

Golden Hope Plantations Berhad > ECOHope EcoReview 2006



Sustainable development is not an easy feat to accomplish. It does not involve only one individual or one single enterprise.

It is a responsibility embedded within each and everyone in Golden Hope. We do not trade-off business development with environmental capital. Instead, we ensure that the entire Group's integrated strategic plans for economic growth does not draw-down on our environmental capital. This has been a part of the revolutionary change in the way we do business.

Carrying forth the same business magazine concept of the main annual report, Golden Hope's ECOHope was made into a supplementary review copy so as to capitalise on the many R&D efforts and sustainable development issues overseen by the client throughout 2006 and 2005. Infused with additional environmental stories and highlights, this supplementary TQEMS issue is one-of-a-kind, handbook and overview of Golden Hope's environmental and CSR efforts over the years..

Golden Hope's ECOHope won the prestigious **Platinum Award in Environmental Reporting** at the 2007 National Annual Corporate Report Awards (NACRA) in Malaysia.



Golden Hope ECOHope EcoReview 2006

Agency: Denney & Denney
Client: Golden Hope Plantations Berhad
My Roles: Concept Development
Copywriting—Creative & Research
Copyediting

Golden Hope Plantations Berhad > ECOHope EcoReview 2006

BACK TO BASICS

SECRETS UNCOVERED

The truth is out there: Cover crops that do wonders

Cover crops are soil conservers and improvers of soil structure and fertility. Known as leguminous creepers, they are highly effective as ground covers in oil palm and rubber plantations. They have the wonderful ability of fixing atmospheric nitrogen, keeping the soil temperature low even during hot seasons, suppressing weed growth and assisting the proper utilisation of fertilisers.

MAIN TYPE OF OIL PALM COVER CROP
Mucuna bracteata

A legume originated from India, *Mucuna bracteata* is drought resistant and shade tolerant. The nitrogen fixing capacity of this plant was found to be high. It grows fast and covers the field very quickly suppressing weeds in its way. The seeding rate is 200g for one hectare. Studies have shown that *Mucuna bracteata* which was introduced in Golden Hope estates in 1991 is an outstanding leguminous cover plant. The high biomass production provides a high level of organic matter in the soil which contributes toward higher yield. The amount of nutrients in its biomass indicated substantial nutrient returns to the palms.

DESIRABLE CHARACTERISTICS OF MUCUNA BRACATEATA

NUTRIENT	IN LITTER (kg/ha)		IN GREEN (DESIRABLE MATTER) (kg/ha)	
	Cover Crop	M. bracteata	Cover Crop	M. bracteata
N	25	152	125	153
P	1	5	7	8
K	4	34	89	93
Mg	4	19	9	13
Ca	11	44	28	42

OTHER TYPES OF COVER CROPS

Pueraria javanica
A very popular cover crop worldwide. It is a vigorous twiner and creeper that can be propagated by seeds and cuttings. The plant can stand strong sun and smother even the Chromolaena weed. The seeding rate is about 2-4.5 kg/ha.

Calopogonium mucunoides
It is a twiner and creeper with tolerance to poor soils. The legume cuts off during dry months. It is a prolific seeder, seeding rate is 3-4.5 kg per ha.

Centrosema pubescens
It is a perennial climber that can grow in shades. It is a slow grower, not tolerant to wet conditions and smother other weeds. The seeding rate is 2-4.5 per ha.

Information source: Global Crop Improvement Gateway

Both *Pueraria javanica* and *Mucuna bracteata* grow faster and smother weeds better than others under the conditions in South India.

LEAF PEST CONTROL

Enhancing a safe and natural biodiversity via beneficial plants

To further reduce dependence on synthetic pesticides, new beneficial plants are being used to control leaf pests such as bagworms and nettle caterpillars. Three species of beneficial plants – 1. *Stachytarpheta indica*, 2. *Urena lobata* and 3. *Mitis japonica* have been propagated in addition to the currently used 4. *Cassia cobarvensis*, 5. *Antigonon leptopus* and 6. *Turnera subulata*. Mass propagation of these plants are currently being studied.

These beneficial plants are planted in a **60:20:20 mix** at an intensity of four decimeters of plant strip per ha of palms. Over a four-year period, an 88% decrease in leaf pest infestation has been recorded, with a corresponding reduction in the use of insecticides. Beneficial plants encourage biocontrol of oil palm leaf pests by providing food and shelter for natural enemies of the pest.

12 | ECOHope | 2006 EcoReview

2006 EcoReview | ECOHope | 13

Golden Hope ECOHope EcoReview 2006 – Secrets Uncovered – Cover Crops

Agency: Denney & Denney
Client: Golden Hope Plantations Berhad

My Roles: Concept Development
Copywriting – Creative & Research
Copyediting

Golden Hope Plantations Berhad > ECOHope EcoReview 2006

10 YEARS OF TAKING NATURE INTO OUR HANDS

EDU efforts to help the land breathe and grow: a vital part of our CSR

IN BRIEF

We have always been committed to environmental conservation and sustainable development. To help promote the need for conservation among the community and stakeholders, we, together with the Department of Environment (DOE), have been jointly organising the Student Environment Awareness Camp (SEAC). To date, 10 SEAC involving 492 school children and children of Golden Hope's employees have been successfully organised at Golden Hope Academy. On top of that, the Group also organises Environment Awareness Camp for our employees and their children and to-date seven series of camp have been organised. SEAC aims to best equip school children with a love and appreciation of nature and the environment, especially on the oil palm plantation's ecosystem. It is about having and caring for the environment in a sustainable manner for the future generation.

YEAR	GHope-DOE Student Environment Awareness Camp (GH-DOE SEAC)
1995	First SEAC organised together with DOE involving 20 students from Melaka and N. Sembilan from 14-16 November 1995.
1997	30 students from Terengganu and Vietnam participating in the SEAC from 2-4 December 1997.
1998	The third SEAC organised by DOE for 68 students, 38 from Selangor Basic Education Department and 30 employees' children from 7-11 November 1998.
1999	48 students selected by DOE from all over the country participated in fourth SEAC from 28 November - 3 December 1999.
2001	The 4th SEAC organised for 92 students from 9-13 November 2001 involving 35 students and orphans from schools of SMK Bukit Serenos and SMK Kg. Doh, Raeng and 27 children of Golden Hope's employees.
2002	63 students selected by DOE attended the 5th SEAC at GHA from 7-11 September 2002.
2004	61 students, including 24 selected by DOE and 31 students from Golden Hope attended the eighth SEAC at GHA from 12-17 November 2004.
2005	The ninth SEAC was organised for 22 Federal Territory (FL) students and 20 children of Golden Hope's employees from 13-17 March 2005.
2006	45 students from 12-16 years old attended the 10th SEAC at GHA from May 29 - June 1, 2006.

2000 EcoReview | ECOHope | 31

Golden Hope ECOHope EcoReview 2006 – 10 Years of CSR

Agency Client: **Denney & Denney Golden Hope Plantations Berhad**

My Roles: **Concept Development Copywriting – Creative & Research Copyediting**

Golden Hope Plantations Berhad > ECOHope EcoReview 2006


BACK TO BASICS

PEST INVEST

Whoo keeps the pesky rats at bay? The barn owl, the non-pesticide pestinvest

TYTO ALBA


The Regal Overseer



He perches from up above an old palm tree, soaking his prey in the darkness. Regal, fearsome and graceful, Tyto alba, the barn owl with a purpose, is well aware of his duties to the Group: seek all pesky rats and annihilate them. It is his duty to serve, and serve he will.

His eyes scan east and soon west, then he spots it – his supper, scampering on the ground a mere 10 feet away. He focuses, spreads his wings and glides towards his prey.

Whoosh! The rat has no chance to escape at all. Next, Tyto alba is already setting his eyes on his next prey, 12 feet to the east.



EXPERT RODENT HUNTERS

In Malaysia, birds of prey in plantations have fast become the natural pest controllers of choice. The barn owl *Tyto alba*, is popular due to the bird's ability to adapt well to palm plantation conditions. Its survives on a staple diet of 99% rats. One advantage of this bird is that it does not show much territorial behaviour when there is abundant quarry. It is estimated that a pair of these animals together with their chicks consumes around 2,800 rats a year (Duckett and Karuppa 1969).

PERCH, OBSERVE & ATTACK

To increase barn owl populations and prey's vulnerability, observation perches can be built at strategic points, just below oil palm canopies. Such boxes will soon be inhabited by eligible couples as their love nests.

MORE ABOUT TYTO ALBA*

Has thin, light-colored wings with long legs that have fringes on the way down to their grey feet. These legs, not all birds, are used to catch prey.

They have rounded wings and pick off all that is consumed with the orange-brown, downy feathers.

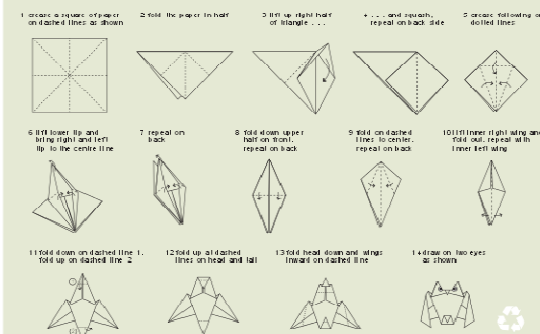
Female are larger than males. They weigh about 470 gms, while males weigh about 470 gms. Females also have a slightly longer body, length 0.1 to 0.05 m. Females are 32 to 35 cm (12 to 14 in) and 100 gms (3.5 to 3.6 oz) in males and 10 gms (0.35 oz) in males. The wingspan of barn owls range from 107 to 140 cm.

* Information is taken from http://www.fishbase.org/summary/tyto_alba.html

There are around 35 subspecies of barn owls, all differing in size and colour.

Fold a Tyto on World Environment Day, 5 June 2007




Have fun with origami and commemorate Mother Earth's many diverse species.



12 steps with numbered diagrams showing the folding process for a Tyto alba paper airplane.

RHINOCEROS BEETLE VS VIRUS & FUNGI

Taming the little beast

The *Oryctes rhinoceros* beetle is a common pest in oil palm plantations. It attacks by boring into the base of the frond spear, causing wedge shaped cuts in newly opened fronds. Repeated attacks by adult beetles will reduce yield and can even kill young palms.

Two main *Oryctes* killers:

- VIRUS:** *Baculovirus*. Upon ingestion, *Baculovirus* infects the beetle around the midgut area. It kills the infected grubs in 15-20 days. It reduces the longevity and fecundity of infected adult beetles. Virus inoculated beetles upon release can infect healthy partners through mating.
- FUNGI:** *Metarhizium anisopliae*. The green muscardine fungus *Metarhizium anisopliae* is a pathogen which kills the pest under conditions of low temperature and high humidity.

18 | ECOHope | 2006 ECOReview

2006 ECOReview | ECOHope | 19

Golden Hope ECOHope EcoReview 2006— Pest Invest

Agency: Denney & Denney
 Client: Golden Hope Plantations Berhad
 My Roles: Concept Development
 Copywriting—Creative & Research
 Copyediting

Golden Hope Plantations Berhad > ECOHope EcoReview 2006

ECOPlus



Observe

- Inhibits the growth of human breast cancer cells.
- Lowers blood cholesterol levels.
- Regresses atherosclerotic plaques in stroke patients.
- Prevents the formation of clots in arteries.
- Protects the skin from UV radiation and ozone attacks.

DID YOU KNOW?

Balloons filled with helium act only kill turtles. Balloons that drift sky-high eventually fall into the sea where they lose their colour. Turtles choke on them, as they think the balloons are jellyfish.



Fast Facts on Palm Oil

- Red palm oil is rich in beta-carotenes and in co-enzyme Q10.
- Rich source of Vitamins A and E and a good source of dietary energy.
- Stable cooking oil, even at high temperatures.
- Contains 10% linoleic acid, which is an unsaturated omega-6 fatty acid.
- High in tocopherols, an antioxidant with other possible health benefits.

Conserve ENERGY

A simple rule applies. When not in use:



Switch OFF!

CHANGE a little. Affect a lot.

Recycle

One of the main benefits of recycling comes from reducing the amount of new material required. In theory, recycling allows a material to be continually reused for the same purpose, and in many cases this theory holds true, most notably in the recycling of metals and glass.

Materials that can be recycled include:

- Aluminium
- Glass
- Paper
- Batteries
- Concrete
- Electrical Equipment
- Biodegradable waste
- Plastic
- Steel
- Textiles

source: www.wikipedia.com

COASTLINE WATCH

Keeping a watchful eye on Carey Island's mangrove forest

Malaysia's coastlines are resplendent with a unique and rich ecosystem known as the mangrove forest. Found generally along sheltered coastlines of Peninsular Malaysia, Sabah and Sarawak and hundreds of islands in the country, the forest grows in abundance in saline soil and brackish waters.



MANGROVE FOREST

How it helps us:

- Protects the natural coastlines against erosion and strong coastal winds.
- Prevents saline water intrusion.
- Recycles and retains the nutrients in its ecosystem.
- Provides resources for coastal communities as it acts as a breeding ground for fish, crabs, prawns and other marine life.
- Has the potential to be harvested for wood and other products.

How we can help?

- Although representing only 2% of the total land in Malaysia, the protection provided by the forest is crucial for our sustenance. Therefore, it is our duty to conserve and manage its ecosystem to ensure its continuous existence.
- Ongoing efforts on Carey Island include:
 - Developing plans for better sustainability through limited logging and harvesting along the coastlines of the island.
 - Retaining the mangroves that act as barriers and protectors along the coastlines and rivers.
 - Adhering to the existing environmental and legislative guidelines of Malaysia's Laws and Acts, such as the National Forestry Act that understands the value and need for mangrove conservation.
 - Creating national reserves and national parks.

Additional research material sourced from National Forestry Department and WWF Malaysia.

36 | ECOHope | 2006 ECOReview

Golden Hope ECOHope EcoReview 2006 — ECOPlus & Coastline Watch

Agency Client: **Denney & Denney**
Golden Hope Plantations Berhad

My Roles: **Concept Development**
Copywriting—Creative & Research
Copyediting