of pests.

Birds of prey are almost entirely beneficial in the control of rodents. They occasionally take poultry and small or young farm animals if their normal food is in short supply during the breeding season. Farmers would do better to protect their stock from birds of prey, which can then deal with rodents, rather than shoot the birds of prey and then risk poisoning their stock in attempts to control the rodents. Hawks and owls are often seen by day and night respectively in the vicinity of batteries of poultry, but they cannot get at the fowls, but take rats which would otherwise endanger birds and eggs. Falconry has been suggested as an answer to the parrot problem in oil palm. Provided the birds of prey are not molested, agriculture increases the food available to them. Padi-growing extends the habitat of some marsh birds, especially in East Malaysia.

Birds, like fish, are among the wildlife threatened by careless use of persistent insecticides. Other measures for the conservation of birds will retain their effectiveness if special and integrated methods of pest control are adopted in plantations. This applies particularly to the few cases where birds are themselves pests.

**Death by Kindness, Ignorance, Neglect and Greed**

The bird trade is a curious mixture of these ingredients. From ancient times there has been trade in bird skins, plumage and captive live birds. Some birds were exterminated by the demand for their plumage, but this aspect has now been brought largely under effective international control. Enforcement to prevent evasion remains necessary. A close watch on new demands must be kept, for instance the new cottage and handicraft industry of making pictures out of plumage, not just from fallen feathers but from entire skins or wing plumage. At present common birds are used and—questions of humane killing aside—conservationists might do well to reserve their energies for more serious problems unless this creates a demand for the rarer of the more beautifully plumed birds.

The period of intensive collection of bird skins for scientific purposes is largely over, as ornithology moves progressively from taxonomy to ecology and behaviour studies. Cheap, versatile yet accurate colour photography facilitates the identification of rarities captured, which may be released after banding instead of being killed and sent to a museum. Stuffed birds have gone out of vogue as ornaments. Ivory from the casque of the Helmeted Hornbill is rare and valuable; other hornbills have been used also for decoration in East Malaysia. Although traditional, such usage should be restrained in view of the other pressures on this great bird of the forest canopy.

The demand for live birds grows. Some caged birds are kept as pets for their song, decorative effect or ability to imitate human speech. Where this leads to breeding and rearing in captivity, there is no conservation problem, indeed the experience gained may be of value in rescuing and multiplying the remnants of threatened species. At present only imported birds have been raised in captivity in Malaysia, specimens of local species are caught from the wild. If these are common species such as Mynahs and Doves, there may be objections on grounds of cruelty, but the species are not endangered by the practice. Comprehensive protective legislation should name those species it is permissible to capture and offer for sale, forbidding all others, thus preventing the practice spreading to rarer birds.

Such legislation should be applied to the international traffic in wild birds. Zoos, pet shops and aviary displays are increasing their demands all over the world. The smaller and less well conducted travelling shows often have the greatest demand for the more spectacular rare birds as attractions. Poor conditions result in brief lives and repeated demands for more exhibits. The wastage in capture and transport of these birds is high. Malaysia is not so greatly involved in this traffic as some other countries. Mammals are more often the victims than birds in Malaysia. However, this is a situation which can rapidly deteriorate. The efforts of one country to stamp out this trade in the wildlife heritage can be easily undermined if neighbouring countries allow loopholes in shipment control or provoke jealousy by trying to corner the trade.

**Capture for Release**

The scientific study of bird migration and longevity depends much on banding (or ringing) by placing numbered aluminium bands on birds' legs. The bird must be captured, handled briefly and gently to note its particulars, the band applied and the bird released as soon as possible. Banding does not harm birds. Returns are obtained if the birds are recaptured (and released again), shot by hunters or found dead. Bird watching and banding is one of the most enjoyable and constructive hobbies known. The bird reports which appear regularly in the Malayan Nature Journal enable minor individual observations to be accumulated into a valuable whole.

Birds are captured and released for quite different reasons in Malaysia and more often in some neighbouring countries. It is a Buddhist belief that merit is acquired by the release of caged birds, which are brought from dealers for the purpose. Occasionally the cage birds released are aviary bred or imported birds, which are untrained to survive in the wild, find their own food, evade predators or seek shelter in city, garden or forest. Although birds may inherit more of their behaviour than mammals, which seem to acquire more by learning, there is little doubt that released cage birds are at a disadvantage. In the case of wild birds caught by the dealers for sale and subsequent release, there is invariably a sad history of injuries at capture, casualties during captivity and weakening due to wrong feeding, so that their chances of survival after release are poor, apart from their being frequently released in quite unsuitable environments. Although perhaps only a serious threat to wildlife if rarities are taken, this wanton destruction of life is not consistent with principles of conservation. It is detrimental to education in conservation to encourage this practice by default of criticism. At a time when the religious are re-examining their beliefs, one enquires respectfully if the purpose and function of this practice has not become distorted when birds are caught, caged, the majority deprived of life and freedom, so that a few may be released.

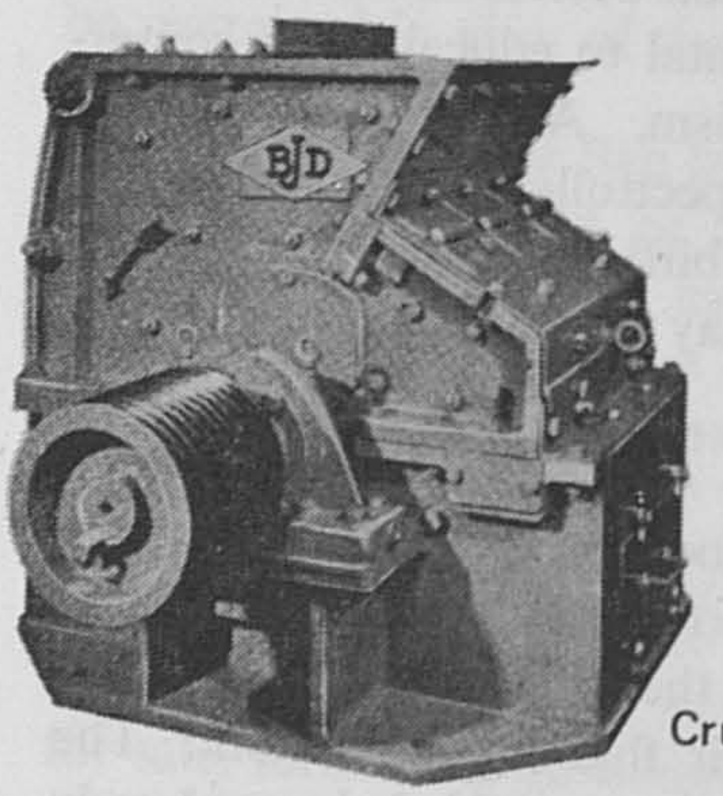
**The Need for Birdlife**

The economic value of birds in pest control and food production has already been stated. The aesthetic value of birdlife is also important. Birds are appreciated more than other members of the animal kingdom for their real beauty and symbolism, their colouring and song, their behaviour, their flight and freedom. The scientific study, emotive appreciation and personal enjoyment of birds have already long transcended differences between east and west, rich and poor, and many other divisions in humanity. The national attitude towards birdlife and its protection is a measure of a people's advancement in conservation. At present the Peacock and indeed all Pheasants, the White-winged Wood Duck, the Rufus Headed Robin and Rueck's Blue Flycatcher are considered to be most seriously threatened in Malaysia, but there are many borderline cases, whose future will depend mainly on the verdict of public interest or apathy.

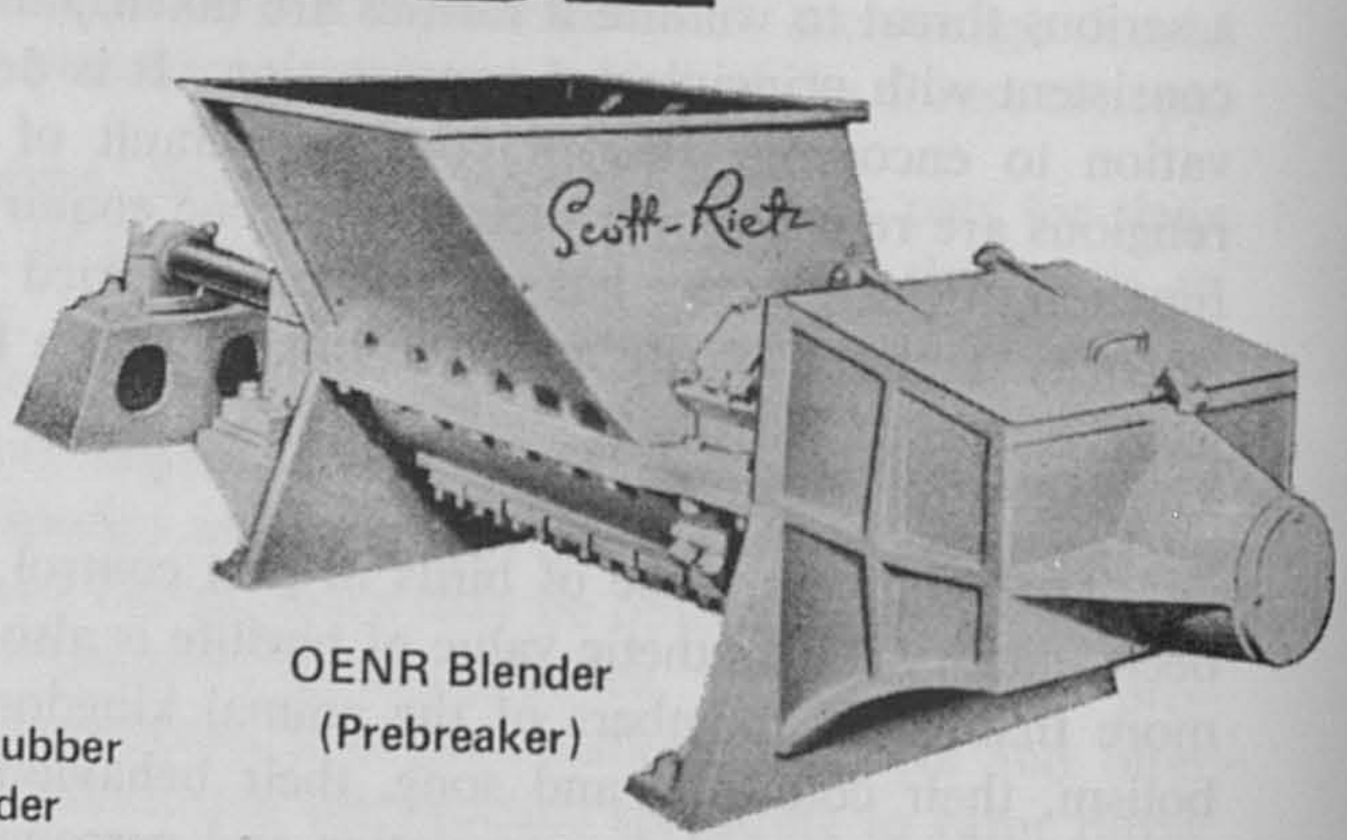
**Mammals of the Land**

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cussed already, because the whales stray into Malaysian waters only rarely and Malaysia has no fleet of whalers. There is little demand for whale-meat in Malaysia, indeed it would not cost South-east Asian countries much to follow Australia's example and ban the import and sale of whale-meat. However, on the land there are about 200 species of mammals, some of which are among the rarest and most severely threatened animals in the world. With the birds, the mammals enjoy the greatest popular appeal and interest, whether as big game, sources of food, working animals, pets or objects of curious observation in the wild or in captivity, because their behaviour is so similar to our own, we are fellow mammals. The problems of their conservation may be considered from two approaches, the general and the specific.

The general approach is to classify the 200 species of mammals wild in Malaysia according to their habitat and food, so that the groups most seriously threatened with a loss of cover or with starvation by the likely changes in land use in Malaysia can be recognised. Then it may be possible to make provision for them in advance of these changes and to start the necessary research to see how that provision can best be made. About half the Malaysian species of mammals live below 1000 feet and both the number whose range extends upward from the lowlands and the total number at any altitude fall off progressively with greater elevation. A few species such as the Malaysian Mole are known only from the highlands. About half the mammals live in tall, undisturbed, primary forest; these are not exactly the same as those which live in the lowlands, although there are many species in common between these two groups. About a quarter of the species live in disturbed forest, cultivated land, residential and urban areas, this group includes introduced species and agricultural pests.

Taking these two trends together we find that the majority of Malaysian mammals prefer to live in undisturbed, lowland forest. This is illustrated by counts of the number of species in primary forest, secondary forest and plantations, which were in the ratio 4: 2: 1. Although the two types of forest had many species in common, those in the cultivated areas were mainly different. There are several distinct layers in undisturbed forest, which show their greatest development in the lowlands, each has a characteristic fauna. The largest class are the ground-dwellers, which are very diverse in size and feeding habits, small rodents and small cats, the peculiar Scaly Ant-Eater, all sizes of deer, large herbivores—including the largest of all, the elephant—and big cats—including of course the tiger. The middle-zone mammals do not attain such large sizes as the biggest terrestrial animals and are much better climbers, moreover they range beyond the middle-zone itself on to the ground and into the canopy, they include some rodents, the civets and the heavier monkeys. The canopy zone is inhibited by gibbons, leaf-eating monkeys, Slow Loris, squirrels and fruit-eating bats. Insect-eating bats hunt through the trees and some even above the trees. As the forest is progressively more severely disturbed, the canopy-dwellers are the first to go, then the terrestrial species typical of forest leaving the adaptable middle zoners until last. This is usually the stage of *belukar* or of tree-plantations, when a new ground fauna is evident, which alone persists if clearing is completed to *lallang* or padi fields.

One small minority group has been omitted from this general scheme, namely the aquatic mammals such as Otters, Water Shrew, Moonrat, Swamp Rat and the very rare Otter Musang. Some will probably survive in swamp forest uneconomic to drain, clear and plant and in other small niches. However, the otters may be lost from the lower reaches of all the larger rivers if the problem of water pollution is not solved. They may suffer too in agricultural areas if persistent insecticides build up in the food chain of life in streams. Although otters feed on fish, like all predators they keep up the pressure on the unfit among their prey. Game fishing has deteriorated due to epidemic disease in north temperate salmon and trout streams after killing otters.

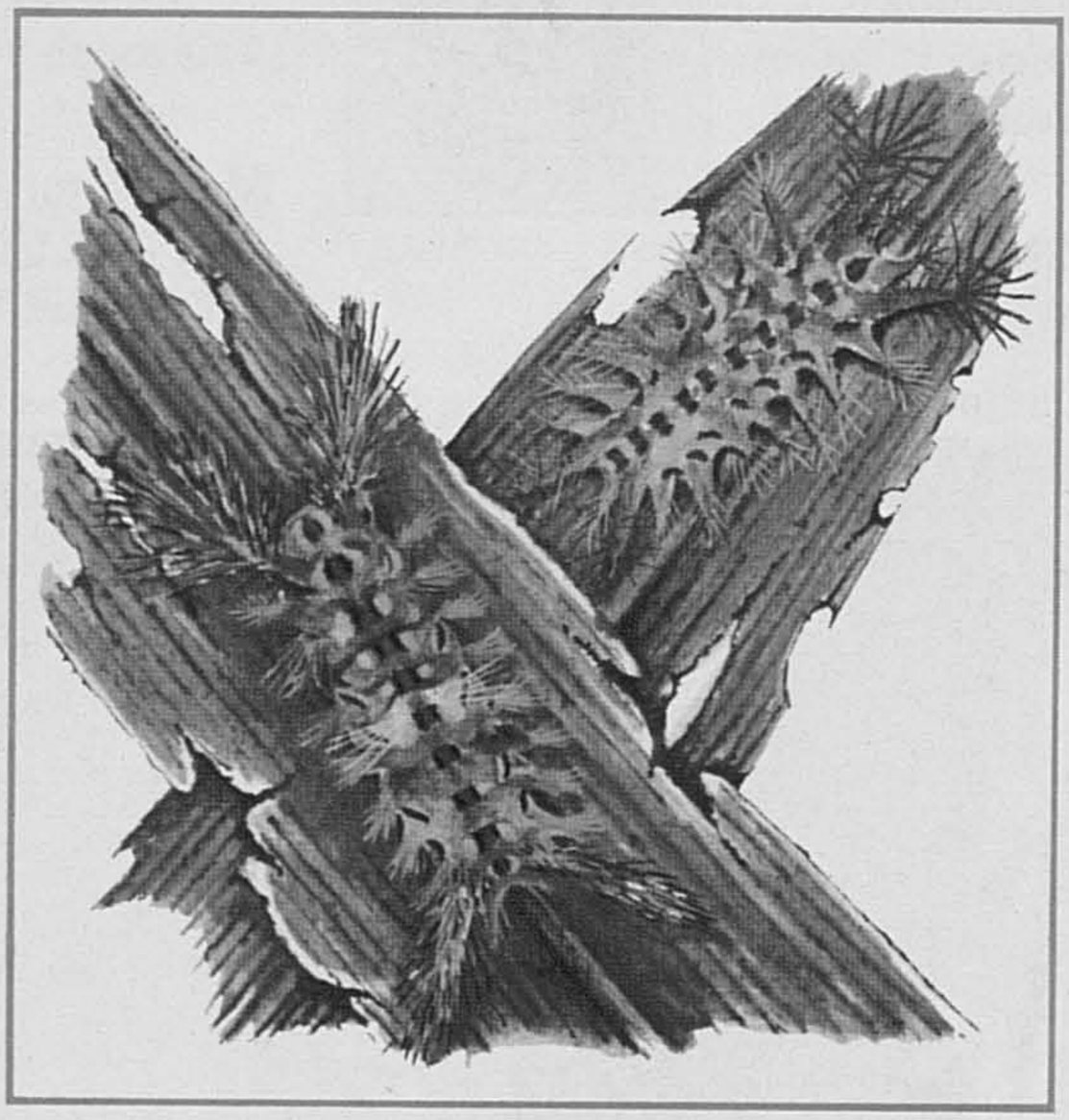
The bulk of the lowland forest is destined to become agricultural land, thus the natural habitat of the majority of Malaysian mammals will be drastically reduced in area. For some strictly lowland species, that is those which live only below the 'steep land line' of the land-planners, wildlife or nature reserves in these areas will be the only solution. Such reserves may accommodate many of the smaller mammals, but the larger mammals—including all the most seriously threatened—need larger territories. An individual Orangutan needs $1\frac{1}{2}$ square miles of natural forest, 20 square miles is quoted for an elephant, although the viable unit is a herd of about 10 beasts, *i.e.* 200 square miles, and a tigress with cubs needs 50 square miles. Fortunately there are promising indications of managing reserves to carry heavier stockings in some cases, although there are risks of creating conditions in which epidemic disease may spread or famine may result in a bad year.

There are prospects of maintaining a representative population of most lowland mammals, particularly of the threatened species after they have been brought through the present critical period by protection in reserves, in the border zone left between the upper limit of cultivation and the 'steep land line' and the upper limit of approximately lowland climatic conditions at 1000 or perhaps 2000 ft elevation. Although the total area of this zone may be as much as 8000 square miles in West Malaysia, it is about 2 miles wide with a 4000 mile long frontier with agricultural land. The management of this border will be crucial for the survival of lowland wildlife in this precarious situation. This zone will probably consist of productive forest on relatively long rotation by natural regeneration with treatment and perhaps enrichment.

It may also include plantations of exotic pines and eucalyptus, although the desirability of these essentially short rotation tree crops above the steep land line is dubious in view of soil erosion risks, apart from it being doubtful if plantations of exotic trees and indigenous wildlife will go well together. There is also a chance that if regeneration and enrichment were so successful in converting the productive forest to consist entirely of economic tree species, that the foresters would wish to exclude wildlife from feeding on them or that the food-plants of the animals would be found to have been eliminated.

At present the indications are that species typical of secondary growth, including some wild fig trees which figure prominently in the food of squirrels, leaf-eating

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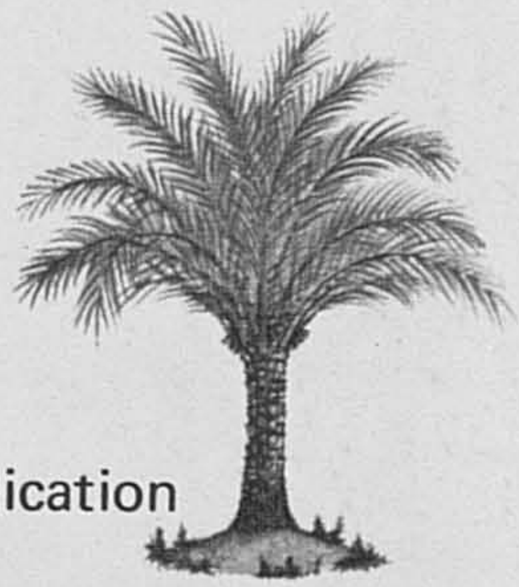


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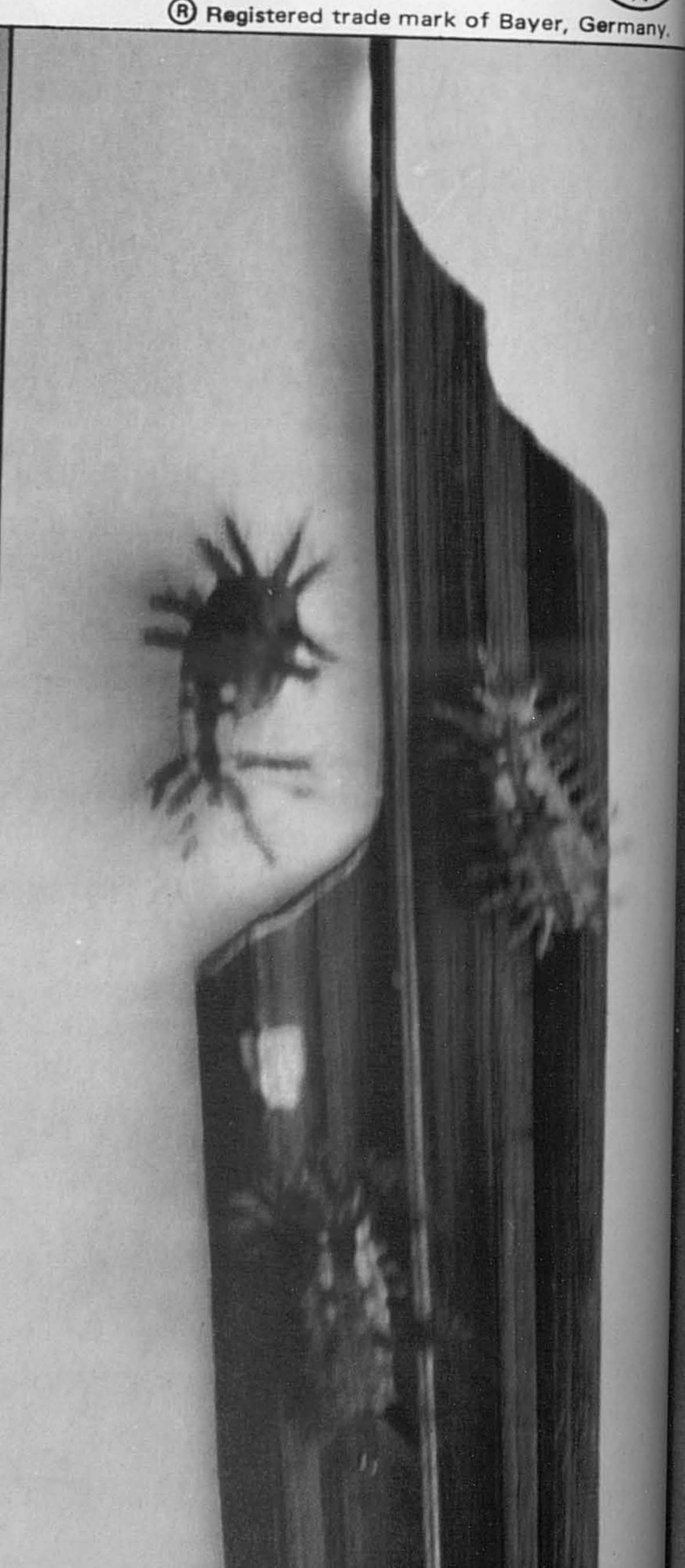
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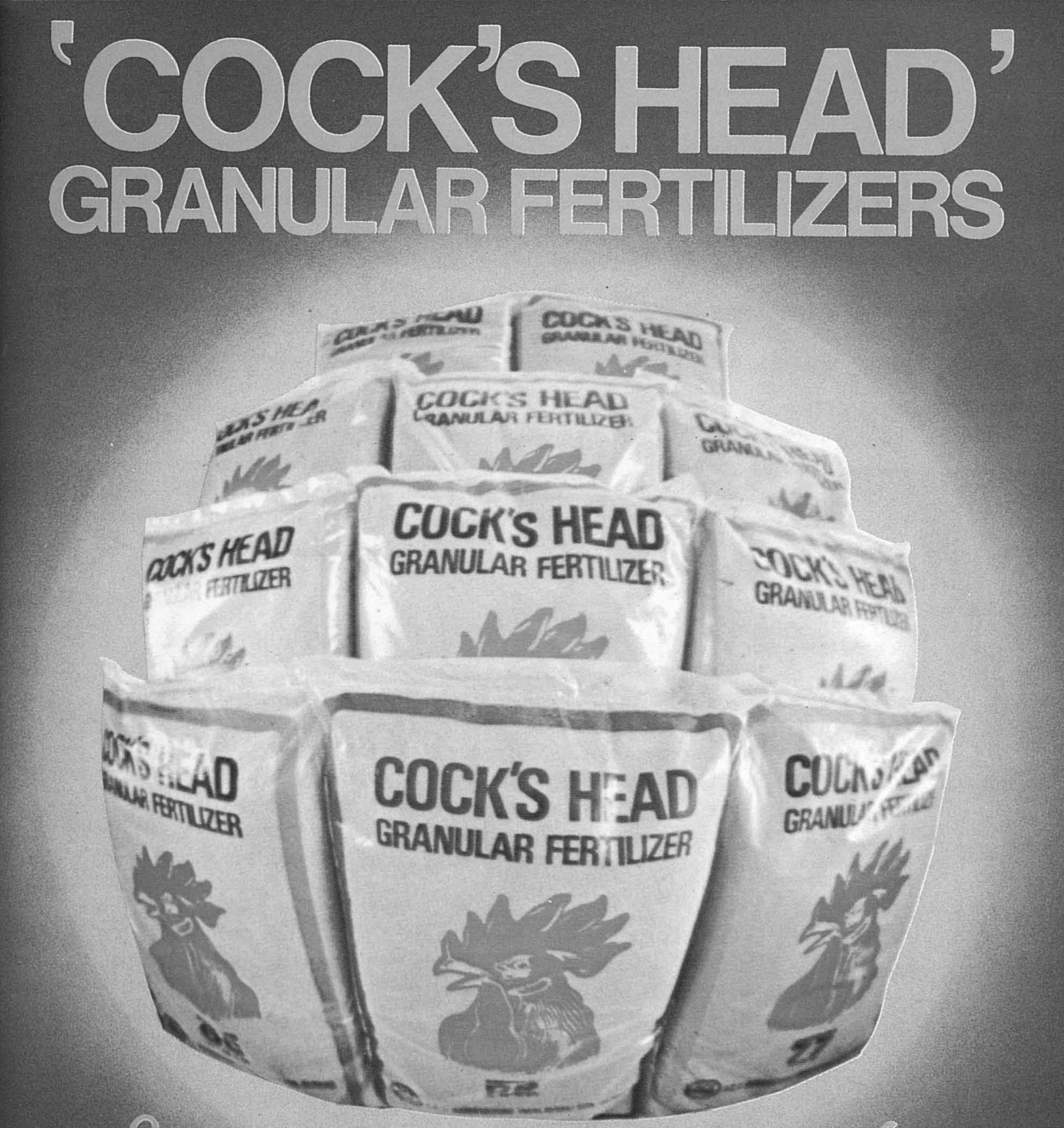
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monkeys and gibbons, are very common in the early phases of regeneration. Secondary growth does not vary so much with altitude as does primary. Secondary growth is the browse of medium and large herbivores, including both productive and threatened species. An increased stocking of deer and pig is likely in turn to give rise to a larger population of carnivores such as the big cats.

At least that is the hope. Whether or not this prospect can be realised, the opportunity will not be taken unless there is preparation for it. This means research now. Preferably joint research by foresters and wildlife conservators. In the earlier chapters quite definite recommendations were given to conserve soil and water. Integrated pest control is still emerging and the guiding principles are yet tentative, but—because of the obvious economic interest—research is in progress. However, the protection of wildlife, is even less developed, we can only indicate the need and allocate some priorities in the urgency of the different problems. The results of research in nature conservation are likely to be as important and rewarding as those into natural resource utilisation.

**Big Cats**

The Tiger is the largest, the Leopard also called the Panther (both the spotted and black forms, of which the latter is more common in Malaya) is second largest and the Clouded Leopard ranks third. All three occur in Malaya but only the last is found in East Malaysia. All three can spring and climb, but the extent to which they normally climb and hunt in the trees is in converse ratio to their weight; Tigers of 300 lb (150 kg) hunt terrestrial prey such as wild pig, Leopards of 100 lb (40 kg) take small deer and large birds (pheasants and jungle fowl) and a 50 lb (20 kg) Clouded Leopard feeds on monkeys as well as other birds and mammals, it is sometimes called the Tree Tiger. Their control of wild pig and monkeys is a valuable service to agriculture.

The threats to the big cats are threefold: loss of food rather than destruction of habitat; the fur trade, and persecution for fear of attacks on domestic animals and man. The big cats can all go quite high into the hills and mountains, so that the alienation of lowland forest for agriculture does not deprive them of their only habitat, but it does reduce their range and what are probably their richest feeding grounds. The size of the largest animals, both predators and prey, occurring naturally in any community is some measure of its productivity. The lack of the bigger mammals in montane habitats may be because there is insufficient food passing along the chain to sustain them. If pig and deer are excluded from plantations of forest trees and heavily hunted in the productive forests, the food of the big cats may be reduced in the zone of timber crops above the 'steep land line' also. Until research is carried out, it is not possible to say what balances may be struck, but it should not be assumed that the deer, pigs and big cats must all go.

The fur trade has created a luxury demand for the skins of big cats in their prime. Hunting and shooting them seems to be easier in countries with a more open terrain than the Malaysian forests, but if the big cats are exterminated in those countries the pressure will turn wherever any remain. The economics of the luxury

trade are such that the price is proportional to the rarity, and the legal or illegal killing of Malaysian big cats will become more profitable. Once a rare animal is trapped or shot, it is rather academic whether it really was a cattle-killer; such pretended excuses are likely if the demand is great enough. Assuming that a hard-wearing nylon substitute fur is not acceptable, another alternative is to raise big cats in zoos, or even in parks. The Malaysian National Zoo has had considerable success in breeding tigers, it is worth looking into the economics of rearing them for their skins, because an excess of cubs has occurred occasionally. It may seem a mean act to rear a noble beast to kill it, although few raise the same objections about grand cattle, but it is better than maiming either to die lingering in the wild.

The fate of maimed animals reminds us of the persecution of the big cats on behalf of villagers who fear for their cattle. This problem has been fully discussed in an earlier section on the borders of cultivation and the control of wild pig and similar pests. We need only recapitulate that the big cats are excellent natural controls of mammalian pests, and injury to the big cats in ill-considered attempts to trap or shoot them is the main cause of them becoming cattle-killers or even man-eaters.

East Malaysia has no tiger, West Malaysia may have had a maximum population of 1000, perhaps half of them survive at present. The immediate future for the big cats may seem assured. However, the three factors mentioned could together cause a very rapid deterioration in their chances of survival. Since each factor separately is quite likely to occur, continual effort will be necessary to preserve the present situation, reverse the tendency and improve the status of these animals.

**Primates**

The primates include the Treeshrews, Slow Loris, Monkeys and Apes, including Man. Among the objects of conservation is the preservation of the environment fit for Man to live in and to retain his sanity. In this sense the whole of this series is about the conservation of that one primate. However, whether we regard the protection of Man from himself as an object or a by-product of nature conservation, we can deal here only with the wild relatives of the Naked Ape. The similarity of the more advanced primates to ourselves has led to an enormous demand for them as pets, performers in circuses, exhibits in zoos and as the subjects of medical (including space) research. The primates are considered to be among the more difficult animals to breed in captivity, whether this is truly so or because insufficient effort has been made by zoos to provide suitable conditions for healthy breeding stock to court, mate, bear and rear their young remains to be seen. (Zoos are organised for display, we would not expect our human relatives to raise a family under these conditions, how can you make a promise of a private room for the confinement of an ape?). The fact remains that the great demand for captive primates is met by capture of wild animals and not by breeding in captivity.

In some cases adult monkeys and apes are caught, but often they are difficult to catch and handle. The majority of Gibbons and Orangutan are taken as babies by shooting the mother and picking up the helpless orphan. It sometimes happens

that the mother ape is accidentally killed when a tree is felled for example, when taking care of the surviving infant is commendable; but far more often this is an excuse to account for possession, because killing of these animals protected by law is a punishable offence. Thus the acquisition of one young captive ape is nearly always at the cost of one adult breeding female, which left in nature might bear more, as well as reducing the future wild population by the animal actually acquired. In the hands of the average hunter, dealer or shipper this is the start of a history of malnutrition and infectious disease which eliminates up to 90% of the young captives before they reach their final destination. Almost invariably animals rescued from the trade are found in cramped, dirty quarters suffering from dysentery and infested with worms and vermin. Even in the best zoos some apes are delicate subjects, for instance gibbons are very susceptible to water-borne diseases, perhaps because in their natural tree-top existence they do not come into contact with streams; bare, hygienic cages on the other hand prove frustrating for these intelligent animals.

The progressive disturbance of primary forest leads first to the disappearance of the canopy-dwellers among which the Orangutan, Gibbons and Leaf-Eating Monkeys are found. Thus the Malaysian Apes are among the most sensitive to habitat modification. The White-handed Gibbon is mainly a lowland species, whereas the other Gibbons—especially the Siamang—are found in the hills. Any productive forest involves operations likely to disturb the canopy-dwellers, whether in the lowlands or in hill forest. Thus the best prospects for the survival of these apes in productive forest is if there is a mosaic of forest at different stages of the regeneration cycle so that they do not have to move too far to find suitable canopy, when one portion is due for timber extraction and passes again into the open or disturbed phase. Whether or not a fair stocking can be maintained in this way in productive forest will depend on freedom from other pressures such as poaching.

**Orangutan**

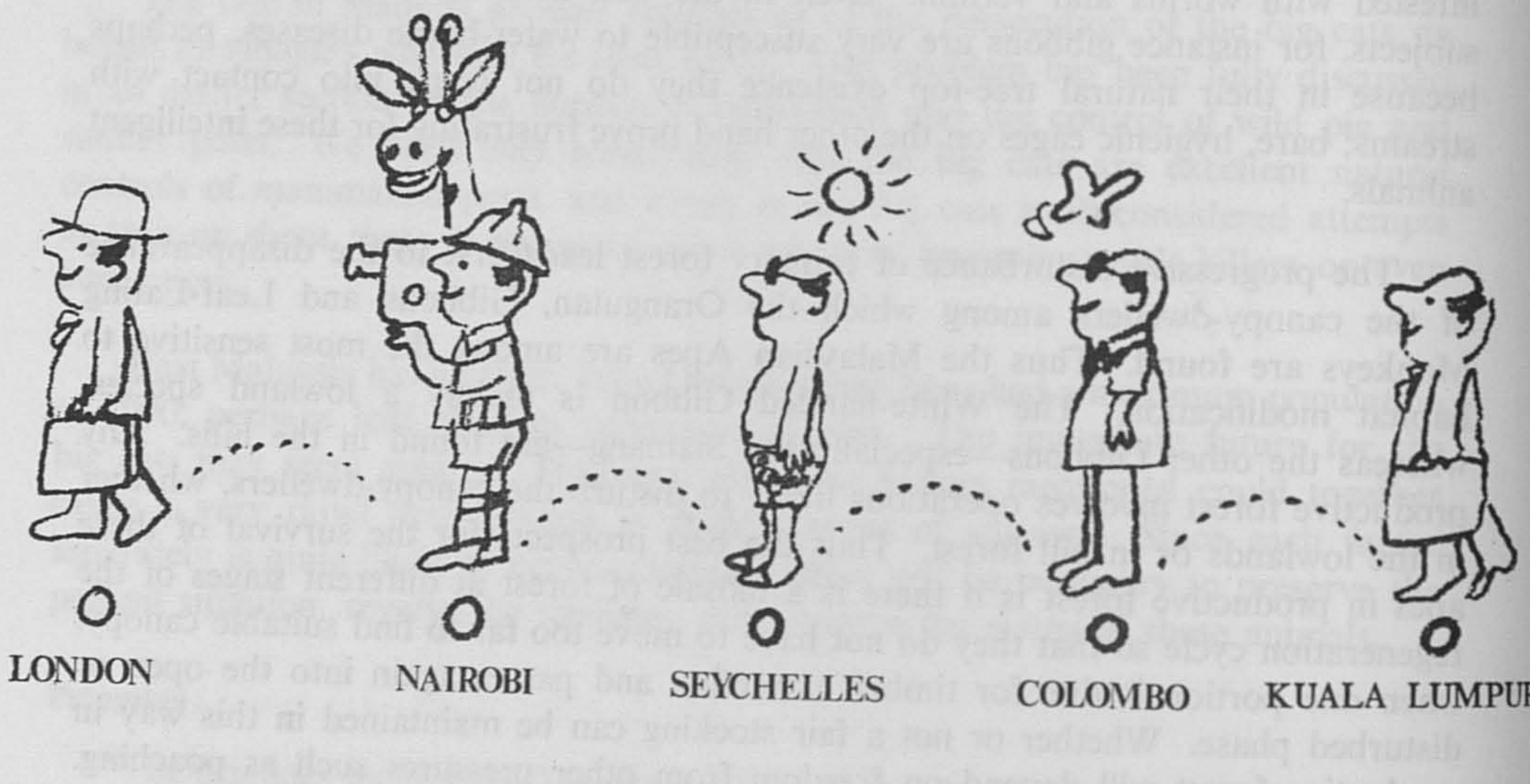
The Orangutan is the largest ape in Malaysia, second only to gorillas in the world. Fully grown Orangutan are about the stature of a man, but thicker built and weighing more than all except the most obese humans. Although shy, retiring and inoffensive by nature, they are powerful and can seriously injure those who molest them in captivity. The Orangutan is one of man's closest living relatives in the world today. Probably for this reason the Orangutan is in great demand. In modern times its range has been limited to Borneo and Sumatra, where its habitat is being reduced by land clearing and forestry operation. The combination of these forces has resulted in the Orangutan being placed on the short list of species most severely threatened with extinction in the world today.

The threat was realised by the Sarawak Museum and by the Forest Department in Sabah. Research was initiated in Sarawak and continued in Sabah when a Game Branch was set up as part of the Forest Department. These efforts are co-ordinated by OURS (Orang-Utan Recovery Service) under the auspices of the IUCN* Survival

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* International Union for the Conservation of Nature and Natural Resources, publishers of the original edition of this monograph. *Ed.*

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Service Commission. OURS has arranged financial support and the co-operation of the Malaysian National Zoo in Kuala Lumpur, as well as playing a leading role in reform and enforcement of legislation not only in the countries of origin of the animals, (Indonesia and East Malaysia), but in the centres of distribution and shipment such as Singapore. IUCN seeks the cooperation of IUDZG (International Union of Directors of Zoological Gardens) to ensure that zoos do not accept illegally acquired animals such as Orangutan.

All young Orangutan taken illegally or orphaned by genuine accident must be handed over to the authorities in East Malaysia, where no permits to shoot or capture these totally-protected animals are issued. The authorities may confiscate all Orangutan found in West Malaysia or Singapore which have not been legally acquired with an export permit from their country of origin. These confiscated animals may be sent to such places as the National Zoo, almost invariably they are in urgent need of veterinary care. As many Orangutan as possible are sent to a centre where they can be nurtured and trained to re-adapt to life in the wild, whither they will be returned to being given progressively greater freedom. Only those Orangutan which are deemed to have become completely unsuitable for rehabilitation to a wild existence, should be exported legally to zoos and similar institutions, preference being given to those which have been successful in breeding Orangutan or other primates in captivity. Funds from OURS have been used towards the building of a primate centre at the Zoo Negara.

One of the most conspicuous human features is the care of their young and training of them to obtain their future livelihood. The other apes differ from us only in that this period of dependence is shorter, although still a matter of years. It is for this reason that young Orangutan cannot be turned loose immediately in forest. Apart from the risks of recapture by poachers or of dying from diseases picked up during captivity, they would starve or soon fall victim to predators. The preliminary research was at Bako National Park, Sarawak, and the present centre is in Sepilok Forest Reserve, Sabah. The young animals are kept in clean quarters, fed regularly with a balanced diet and regularly examined and treated medically. They are exercised daily under gentle supervision and encouraged to climb trees with progressively greater freedom in their 'open zoo'. Eventually it is hoped to release groups of Orangutan retrained to jungle life in strict sanctuaries, one of which may be established in the Upper Segama area. The Sepilok area is also protected in this sense. Some animals may have been in captivity too long during their normally formative years to re-adjust, these are those destined for zoos if they do not respond to their opportunity to return to the wild. Some of these intelligent creatures seem to realise that their semi-captive existence with food provided during scarcity is a luxury life and show no inclination to return to the forests. They lose much of their fear of mankind and sometimes savage people who over-indulge their curiosity in these apparently tame apes.

Research is still needed at every stage to assist the young Orangutan to recuperate, retrain and return. The mode of life of the Orangutan in the wild, its food and habitat requirements, are still inadequately known. The best chance of survival

must be given to the released and remaining wild Orangutan and their future protection assured. These activities give some idea of the immense effort needed in the enactment and enforcement of legislation, organisation of funds, staff and research, and provision of adequate, suitable, permanent, fully protected sanctuaries which must be made to save an endangered species.

**The Big Herbivores**

A herbivore is an animal of vegetarian diet, the big ones are ungulates, that is hooved animals, the family to which cattle, horses, sheep and goats belong. The three large herbivores discussed here, Elephant, Rhinoceros and Wild Cattle (Seladang in West and Banteng in East Malaysia) are the largest wild land mammals in South-east Asia, indeed only domestic cattle and buffalo—some of which have run wild—rival the smaller wild cattle (Banteng) in size. All three are hunted and shot at for various reasons. The Elephant to protect agricultural crops and less frequently as licensed big game to provide ivory and other trophies. The wild cattle are poached for their meat. The Rhinoceros are the biggest prize of all for the poachers because every part, especially the horn, is believed to have almost magical—but actually non-existent medicinal, tonic and aphrodisiac properties for which the superstitious are willing to pay heavily.

All three require large amounts of herbage as fodder, the Elephant feeds preferentially on bamboos, palms and secondary growth in disturbed forest, the Rhinoceros feeds on *belukar* shrubs as far as is known, but the Wild Cattle prefer coarse grasses and scrub typical of jungle clearings. Under natural conditions these essentially secondary types of vegetation occur scattered throughout the primary rain forest in patches damaged by storm or landslip or where old dead trees have fallen. The more open grass and scrub being found on river banks and in the abandoned clearings of old aboriginal settlements. Thus in nature they need large territories or beats over which they wander to browse. They need recourse to water and to salt-licks. Other forms of cover are probably needed for resting and breeding. Under present day conditions of settlement of aborigines and forest clearance for land development, the large herbivores are being driven from their traditional home and are becoming concentrated along the margins of cultivation where their preferred food of grasses and other secondary vegetation is found in abundance. This exposes them to poachers and brings them into conflict with agriculture.

The only encouraging aspect of this situation is that the management of secondary vegetation to produce an abundance of grass, scrub and *belukar* is already fairly well known or can easily be improved by relatively short term and simple studies, (conversely it would be a very tall order if we had to restore the primary forest). Some progress has been made along these lines for the encouragement of Banteng in the Udjong Kulon Nature Reserve in Java. Agriculturalists are rather good at establishing these conditions by accident and neglect. It would be possible by design in wildlife management. This opens up several possibilities.

Firstly, managed areas to provide more abundant food, fertilised if necessary and enriched with artificial salt licks, should support a much higher stocking. The

animals should be less inclined to wander away. This concentration can be located where access is difficult for poachers (and from where they cannot easily escape undetected with the spoils) and altogether better protection can be afforded by the game wardens. Where food and total protection are afforded, the breeding rate often increases and wild animals become much tamer. The tameness is an important point in the later stages of development of such reserves, because it means that casual visitors such as tourists have a much better chance of seeing and photographing some of these large animals. As far as possible these protected, managed areas should be in the centre of parks and game reserves, so that there is a large buffer zone surrounding them. Attractive as this idea is, there are problems and risks.

Although the necessary research on management does not appear to be exceptionally difficult or to require a very long time to obtain results, so far it has hardly been started in Malaysia—beyond a few observations on feeding habits. Next, the animals have to be got from where they are now into the new managed reserves. Where there is a nucleus of the animals as in the National Park (Taman Negara) of West Malaysia, the management can be started where they are causing as little disturbance to the animals as possible. However, usually it will be necessary to move small, threatened groups which do not form viable breeding units over quite long distances of terrain difficult due to hills, rivers, roads and human obstructions.

Publicity has been given of late to field immobilisation techniques in which a dose of combined tranquiliser and anaesthetic is shot into the animal by means of a gun firing a syringe loaded as a dart. After a brief period of panic and frantic effort the animal is subdued, comatose or asleep and can be guided or manhandled by tackle into a crate and carried off to its new home. In practice it is essential to have a veterinarian experienced in the technique in charge, also for the dose to have been accurately assessed and correctly delivered. There has been one case of shooting a tiger in the eye with such a so-called mercy gun in Malaysia (the tiger had to be killed defeating the object of the exercise). Too small a dose and the animal may damage itself in its panic, too large and it may never recover. The savanna plains of Africa, where the technique was developed, are very different from the thick swamps into which some of our few surviving Rhinoceros have retreated. A large animal immobilised in a swamp may have drowned or recovered and got away—perhaps to collapse later from injuries in some inaccessible place—before it had been extracted by the handling team. If these methods have a place here, the Seladang might be the best first subjects after suitable trial on domestic cattle (for instance when the Veterinary Department need to inoculate an intractile bull).

An alternative method of capture is to build a corral, stock it with attractive fodder, water, etc., and leave it open for long periods to get the animals used to wandering in and out, and to the associated signs of human activity, before attempting to shut the gate on the enclosed animals. Although seemingly simple, trained staff and great patience are needed. Another risk is the development of epidemic disease in these artificial concentrations of wild animals. This is a risk which must be taken, because in most cases the rare beasts are exposed to even greater risks of destruction at present. Nevertheless this danger may be anticipated by having more

than one such reserve, managed or situated under slightly different conditions if possible, and with access to the best veterinary advice available in the event of trouble arising, so that diagnosis and action may be prompt. If the managed park is a great success and the stock multiplies to too high a density for the health of the population or to threaten other wild life, then culling or cropping will be necessary. At the present time this is not a problem, but it may be necessary to ensure that the game wardens have the necessary powers if it is ever necessary for them to apply such measures.

**Elephant**

The Asian or Indian Elephant is the world's heaviest land mammal, it is wild in West Malaysia and has escaped and run wild in parts of East Malaysia. There are about 500 in Malaya, but it is no longer found in the most developed states of Selangor, Negri Sembilan and Malacca. Its density seems to peter out with progressively higher penetration into the hills, so large an animal must find difficulty in very steep places. On a steep portion of a rubber estate the elephants used to steady themselves by curling their trunks around the trees conveniently placed in orderly rows 22 feet apart. Elephant occur above the 'Steep land line' in Malaya but probably do not ascend in great numbers above the lowland dipterocarp forest type.

Although at present in fair numbers, the elephant numbers are falling quite rapidly, mainly because no one has devised any other way of dealing with alleged crop raiders than by shooting a few. Even so it is hoped that substantial numbers will survive in Upper Perak, the National Park and perhaps other reserves throughout the country. The putative minimal area of 200 square miles for a herd of 10 elephant, perhaps more if the terrain is steep, should be remembered when creating reserves to protect existing herds. Some recently created reserves have been too small and conflict between the elephants and adjacent humans is inevitable. Where small reserves are unavoidable, there must be management (habitat modifications and perhaps culling) to adjust the carrying capacity of the reserve and the population of animals.

**Seladang**

There are, hopefully more than 300 of these Wild Cattle left in Malaya (the Banteng is extinct in West Malaysia except perhaps for a few strays from the small stock surviving in South Thailand). However, these 300 are widely scattered and about 100 of them are faced with fairly rapid destruction of their favoured valleys, salt licks and mineral streams by flooding for hydro-electric and irrigation schemes.

The more lowland parts of the National Park and some other areas would seem ideal for managed reserves of Seladang. An attempt might be made to convert some to range cattle under partial domestication. The related Indian Gayal has been bred under such conditions. Ecological studies have begun and it is urgent that some constructive action be taken for these threatened animals.

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# GENOCIDE.

**Banteng**

This is found in East Malaysia (where the Seladang is absent). Relatively little is known of its status. Perhaps because grassland has taken over from shifting cultivation quite high up in the hills of Sabah, *e.g.* on plateaux at 4000 ft (1200 m), Banteng have been reported at quite high levels as well as in valleys. The Banteng browses on leaves of shrubs and low hanging branches as well as grazing on grass.

**Rhinoceros**

The Javan One-Horned Rhinoceros was once found in Malaya, but what was probably the last one was shot in 1932. The entire world stock of this species is in Udjong Kulon Nature Reserve at the extreme western tip of Java in Indonesia.

The Sumatran Two-Horned Rhinoceros is the only species left in Malaysia. There are probably 20 individuals left in Malaya and a few may yet survive in Sumatra and Sabah. This species is definitely on the very verge of extinction, poached for its horn, denied living space and split up into small groups and solitary individuals. Although it enjoys legal protection, the penalties if caught, are still low compared with the possible profit to the poachers (the penalties are higher in Sabah than Malaya where they are ridiculously low). Anyway poachers hope to get away without getting caught, and whether they are caught or not, the damage is done, a rare animal is dead. The first need is to strengthen the Game Department so that adequate personnel are available to actually protect the known groups by patrolling the reserves.

Valuable preliminary field studies have been made indicating its wide range from the swamps to the hills and food preferences. If protection is provided and funds and personnel follow, building on this foundation and showing a sense of urgency, it is possible that Malaysia will be able to save the Sumatran Rhinoceros as the Indonesians are doing for the Javan Rhinoceros.

**Other Herbivores**

The medium-sized herbivores, Tapir (restricted to Malaya and Sumatra with related species in South America), Sambur Deer and Serow are all threatened to some degree. The Tapir fortunately goes quite high into the hills (4000 ft, 1200 m.) but its geographical range is contracting. It is now extinct in Borneo, although prehistoric remains have been found there. The Serow inhabits rocky limestone, but this is being quarried and the vegetation burnt. Whether the Serow needs to feed on vegetation which has grown on limestone, or the precipitous karst towers are the last refuge for breeding where this wild goat has an advantage over its predators including hunters, there is a strong association between limestone and Serow, although it does wander into adjacent forest on granite. The Sambur Deer had suffered a decline, but a close season of some years followed by a careful control of hunting is showing promising signs of restoring a good stocking with healthy age and sex structure. Therefore the largest herbivores are neither the only threatened species nor the only ones something can be done to save.

# I.S.P. Technical Education Scheme

*(continued)*

**Publication of the syllabuses of TES examinations, begun in last month's issue, is concluded on the following pages.**

**Estate Practice examinations.** The duration of these was omitted from the syllabuses published last month. With all three crops—rubber, oil palm and cocoa—it is six hours; three hours for Parts I and three hours for Parts II.

It has been pointed out that there is no mention of costs in the Part I syllabuses of these examinations, except for a reference to pre-planting costs of Cocoa. *Candidates are warned that they must expect questions on operational costs and that they should be deeply aware of the implication of costs on profitability.* Any particular field practice must justify itself economically as producing the best return under the given circumstances. A particular field practice which is believed to be the superior method agriculturally may well be detrimental to the shareholder's income.

## Agricultural Science

This examination has two parts: Botany and Soils, the one following the other on the same examination date. Failure to obtain a pass in either means sitting for that part again.

Exemptions from the complete examination are granted to holders of degrees or diplomas in agriculture. Applications for exemption must be accompanied by certified true copies of diplomas. In the case of lesser-known colleges or universities, the TES committee may request details of syllabuses and marks gained.

### BOTANY

Recommended for study, and available from the I.S.P., are:

*Lowson's Textbook of Botany*
Fourteenth edition, revised 1966
by Simon, Dormer & Hartshorne.
University Tutorial Press Ltd,
London.

*or*

*Botany for Degree Students*
by A. C. Dutta. Third edition 1970.
Oxford University Press,
Bombay, Calcutta, Madras.

Required reading in these books is as follows:

(1) **LOWSON**

*Chapters*

2–7 inclusive

8 pp. 159–168 Nuclear Division

9

10 pp. 203–207, 219–228, 232–262, 265–267.

11

12

13 pp. 396–401, 404–407.
Families Leguminosae
Gramineae

19 pp. 528–536
539–545 Pythium and Phytophthora
547–555 Mucor, Aspergillus, Penicillium
558–562 Saccharomyces
570–572 Mycorrhizas
574–582 Bacteria and Viruses

(2) **DUTTA**

| | | | *Chapters* |
|---|---|---|---|
| Part | I | Morphology | 1–11 |
| Part | II | Histology | 1–9 |
| Part | III | Physiology | 1 and 4–14 |
| Part | V | Cryptograms | 3 |
| | | | 4 pp. 514–545 |
| | | | pp. 557–566 |
| Part | VII | Angiosperms | 2 pp. 690–693 |
| | | Leguminosae | pp. 711–716 |
| | | Cucurbitaceae | pp. 718–720 |
| | | Rubiaceae | pp. 724–725 |
| | | Solanaceae | pp. 735–736 |
| | | Euphorbiaceae | pp. 749–751 |
| | | Palmae | pp. 761–763 |
| | | Gramineae | pp. 763–766 |
| Part | IX | Economic Botany | Chapter 1 |

# SOILS

## (1) SOIL

(a) Physical properties of soil.

(b) Chemical properties of soil.

(i) mineral portion.

(ii) organic matter and humus.

(c) Green manuring and composting. The role of leguminous cover crops.

(d) Cultivation

(e) Soil erosion and drainage. Soil conservation methods.

(f) Plant nutrients.

## (2) FERTILISERS AND THEIR USE

(a) The role of fertilisers.

(b) Symptoms of nutrient deficiencies with special reference to *Hevea* and oil palm.

(c) Types of fertilisers and manures

(d) Classification and approximate composition of chemical fertiliser materials

(e) Nitrogenous fertilisers

(f) Phosphatic fertilisers

(g) Potassic fertilisers

(h) Magnesium fertilisers

(i) Mixed fertilisers

(j) Time, method and rate of application of fertilisers.

## *RECOMMENDED FOR STUDY*

*Elements of Tropical Soil Science* by T. Eden. Reprinted 1971, The Macmillan Press, London,

*Efficient use of Fertilisers* edited by V. Ignatieff & H. J. Page. FAO Agricultural Studies No. 43. Fifth edition, 1968. FAO, Rome.

*(All chapters of both books to be studied)*

These should be supplemented by relevant material from RRIM *Planters' Bulletin* and *Journal*, and ISP publications on oil palm.

# Tamil Language

(Elementary)

*The examination is in two parts, written and oral. A pass is required in both parts at one examination. All tests will have a bearing on estate environment.*

(1) *Vocabulary, grammar and syntax* (2 hour written paper)

a. 50 words, from English into Tamil.

b. 50 words, from Tamil into English, read out by a native Tamil with good diction.

c. Translation of 20 sentences designed to test the candidate's knowledge of grammar. Ignorance of a word will not be penalised provided the construction is correct. Answers may be required to be read aloud.

The sentences will embody the following constructions:

Verbs: Simple imperative, past, present and future tenses; and person.

Participles: Several English verbs joined by 'and'.

Prepositions: *e.g.* by, with, from, without, for, in, on, under, in front of, behind, near *etc.*

Conjunctional clauses: *e.g.* if, if not, when, before, after, because, although, until *etc.*

Relative clauses: *e.g.* 'the man who came yesterday'.

Questions: *e.g.* "When, what, who, why, how much?"

Also the difference between "who, what" interrogative and relative.

Pronouns, adjectives *etc.*

Simple comparative: *e.g.* 'That tree is bigger than this'.

Phrases embodying the use of 'to have, to know, to like, must, must not, want, can, cannot'.

Time: minutes before and after the hour.

Numerals.

(2) *Oral* Candidates will be required to converse with a native Tamil of reasonable intelligence but ignorant of English. Such questions as are proposed by the examiner will be asked in Tamil and the answers translated. *e.g.* 'How old are you, where do you work, what do you do when work is over?' *etc.*

Candidates may be asked to make free conversation with, or to translate a spoken passage by a labourer.

*RECOMMENDED FOR STUDY*

*Colloquial Tamil* by W.G.B. Wells (Ninth edition) 1963. Available on loan from the Society.

# Tamil Language

(Advanced standard)

*The examination is in two parts, written and oral. A pass is required in both parts at one examination.*

(1) A 2-hour written paper in the Tamil script. Maximum marks are shown in brackets.

Vocabulary: 20 words from Tamil into English and 20 words from English into Tamil (50)

Sentences: 10 sentences from Tamil into English and 10 from English into Tamil, designed to test knowledge of Tamil idiom and including at least two in which alternative forms—the grammatical and the slang—are contrasted. (100)

Prose: Translation from Tamil into English of a passage of 75–100 words.

Translation from English into Tamil of a passage of about 50 words. (100)

*Note:* Marks are allocated as above since it is considered that an extensive vocabulary is the least important part of a real knowledge of the language.

(2) The oral test carries a total possible number of marks of 100 and comprises the reading over by the candidate to the examiner of some of the replies to the written paper, and conversation with a Tamil labourer.

# The monthly crop

**A Conference on Estate Management** will be presented by the Society in November, with expert assistance from the Malaysian Institute of Management and the National Productivity Centre. Attendance *may* have to be limited, so you should keep an eye open for the registration forms which will appear in this magazine, probably in April or May.

**Some confusion** may have arisen in the minds of certain of our readers and advertisers following their receipt of a letter from the chief editor of *The Planters' Guild Bulletin* in which the ISP is mentioned. The bulletin, the first issue of which is expected shortly, is the work of students studying for their Diploma in Planting Industry Management at the MARA Institute of Technology. (This is a 3-year course and a number of graduates have already joined the planting industry and the Society). The bulletin will be in English and we have offered our assistance in proof-reading, and with general advice, while the publication 'finds its feet'. Apart from this, the Society is not connected in any way with the new bulletin although, naturally, we wish it every success.

**Hammond Innes'** latest novel *The Golden Soak* must be pretty hot stuff, and readers would do well to have a bucket of water handy. According to a review, this 'sizzling adventure' is set in 'the blistering outback of Australia' and.....'*you can literally feel the heat burning the pages.*'

**Question:** Are organically grown foods more healthful than chemically fertilised foods? If they are, then someone better tell the Dutch. We quote from a booklet published by the Potash Institute of North America:

'Holland uses the most concentrated rates of chemical fertilisers in the world, Dr T. C. Tucker of the University of Arizona reports. And with it, the Dutch enjoy the world's highest crop yields and health standards: the highest birth rate, lowest mortality, and a life span 2 years longer than US residents. Dr Willard Garman, widely respected Senior Agricultural Specialist of the US State Department concludes that any water or health problems from fertilizer use would "surely have been evident before now in Holland, Denmark and Japan where fertiliser use is older and more intense than in the US."

Perhaps the best answer is given by Dr Carolus: "Life expectancy in the US has increased from 62.9 years in 1940 to 70.5 years in 1968! During the same period, wheat productivity has increased 156%, corn 142%, potatoes 190%, tomatoes 260%. While prolonging life and increasing yields, we were also improving quality enough to grow a chicken today on 50% less feed, beef on 33% less feed than in 1940. Today, one dairy cow replaces yesterday's two cows. Today, one agriculturist can feed four times the people he fed in 1940."'

**Suffer little children.** Approached by a very small boy with a request to help him with his sums, we were presented with the problem: OOOOOOOOOOOOOOO OOOOOO + OOOOOOO = ?. After patiently explaining to him that no matter how much of nothing you had, it still added up to nothing, and that therefore the answer was zero, we were blithely informed that it was 28. And just how did he work that out? "Easy" came the reply, "they're ping-pong balls."'

**Sport and Culture** got a bit mixed up in *The Malay Mail* of 14 February. Announcing the programme of a visiting *corps de ballet*, they included: SWAM LAKE.

**Conte drolatique.** Man at front door: "Good morning madam, are you the lady who answered questions in a recent survey on the population's sexual habits?" Housewife: "Yes, that's right". Man: "I wonder if you'd mind answering a few more?" Housewife: "Of course not. Why—are you from the survey team?" Man: "Well not exactly madam, actually I'm from the Guinness Book of Records".

**The National Productivity** Centre have announced their programme of courses for the first half of the year under the Management Development Section. The two courses of particular interest to planters are 'Leadership and Human Relations for Plantation Managers' and 'Plantation Management for Conductors'. The former will be administered along the same lines as the course on 'Leadership and Human Relations for Managers' but with the emphasis shifted from the industrial to the estate sector. It will be held from May 21–25. The course for Conductors is from June 11–15.

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## REPORT FROM UPLANDS SCHOOL

Once again this report is being prompted by an awareness of the too-rapid passing of the Term. It is already half-term and yet we seem to have been back from the Christmas holiday for a couple of weeks only. It is a good thing that we do not observe the local public holidays!

Well what is happening up on Penang Hill? In the classrooms we are going metric. The younger children who have never been introduced to yards, feet and inches are finding it easier to accept than the older ones do. If we follow this line of reasoning to its logical conclusion I suppose it would be true to say that the teachers are the ones who find it hardest of all. . . Be that as it may, it *is* true to say that one always learns when one teaches.

The children then, are currently engaged in estimating lengths and distances in metres and when you next walk to the School from the Tunnel Station you will know that you have covered rather more than one kilometre.

GUTHRIE WAUGH

DU PONT

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Lannate® stops the bunch caterpillar dead in its tracks.

**QUICK** – Insects are killed soon after application.

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**HOW TO USE:**

Apply Lannate® 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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GUTHRIE WAUGH

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# BENLATE®

## BENOMYL FUNGICIDE

**Mouldy Rot of Rubber.**

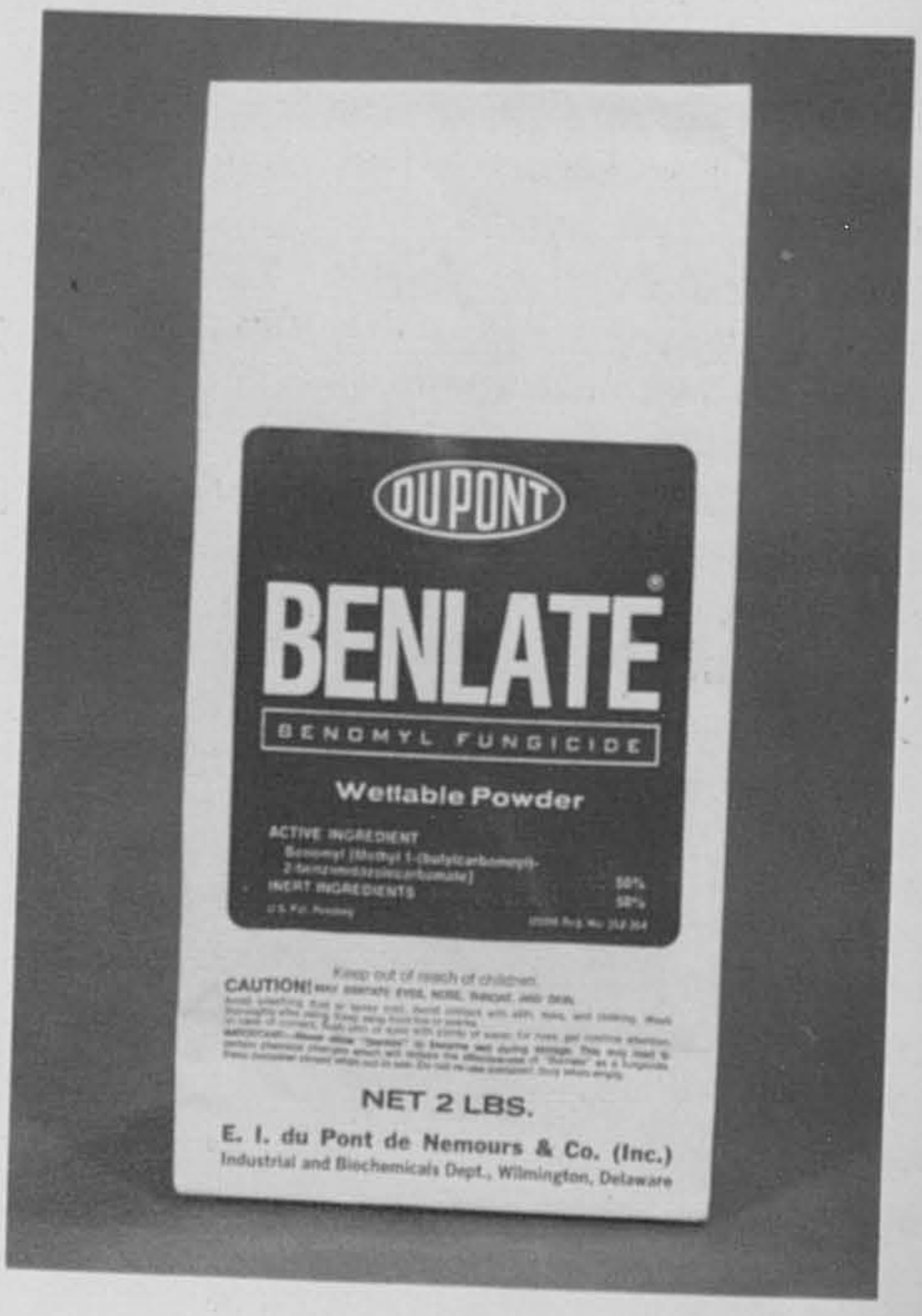
Du Pont Benlate® Benomyl Fungicide is recommended for the control of Mouldy Rot (Ceratocystis fimbriata) on rubber tree tapping panels.

HOW TO APPLY:

Apply Benlate® 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.




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*photo: Dozer/Grader at work on the Sungei Tong Oil Palm Estate, Trengganu*

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Outside the classroom the dried-up dust-bowl that used to be the football field is causing concern because, of course, the hot weather is affecting us just as it is affecting those at lower levels. Fires are becoming commonplace and from our vantage point we are aware of them even when they are far away on the mainland. Fortunately our gardeners keep the jungle at bay very efficiently and the grass has been well and truly mown. Nevertheless we have taken the precaution of having all the fire extinguishers serviced recently and the children are becoming used, paradoxically, to unexpected fire drills.

(*Sgd*) P E DRURY,
*Principal.*

21 February 1973.

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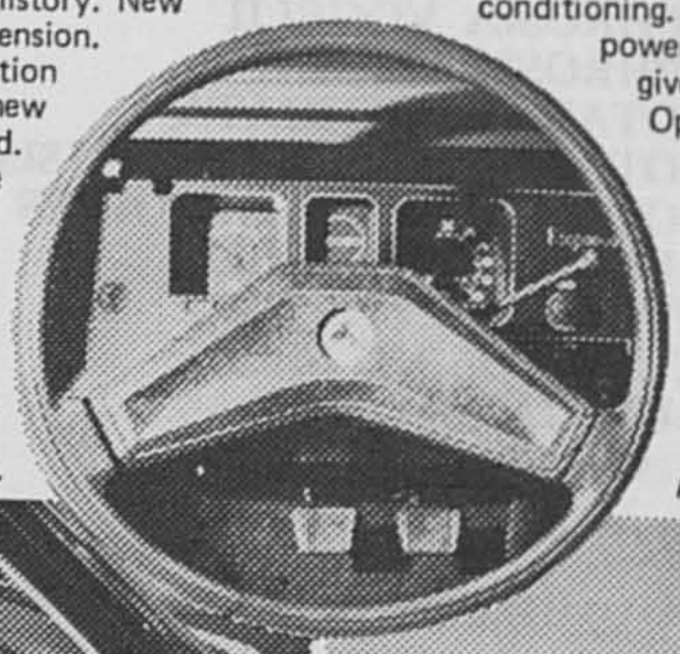



**"Sydney Sun" Road Test reports on fuel consumption**

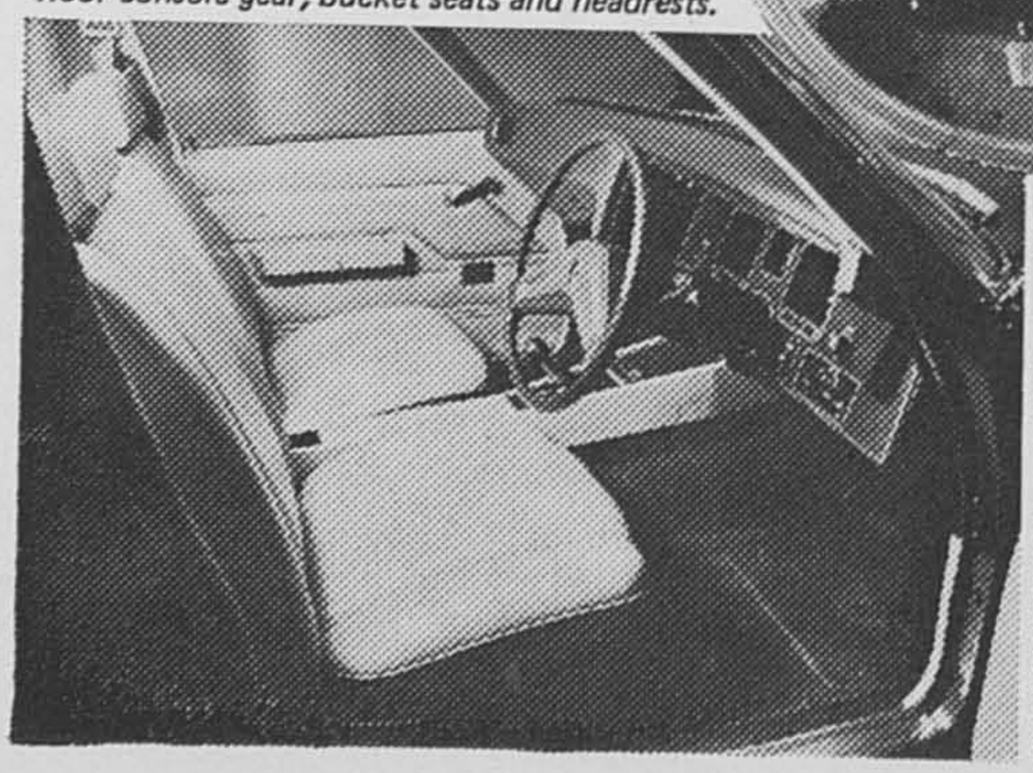
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| Highway driving | 28 m.p.g. |
| Economy driving (50 m.p.h.) | 30 m.p.g. |

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*The big new Kingswood station wagon with long wheel base — an exclusive chassis design.*



# MESP Fund forges ahead

V. D. NAIR

A few weeks ago I gave a talk on the MESP Fund to the officers of the ISP at the instance of its Executive Secretary, as some of its branches sought clarification or elucidation on some aspects of the Fund. I suggested at the time, that what I said should not be given publicity lest it be misconstrued. Now that the Board of Trustees of the MESP Fund have taken their decisions in respect of the year ended 1972, that embargo no longer holds good and members are entitled to be informed of these decisions.

They are:

(i) To approve a dividend of 3% for the 2nd half of 1972 bringing the total for the year to 6½% (3½% having been declared for the first half).

(ii) In addition, approval to credit each members account with the capital surplus of the fund calculated at 25% on the members' balances as at 31st December 1972.

The latter constitutes a bonus which is the first distribution of its kind in the history of the Fund and may well be beyond the expectation of most members.

When the Executive Secretary approached me enquiring whether it was possible for me to meet the officers of the ISP, he made special mention *inter alia* of two points raised by branches:

(i) That the Board of Trustees be requested to raise the dividend rate for 1972; and

(ii) That certain changes in the administration of the MESP Fund were in the offing and that these would result in increased administrative costs.

It is difficult to perceive what prompted these questions. The 1971 Annual Report, a copy of which was distributed to each member, clearly showed the progress the Fund was making then, and there was no reason to presume it to be otherwise in 1972.

I rejoined the Board of Trustees at the ISP's request. It was at a time when the Fund had decided to diversify its investments. This diversification has paid off handsomely and the Fund today is in a strong position, as evidenced in the declaration of 25% capital bonus to its members.

## Dividends

For the first half of 1972, the Trustees declared a 3½% dividend, and this was reported in *The Planter*. This was higher than that paid for the same period in 1971. Although I anticipated a similar rate of dividend for the 2nd half of 1972, this was however, not possible, and a 3% dividend was declared to be credited to members accounts based on balances as at 30.6.1972 thus making a total dividend of 6½% for the year 1972. Such a rate cannot be considered unsatisfactory. Furthermore, one

should not lose sight of the fact that by crediting the dividend twice a year calculated on cumulative balances outstanding at 31st December and 30th June respectively in each year, the effective rate of dividend paid is higher than that officially declared, as opposed to a straight 6½% dividend based on balances outstanding at the beginning of each year. The request, therefore, for a higher rate of dividend was met.

**Devaluation of the Pound Sterling**

All of us are aware the Fund suffered a set-back after the last devaluation of the pound. There is no need to recapitulate what took place as a result of it. The dividend rate was restricted, and individual members' accounts proportionately devalued to recoup the losses suffered from devaluation. Subsequently, members' accounts were revalued to the same extent of the devaluation; in other words, the cut was restored and the rates of dividend increased.

In 1972 when the pound was floated, the fund again suffered some paper losses as the Fund still has some pound investments awaiting maturity. The maturity dates of these sterling investments are not far distant, but let us hope that in the interim period the pound will stabilise itself at a higher level than it is today. The loss due to floating of the pound will hardly be felt against the overwhelming increase in value of the other investments.

**Investment Managers**

Is is true that for some time the Trustees have been scouting around for expertise to manage the Fund. Members of the Fund are, I believe, aware that the Fund has no full time officers able to devote their energies to the Fund's affair. The Trustees, some of whom may be proficient in the art of managing investments, are all otherwise engaged in full time employment. The success achieved by the Fund so far can be attributed partly to luck and to prevailing conditions. The Trustees are aware of their limitations and the Fund has obviously grown to such an extent that it should now be placed in the hands of financial experts who can regulate its growth and expansion.

If members had taken the trouble to study carefully the growth of the Fund for the past few years they would have little reason to doubt the Trustees. As it is, some explanation is necessary.

At 31st December, 1972 the members credit balances were about $59 million while the value of investments stood at $91 million, thus:

| | | *Cost (millions)* | *Market Value (millions)* |
|---|---|---|---|
| (i) | Equities | $ 25½ | $ 57 |
| (ii) | Government stocks | 27 | 24 |
| (iii) | Fixed deposits | 10 | 10 |
| *Total :* | $ m | 62½ | 91 |

It will be appreciated that capital appreciation in equity investments in quite exciting.

If you invest money in a business, you must stand prepared to put a great deal of work into that business. Equity participation similarly requires a great deal of thought, acumen and a similar degree of attention. Money management is different from estate management. With the latter you are assisted by various agencies. The Board of Trustees are responsible for over 4000 members' savings and as such they must obviously exercise prudence; they cannot afford to indulge in speculation.

For most members, the Provident Fund is their life saving and the Trustees' primary duty is to safeguard their interests. When they retire, the money they receive from the Fund should be enough to enable them to maintain the standard of living to which they are accustomed. Investors who manage their own investments will find that the time consumed in the pursuit of direct investment is prohibitive.

By definition any investment in equity shares, all things being equal, must involve a comparatively high level of risk. Successful investment in shares, as far as my experience goes, is a skilled task to be mastered only by a few individuals who combine experience, intuition and a thorough knowledge of stock market procedures. Despite the heroic efforts of all the experts to produce a fool-proof method, a system has yet to be devised that will assure good results.

Such being the hazards encountered in the field of investment, it is in members' interests that the Trustees are seeking the appointment of an expert. Such specialists are few and far between. You have to remember that good professional advice must be matched by the fees paid for it. There is an airline advertisement which reads "if you want a man to do a first class job, give him a first class ticket". The Trustees have appointed the internationally-known Chartered Merchant Bankers to manage the Fund's investments. If their fee appears to be high the promise of reward is there. Every professional service nowadays is costly, and there is no exception.

**Investment Policy**

The MESP Fund has its own investment policy and adherence to it is imperative. The Fund cannot invest all its money in stocks and shares. Since it is an approved Fund under the Income Tax Ordinance it is required to observe an investment policy approved from time to time by the Director-General of Inland Revenue. The current policy stipulates that 75% of the total investment should be in specified assets in Malaysia with at least 20% in Malaysian Government Securities. Apart from these, the Fund's rules specify:

(i) The payment of insurance premiums on the various policies

(ii) Investment in Trustee securities recognised by law in Malaysia, Singapore and United Kingdom and

(iii) Placing monies in fixed deposits.

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The Fund's aims may be summed up as follows:

(a) To obtain an income sufficient to pay an annual dividend of 6–7% to members. If such a rate is maintained, then there is an adequate hedge against inflation which is not unique to this country.

(b) To maintain a good capital growth by diversification of investment.

Most, if not all members would have noticed that share prices started moving upward sometime from the middle of last year and some experts were of the opinion that such an upward trend could not continue. The Industrial Index rose from the 200 level at the begining of 1972 and closed at 433. This sudden and abnormal rise in the equity market made the Trustees treat the situation with suspicion and they converted some of the paper profits into cash which went into fixed deposits. I personally am not in favour of fixed deposits from which the Bankers make money and not the depositors. The shares sold about six months ago and thereafter cannot now be bought back at the prices previously realised. Prices of good shares have surged forward again since the new year and the rate of these increases appears too large to be sustained.

If the Industrial Index is to be any real reflection of the economy of the country, then it should be backed by a similar gnp growth rate. There may be good solid investment opportunities in spite of the fact that increases are around the highest level, a broker confided. We will nevertheless watch with interest how the investment managers behave.

The Fund was revalued as at 31st December 1972 and out of the surplus capital disclosed, a distribution will be made thereby increasing each contributors credit balance in the books of the Fund as at that date by 25%. Although I feel that members will continue to receive good dividends and enjoy capital appreciation, it is unlikely that capital growth at the same rate can be expected in future years.

**Employers**

Let me now take this opportunity to mention that of two employers who had given a year's notice prior to quitting the MESP Fund, one withdrew this notice, perhaps on a re-appraisal of the performance of the Fund in 1972. The other employer whose notice applied only to Executive Staff, has not. The latter is, I understand, pursuing a scheme which is a combination of EPF and Insurance, and as such their members will not partake in the future prosperity of the Fund other than the current 25% bonus.

There is nothing wrong in joining a scheme which includes EPF and Insurance, but estate jobs being what they are, lacking in stability (hiring and firing being the sole prerogative of the employers) one should perhaps have second thoughts. I myself have been a victim of chicanery. The ISP, not being a trade union, is helpless to intervene, and in the event of any member falling victim to 'expendability' etc before the retiring age of 55, full benefit from the insurance is unlikely to accrue. Within the last decade the Plantation Industry has experienced three lean periods during which quite a number of Planters were victims of economic reorganisation.

*Book review:*

# Cocoa and Coconuts in Malaysia

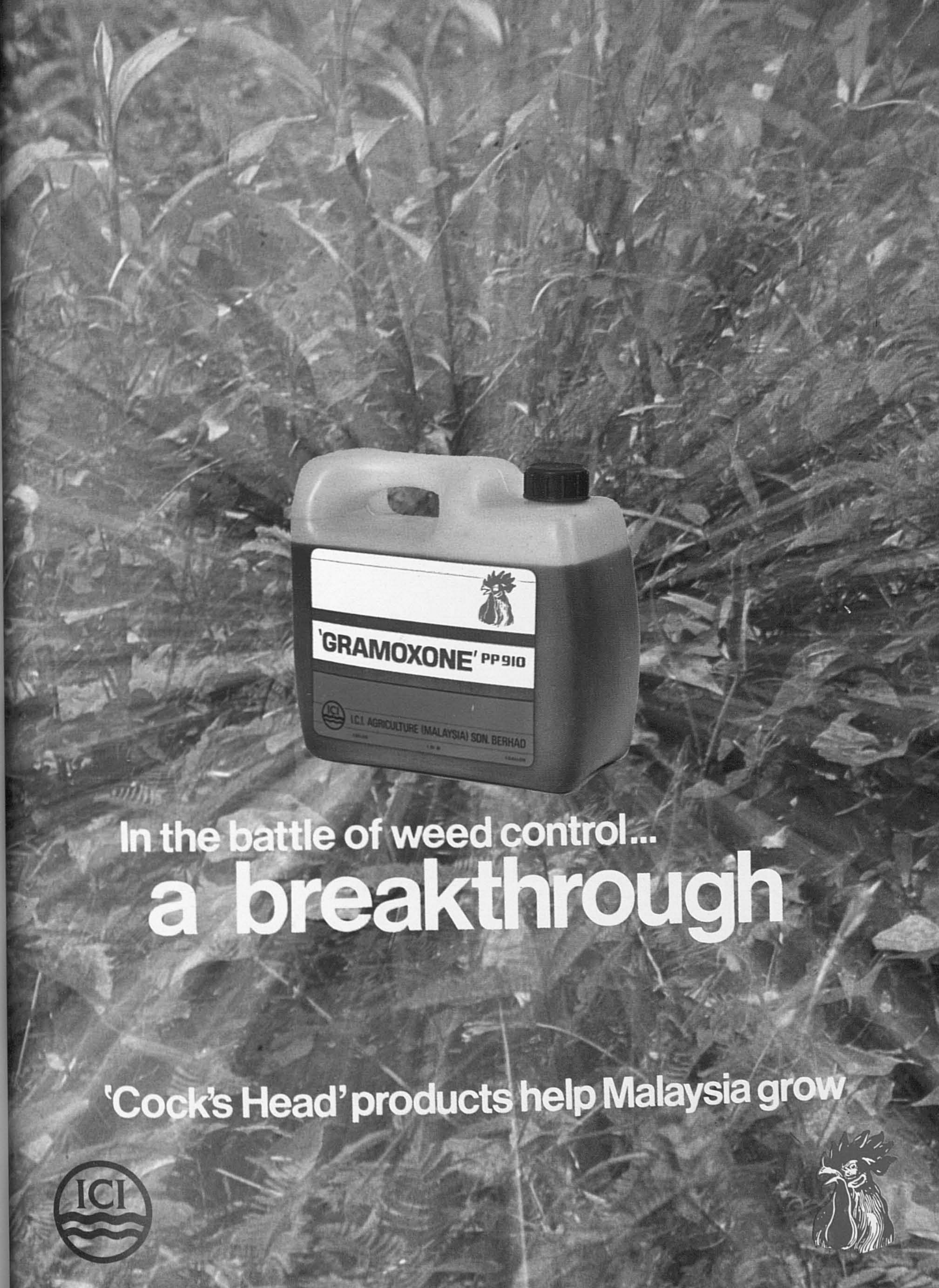
Proceedings of the ISP Cocoa and Coconuts Conference, November 1971. Edited by R. L. Wastie & D. A. Earp. 1972, Kuala Lumpur: Incorporated Society of Planters. pp. 464. M$25.00. (M$19.50 to members).

The Conference on Cocoa and Coconuts, held in Kuala Lumpur in November 1971 was timely. The Hon. Minister of Agriculture and Lands (Tan Sri Haji Mohd Ghazali bin Haji Jawi) stated that 'the Second Malaysia Plan (1971–1975) allows for the replanting or rehabilitation of a further 50 000 acres, of which 20 000 (coconut) acres will be intercropped with cocoa'. Important policy decisions will be guided by the papers presented and discussed at this Conference, which was sponsored by the Incorporated Society of Planters. Altogether, 44 papers are included in the published proceedings; 5 are concerned with both cocoa and coconuts, and the others are nearly equally divided between cocoa (19) and coconuts (20).

The cocoa selections now available are discussed (Toxopeus), also the factors affecting the cocoa price, which are fat content, flavour and consistency (reliability); these are influenced by planting material and methods of preparation (G.A.R. Wood). There is some apprehension lest further introductions and the efforts of plant breeders may prejudice consistency (Chee Yau Fah; Arasu & Phang), but greater bulk should compensate later for lack of uniformity initially (Discussion, pp. 43–44, 243–244). Since centralized processing may be desirable, details of suitable dryers are opportune (Salz). This volume usefully provides the definitions of cocoa defects and agreed procedure from inspection to storage, including measures against infestation (G.A.R. Wood).

The vigour and profuse flowering of self-incompatible Upper Amazon selections, or crosses with Trinitario selections, may be suitable for Malaysia where there has been experience with handling vegetatively propagated material, and hand pollination may be practicable (Edwards). Controlled pollination might be used to restrict cropping to drier periods when black pod losses, caused by *Phytophthora palmivora,* are likely to be less severe (Purba & Hutauruk; Friend). The recognition of 'vascular-streak dieback' disease in Asia and Oceania is a valuable contribution to cocoa pathology (Keane & Turner; Discussion pp. 73–75). It is not yet known how much of the uncertainly diagnosed dieback of cocoa in this geographical area may be attributable to the vascular-streak dieback pathogen (*Oncobasidium theobromae*).

Herbicides may replace or supplement hand weeding (Brown & Boateng; Tan, Mainstone & Fua; Discussion pp. 169–170). Other cultural practices discussed are the establishment of young cocoa (Teoh & Shepherd), and the use of shade (Mainstone), or its avoidance (Kien & Garot). Within reasonable limits, the yield per unit area is likely to be greater through closer spacings, as generally experienced


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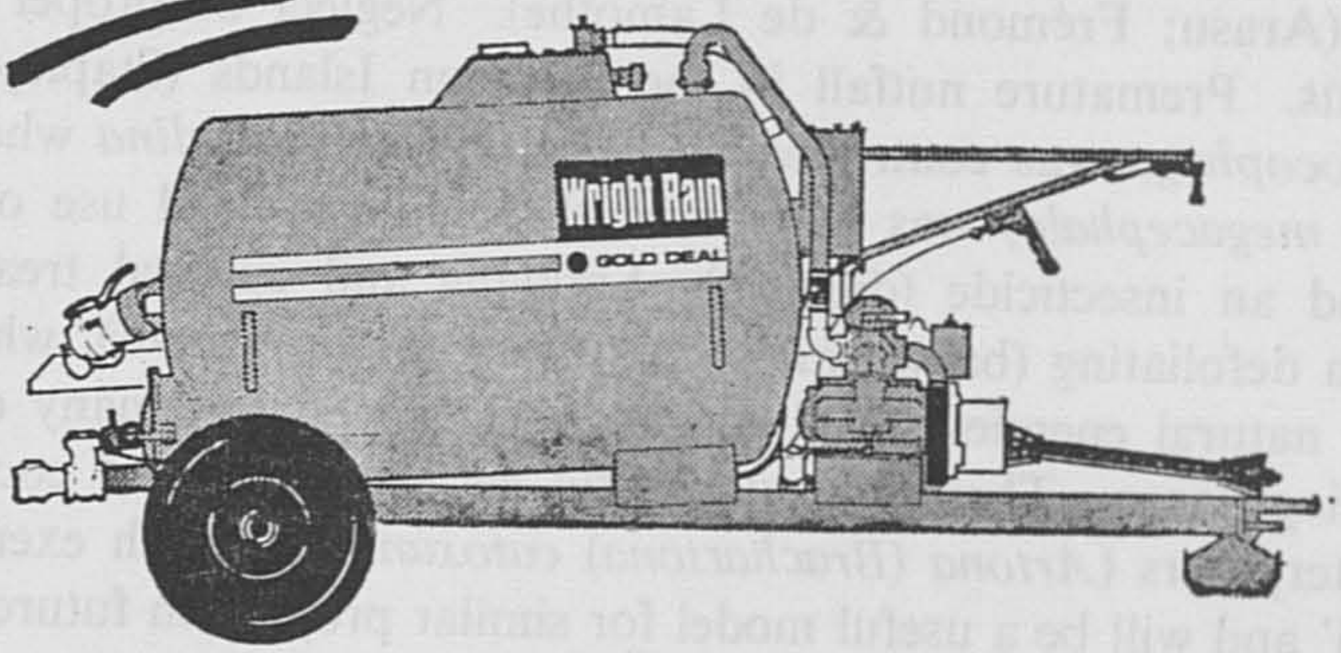
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## DO A GOLD DEAL WITH US!

# International scientific panel endorses fertiliser benefits but warns of possible environmental hazards

An international panel of scientists meeting in Rome has endorsed the need for increased but "correct" use of fertilisers to meet growing world food needs. At the same time they called for action to measure and moderate whatever ill-effects on the environment may result from excessive use of such chemical plant nutrients, mainly in the developed world.

The panel, consisting of 25 European and American scientists, most of them soil chemists and agronomists, was called together by the Food and Agriculture Organization and the Swedish International Development Association to advise on the effects of intensive fertiliser use on the human environment.

The panel chairman, Dr Robert, A. Olson, Professor of Agronomy at the University of Nebraska, USA, stated the issues in these terms:

> "Agriculture must come first on the path to national prosperity in the developing countries of the world . . . (and must be) . . . profit motivated for providing incentive to the native farmers concerned. Introduction of fertiliser has greater immediate impact than any other input for effecting the latter objective. . . . On the other hand, there is some evidence that excessive fertiliser use may cause deterioration in water quality with potential hazards to human health and the aesthetic environment."

On the credit side of the fertiliser issue the panel attributed to its use much of the success of the "Green Revolution" that has brought Pakistan, India and Turkey to or near self-sufficiency in wheat and made possible similar progress in rice production elsewhere; improvement both of crop quality and farming efficiency; retardation of erosion by provision of dense crop cover and prolific root system to "fix" earth in place; conservation of water and even air purification by means of a rich crop's enhanced absorption of carbon dioxide and yield of oxygen.

"Despite environmentalists' contentions that fertilisers are destroying good soils", said Prof. Olson in his summing up, "substantial evidence exists to the contrary. The humus and organic nitrogen contents of certain New Zealand and Australian soils have been increased by grass-legume pastures when adequately treated with P (phosphorus) and S (sulphur) fertilisers. The Broadwalk plots of Rothamsted (United Kingdom) which have now received chemical fertilisers since 1843 are more productive today than at any time in the recorded past. The same can be said for the soil of the Askov station in Denmark where chemical fertilisers proved more effective than the same amount of nutrients from organic sources over more than a half-century period."

Turning to allegations of damage to the human environment caused by fertilisers, the panel identified as the most commonly cited hazards the eutrophication (clogging and reduction of oxygen content) of surface waters, the toxicity perils of high nitrate levels in ground and surface waters, crop damage and ruination of soils by destruction of the integrity of the natural nitrogen cycle.

With respect to eutrophication, the panel concluded that this was an extremely common, if complicated, process to which a great number of factors—including run-off of nitrogen fertilisers—contributed. It noted, however, that the clogging of fresh water bodies with organic growth—algae and aquatic weeds (a process accelerated by presence of chemical nitrogen fertilisers)—is a natural process as evidenced by the creation of peat bogs—former fresh-water bodies solidified by eutrophication—before the coming of modern man.

In the case of eutrophication as in those of the other ills attributed to fertiliser use, the panel found that these probably could be warded off by a more rational use of chemical nutrients rather than the over "saturation" techniques applied in some countries of hyper-advanced development.

Some concern was expressed by panel members over rising levels of nitrates and phosphates in ground and surface waters respectively. But Prof. Olson noted in his summation, "there is little assurance that nitrogen fertilisation has caused or even significantly contributed to most recorded cases of high $NO_3$ (nitrate) in water, vegetable or forage".

Again, the chairman concluded, the ill-effects complained of, including occasional cases of nitrate/nitrite poisoning of infants from vegetables containing concentrations of these chemicals and the more common incidence of cattle poisoning, might well have been the consequence of combinations of other factors than fertiliser use, such factors as cloudiness, drought, shading, high temperatures or damage from pesticides—all capable of producing nitrate concentrations even from natural sources.

With respect to the other detrimental effects ascribed to fertiliser use by environmentalists, the panel, in general, rejected the notion that they could be laid at the door of any one factor in the complexities of present-day ecological patterns. The panel urged that the international agricultural community engage in intensive research to establish the precise relationship of chemical nutrients to environmental problems and produce safe standards for their employment.

Its first recommendation, however, was: "That FAO continue and strengthen its work of promoting the correct use of fertilisers in developing countries, to help them combat malnutrition by the increased production of foodstuff."

(With acknowledgements to *Tropical Science*)

# Appointments vacant

The Ministry of Agriculture, Republic of Liberia, has two vacancies for suitably experienced expatriate planters to fill the positions of Group Managers for Liberian farms. Interested applicants should make direct contact with: —

Mr Louis A. Russ
Deputy Minister of Agriculture
Monrovia
Republic of Liberia

## JOB DESCRIPTION FOR A GROUP MANAGER ON LIBERIAN RUBBER FARMS

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3. The manager will operate the farms under a term of agreement with the individual farmer allowing the manager full powers including that of "hiring and firing."

4. He will establish rubber farm co-operatives wherever feasible, to enable the farmers to buy stores and market their produce on a collective basis.

5. Also, collect and collate all data and information connected with the Rubber Industry.

6. Further, organise and coordinate multiplication gardens and nurseries for distribution of clones and/or stumps for distribution to farmers.

7. And submit monthly and quarterly reports on the above items of work to the Director, Tree Crops Division, with copies to the Minister of Agriculture and the Deputy Minister of Agriculture.

8. Finally, recommend improvements in regard to planting, processing, and marketing of rubber from Liberian rubber farmers.

## A. PICHAYMUTHU

Pichay, as he was affectionately known to all his many friends, joined the Ed. Boustead Group in 1947 as junior clerk on Sungei Purun Estate, Semenyih. He was quickly promoted to conductor-in-charge and because of the Emergency and very unpleasant conditions then prevailing, ran the estate practically single-handed.

In 1956 he was promoted to assistant and from then on he worked on various estates in Kedah, Perak and Johore as senior assistant and acting manager. In 1966 he was appointed manager of Broome Estate, Kajang where he remained until the accumulative effects of prolonged ill-health forced him to retire in mid-1972. His sudden death so soon after his enforced retirement and before he had really had any chance to recuperate a little, was a shock to us all.

Pichay was acknowledged to be a very good and very efficient planter but he will be remembered chiefly as a gentleman. His genial sense of humour, generous nature and, above all, his genuine consideration for those who worked with and for him will never be forgotten by his colleagues.

Our deepest sympathies go to his wife, Stella, and the children in their most grievous loss.

J. H. M.

# Social and Personal

## On leave

3786 Evans, R C, c/o MacBain, 47 Cragie Avenue, Dundee, Angus, Scotland.

4246 Fair, E M, AISP, 228 Ballyclare Road, Newtownabbey, Co Antrim, N Ireland.

4675 Milne, G M, 4 Whin Field Road, Montrose, Angus, Scotland.

5559 Clegg, A J, Cross, Hall Waberthwaite, Bootle Station, Cumberland, U.K.

## Returned from leave

3818 Cowie, L G, Bukit Rajah Estate, Klang, Selangor.

4777 Herbert, A P, Kirby Estate, Labu, Negri Sembilan.

5511 Morris, J M, Mukonchi Tobacco Training Scheme, P O Box 439, Kabwe, Zambia.

4861 Sims, K J, Prang Besar Estate, Kajang, Selangor.

4846 Wakefield, O F, Sabai Estate, Karak, Pahang.

4997 Montgomerie, J, NDA, MRAC, AISP., Welch Estate, Jementah, Segamat, Johore.

## Change of address

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5749 Chew Chye Kooi, Pinji Estate, Jalan Lahat, Ipoh, Perak.

2989 Collier, D R L Massy, c/o National Westminster Bank Ltd., 85 London Road, Southborough, Tunbridge Wells, Kent, England.

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4745 Dixon, R B, NDA, AISP, Selaba Estate, Teluk Anson, Perak.

3484 Edington, J A S, FISP, Liberian Agricultural Company, P O Box 1419, Monrovia, Liberia.

4057 Fullarton, F M, Yong Peng Estate, Yong Peng, Johore.

4982 Grist, P M, AISP, Cadbury Ghana Ltd, D779/2 High Street, P O Box 49, Accra, Ghana, West Africa.

4506 Hartley, C D H, Air Putih Estate, P O Box 510, Kota Tinggi, Johore.

948 Husband, G W, 4 Dover Road, Branksome Park, Poole, Dorset, England.

5169 Hudson, I S, The Liberian Agricultural Company, P O Box 1419, Monrovia, Liberia.

4648 Kooi Pang Yong, c/o SLDB, P O Box 19, Simanggang, Sarawak.

4750 Lee Lye Huat, Robert, Pasir Gajah/Kuala Hau Estates, Kuala Kerai P O, Kelantan.

5546 Manny, S Edwinson, B *Sc*, Agri, Tanah Merah Estate, Port Dickson, Negri Sembilan.

4651 McManaman, G M, Guama Agro Industrial S A, Estrada Belem-Brasilia, km 12 Benevides Para, Brazil C P 649.

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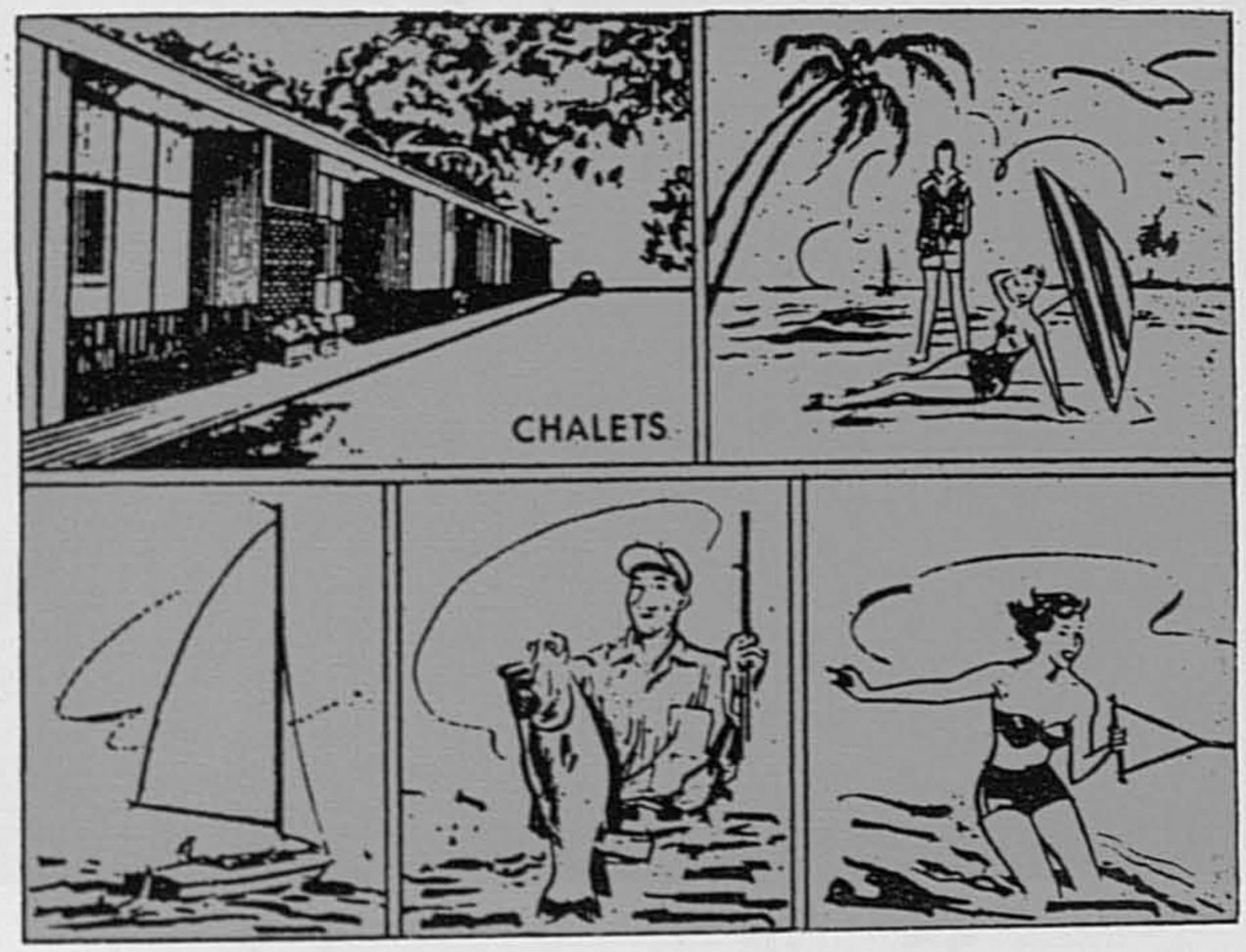
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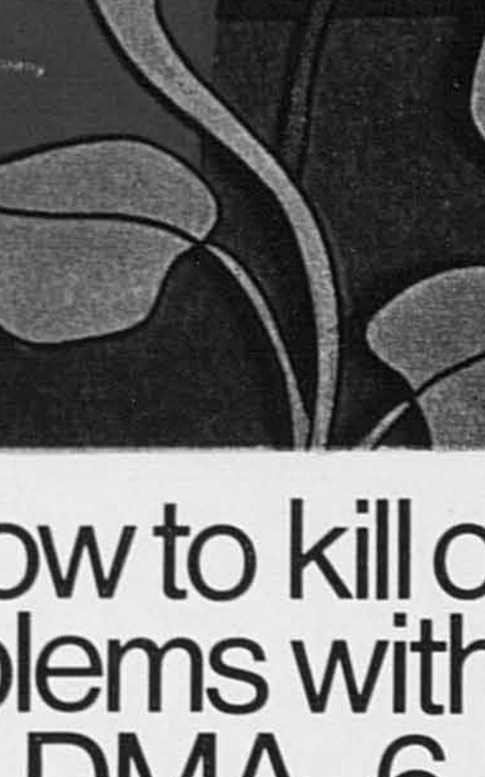
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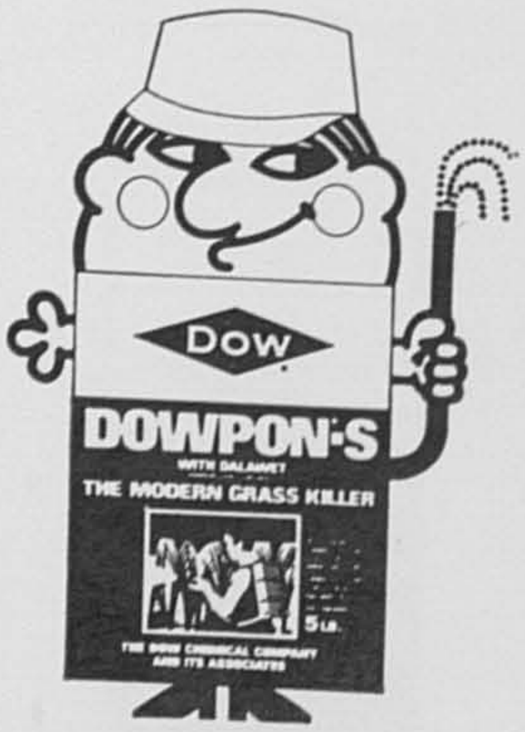

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