ROCK MELON

A Fertigation Project in PSA

PROJECT TEAM

Project Advisor
Pn.Asmara Sulung
En.Mohd Amin Hamat
Pn.Zainab Ahmad
En.Nazri Idris

Project Director
Dr.Faizah Shaari

Project Coordinator
Pn.Siti Zaiton Yahya
En.Khairul Fahzan Salleh

Graphic Designer
Dr.Faizah Shaari

Consultant
GM Peladang Sdn Bhd

Researcher
Pn.Mazura Mansor
Datin Zainah Othman
En. Kamaruddin bin Mohd Tamin
En.Khairul Nizam bin Kassim
En. Mohd Sharoni bin Ismail
En.Mohamad Adil bin Mohamad Taib
En. Mohamed Suhaimi bin Aminullah
Pn. Zalipah Dawan
Pn. Normurni Mohamad
Pn.SalizaHanim bt Leman
En.Muhammad Hashim bin Ahmad
Cik Maheran Bt Sulaiman
Tn. Hj. Mohamad Apandi bin Munab
Dr.Wan Chik Nurida Ismail
Classes of JKM & JPG
Entreprenuer Club

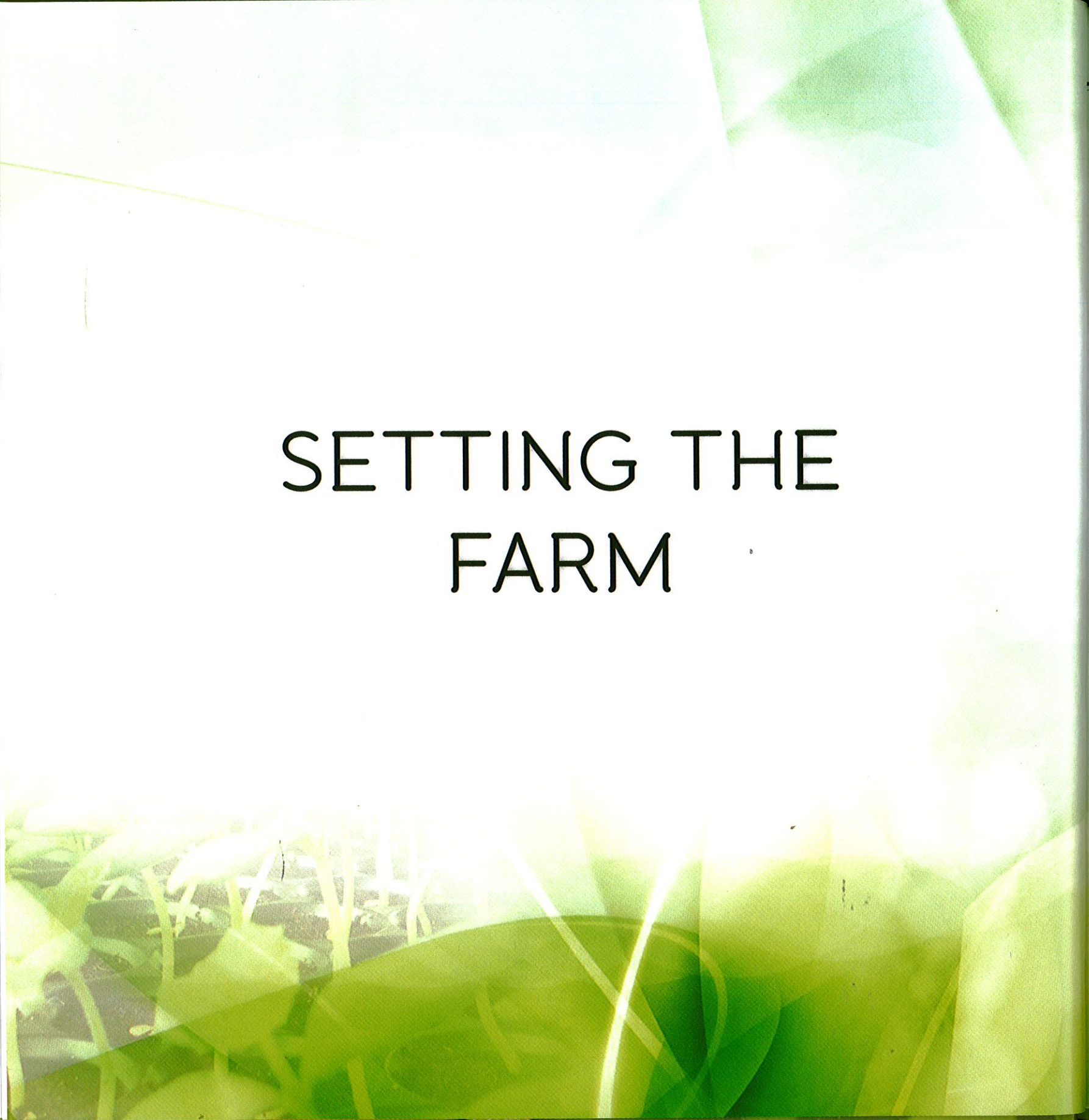
Editor
Dr.Faizah Shaari
Dr.Wan Nooraini Wan Kamaruddin

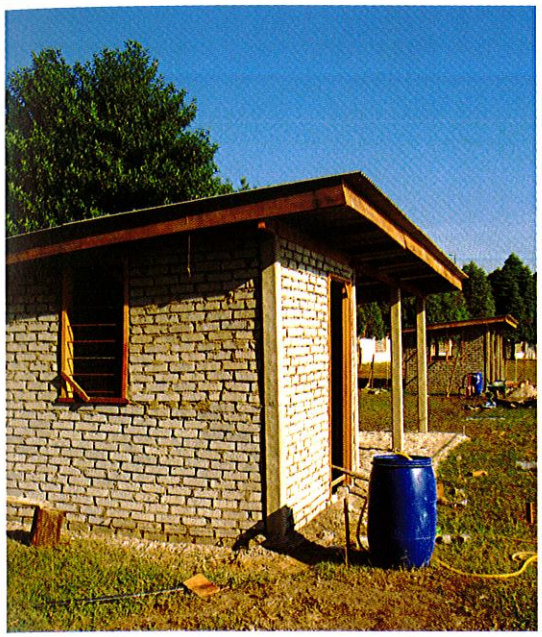
Photograph
UIDM, PSA
Intan Shafika Kamaruddin
(Practical Student)
Ahmad Sayuti (KSS Student)

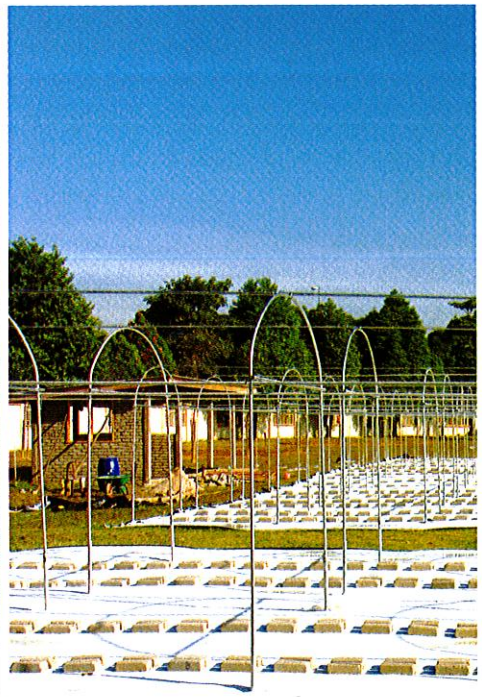
First Edition, November 2011 ©Politeknik Sultan Salahudin Abdul Aziz Shah

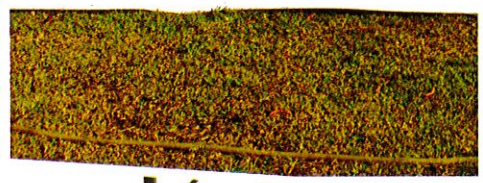
Published by
Research & Innovation Unit
Politeknik Sultan Salahudin Abdul Aziz Shah, Persiaran Usahawan, Seksyen U1,
40150 Shah Alam, Selangor

SETTING THE FARM









The rock melon farm in PSA was setup during a sunny season in April last year.

Located in front of the Administration Building, the farm is equipped with twelve silver shine houses, fertigation system and two stores.

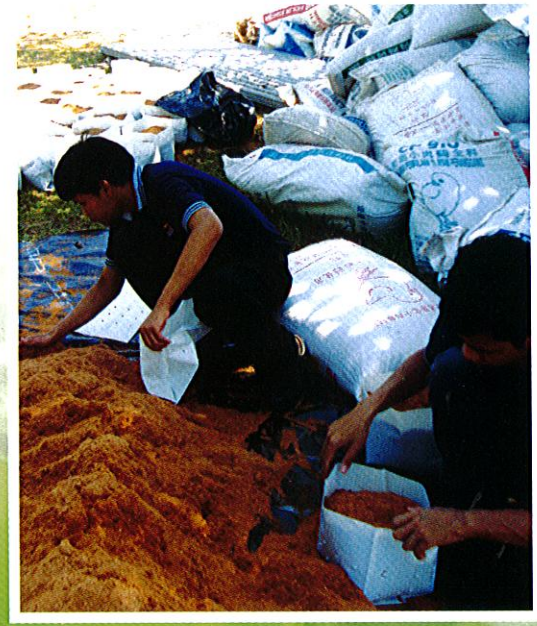
The word FERTIGATION is taken from the combination processes of fertilizing a plant and the irrigation system. Nutrients are distributed to the roots of the plant using dripping technique.

Water pumps and other operating devices are installed carefully at the farm. The usage of poly -pipes and PE tubing is one of the cheapest methods around in supporting the dripping technique.

Nutrients are prepared by mixing two types of chemical fertilizers and later water is added up. Then, the final solution is poured into a big tank before it is distributed to the plants.

INVOLVEMENT OF STUDENTS (OKU)

Special Class students (OKU) volunteered in preparing the media (putting the cocoa peat into poly bags) for rock melon plantation.



SEEDING PROCESS

Seeds are planted in plastic trays. The seedlings will soon grow fast under sufficient sunlight and water.

When the seedlings have more than two leaves, they are ready to be moved into larger poly bags.

POLY BAG MEDIA

The cocoa peat is added and compacted into poly bags where it is known as the growth media. The growth media must be flushed with water before seedlings are transferred to the media.

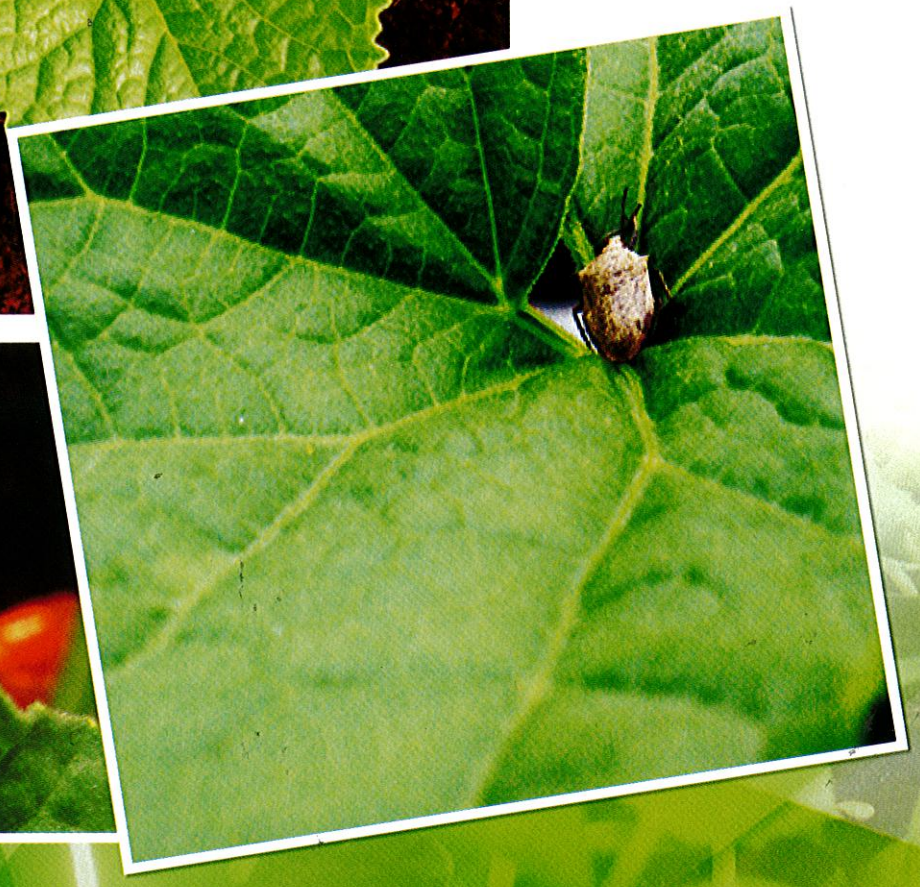
The poly bag which is filled up with cocoa peat will be the medium where the plant is fed with the fertilizer. A good media will be able to retain 60% of water.

POLY BAGS ARRANGEMENT

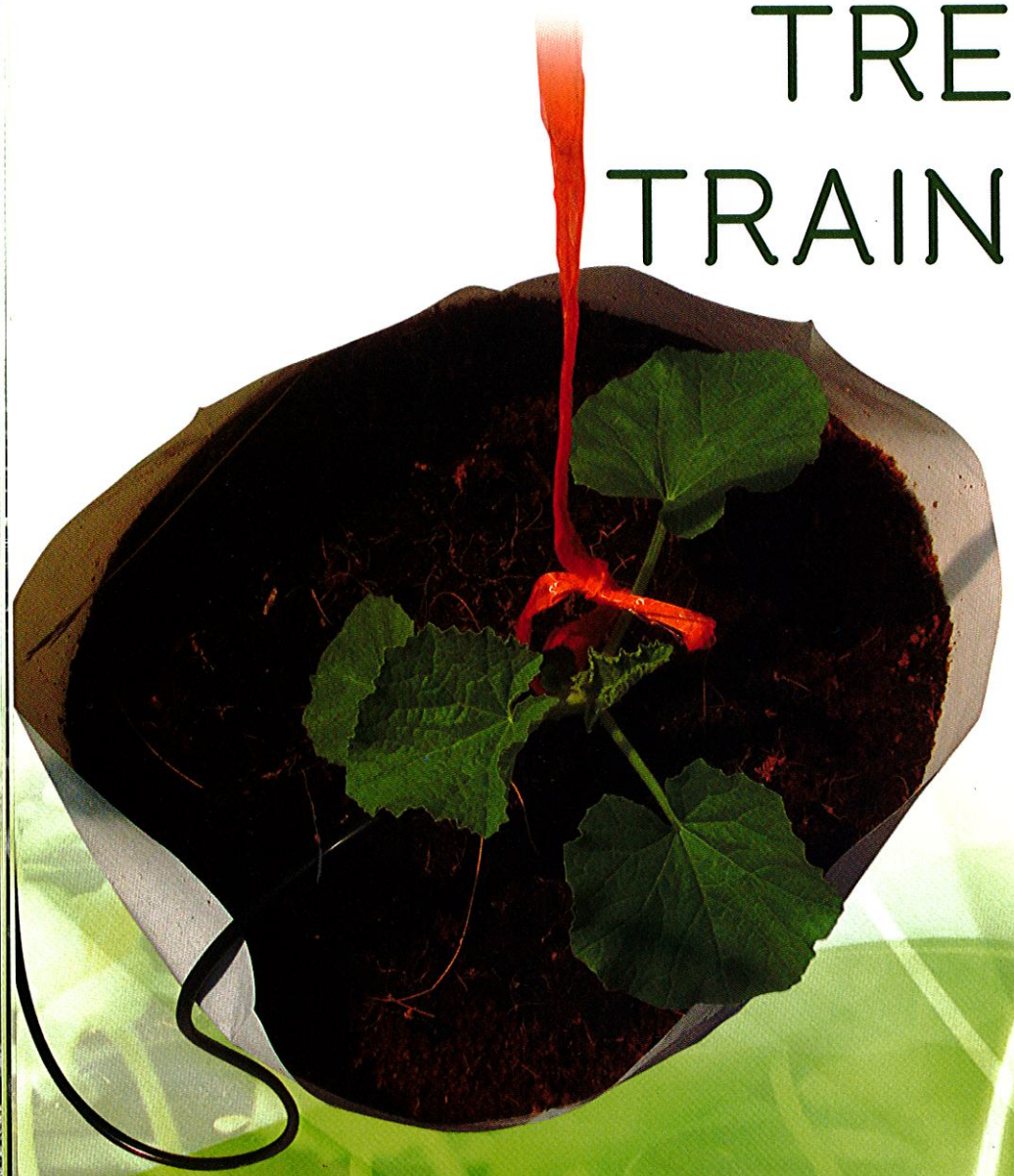
Once the plants are in the poly bags, it is best to arrange the dripper and the micro tubes at one side of the poly bag for easy maintenance and inspection.

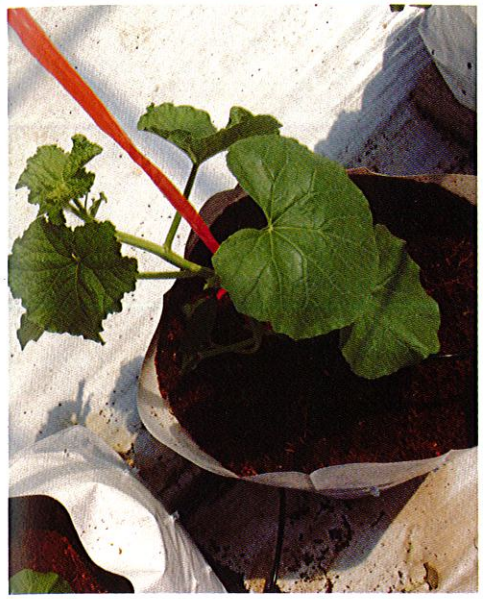
There must be spaces allocated between poly bags to avoid overcrowding and to ensure that adequate light is distributed equally among them.

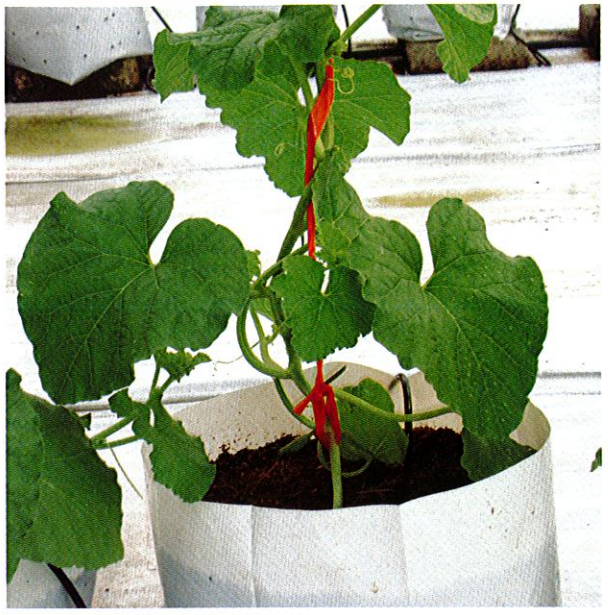
Maintenance of the cultivation area is always important and necessary. The area must be cleaned. Suitable pesticides are also required to control weeds, insects and plant diseases.

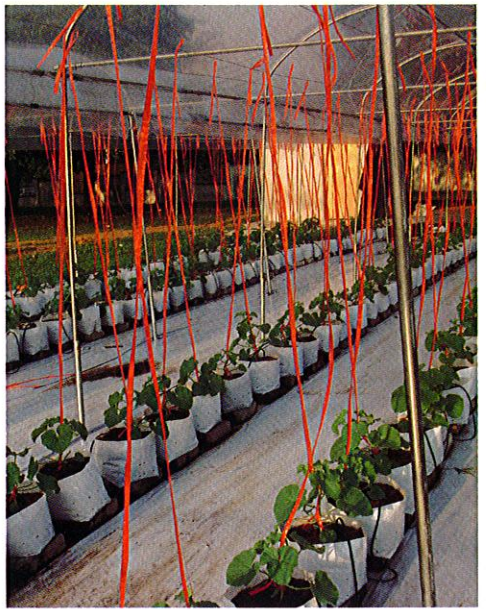


TREE TRAINING





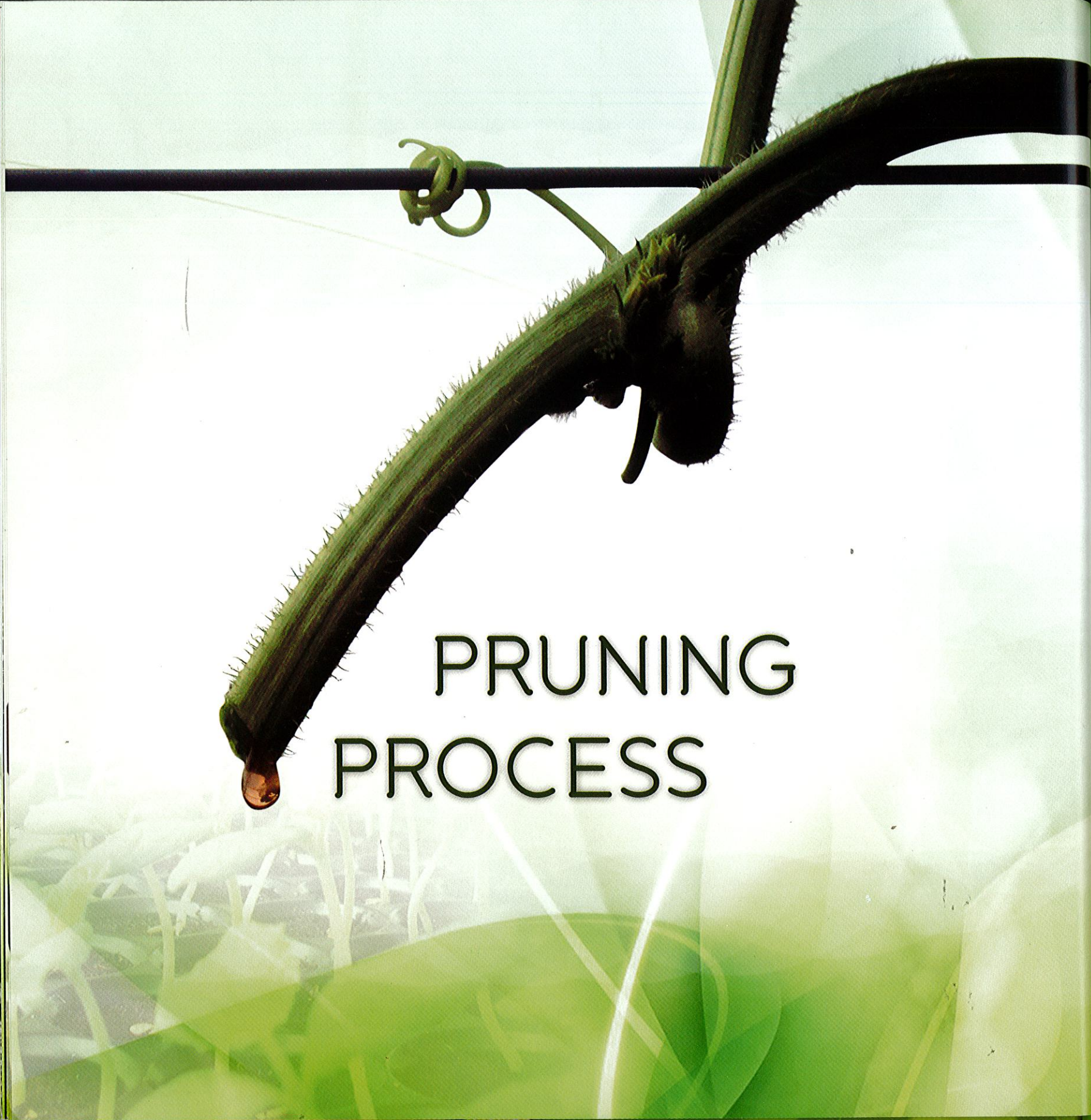




▲

After three weeks, every tree is attached to a raffia rope on a trellis which allows the rock melon tree to climb upwards.

This is to make sure that the tree would not be stunted. By the third week, the rock melon tree must be at least 1.6 metres in height.



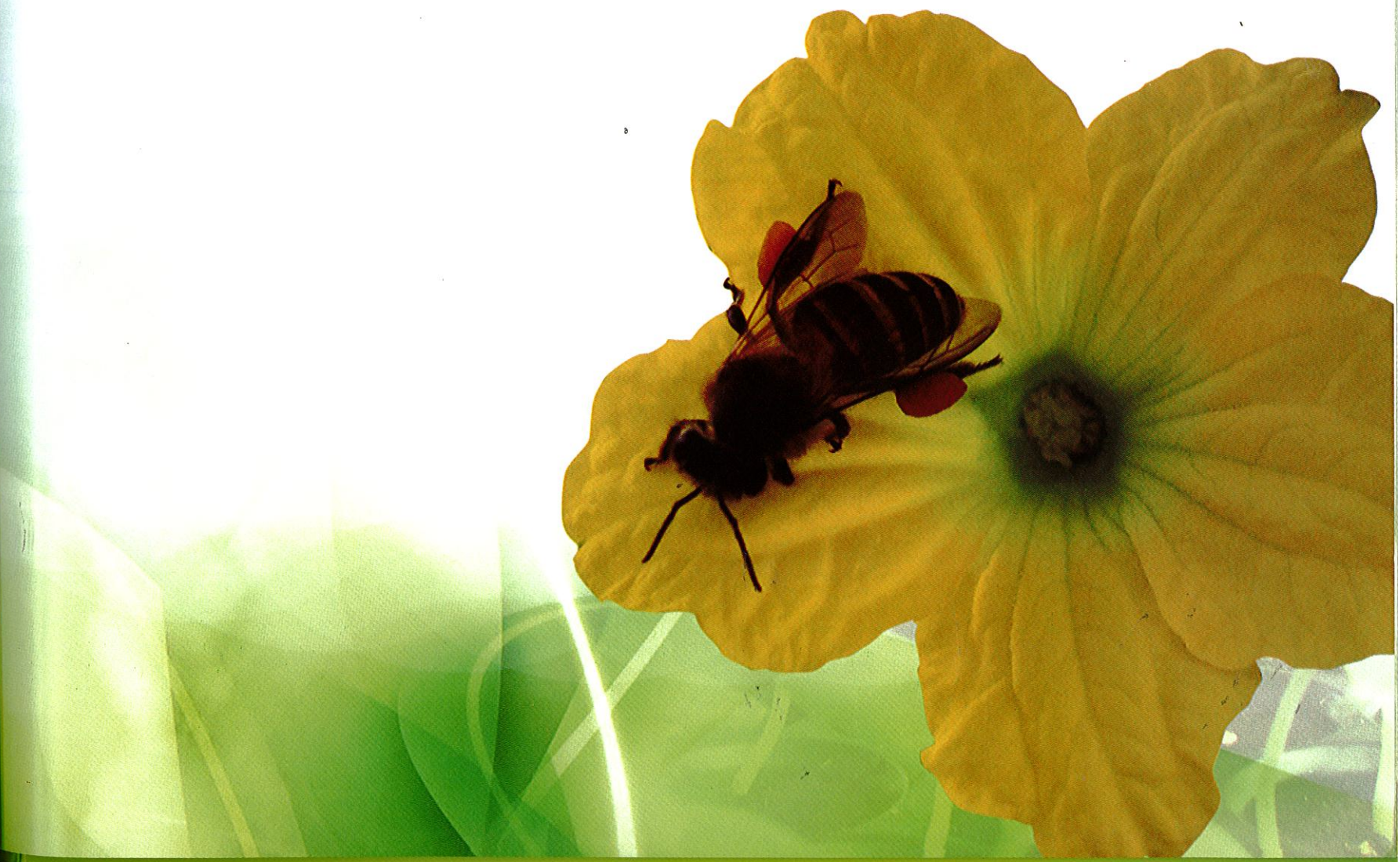
PRUNING PROCESS

Unwanted branches are pruned to allow only one fruit to grow on each tree.

Only one trunk will soon stand tall as the flowers start blooming.

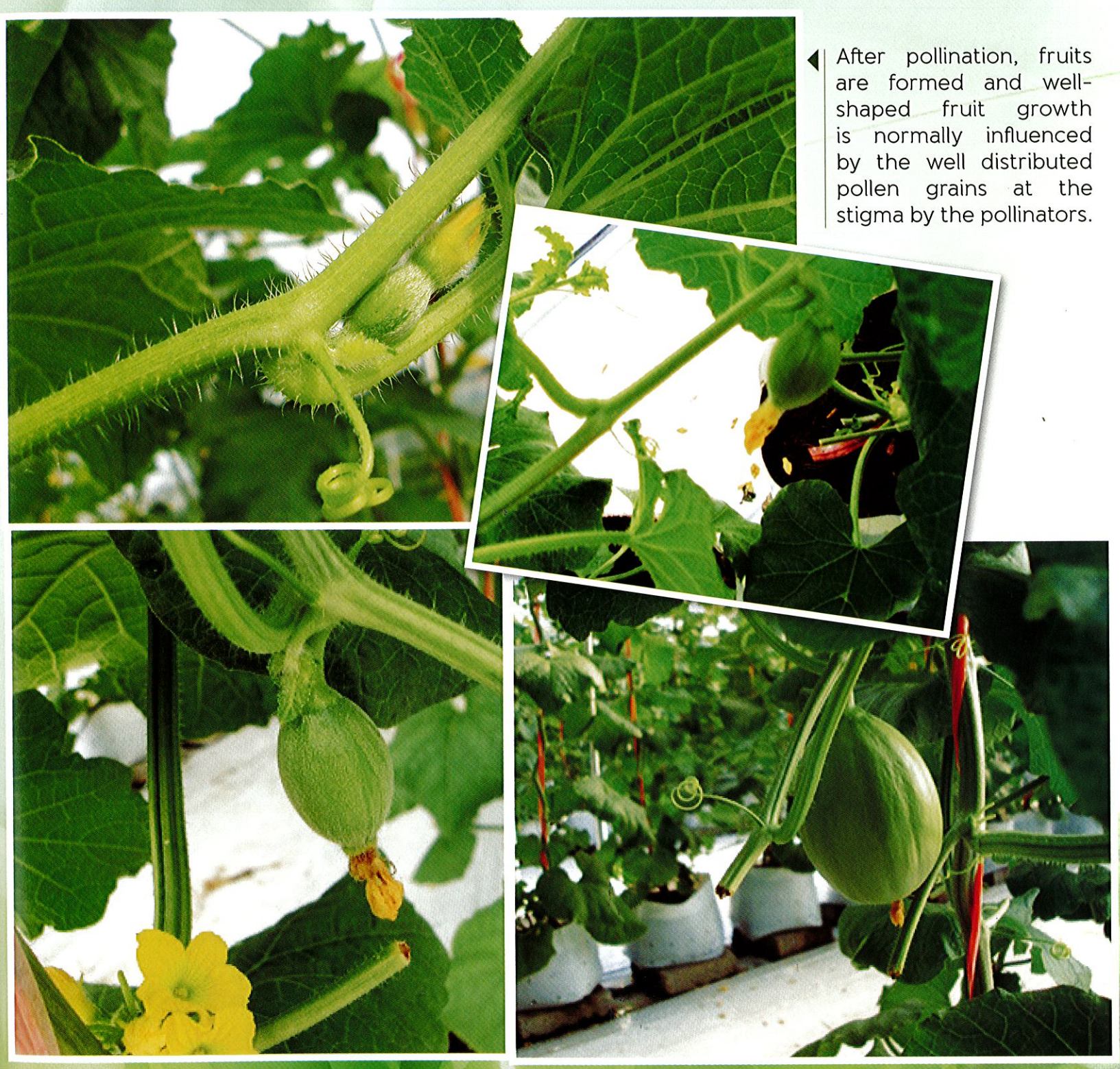
Maintenance of the trees continues after the pruning process. Besides spraying suitable pesticides periodically to protect trees against insects and fungus, adequate amount of fertilizers must also be applied to the trees constantly to maintain the quality of the plants.

POLLINATION



Several studies have shown that isolation of rock melon from pollinating insects result in little to no pollination of flowers. Hence, pollination process is very important to increase the production of rock melon fruits.

Honey bees are found buzzing around the cultivation area mainly in the morning. The honey bees are said to be great pollinators that could increase the production of rock melon fruits. This may improve the quantity of fruits and fruit weight significantly.



After pollination, fruits are formed and well-shaped fruit growth is normally influenced by the well distributed pollen grains at the stigma by the pollinators.

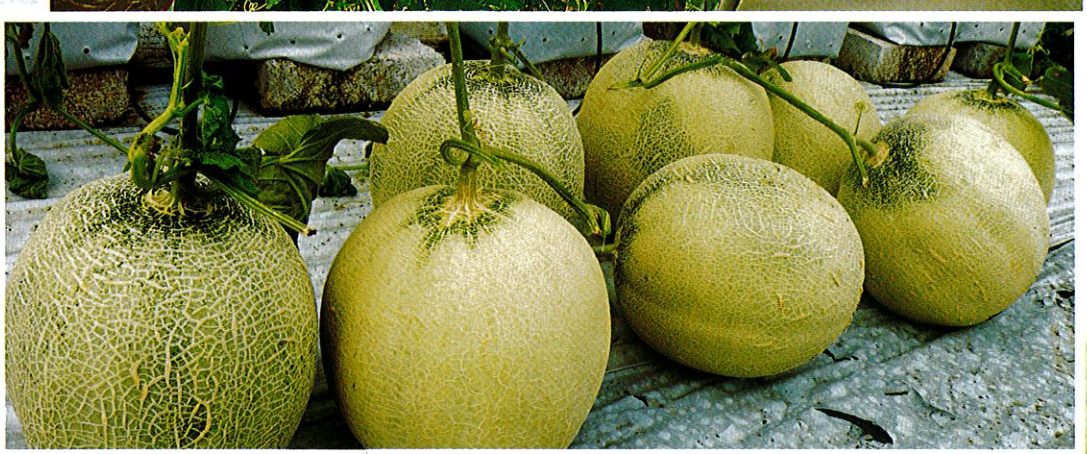
During the fruit ripening stage, the fruits will be watered minimally to avoid diminishing of flavour of the rock melons.

HARVESTING SEASON

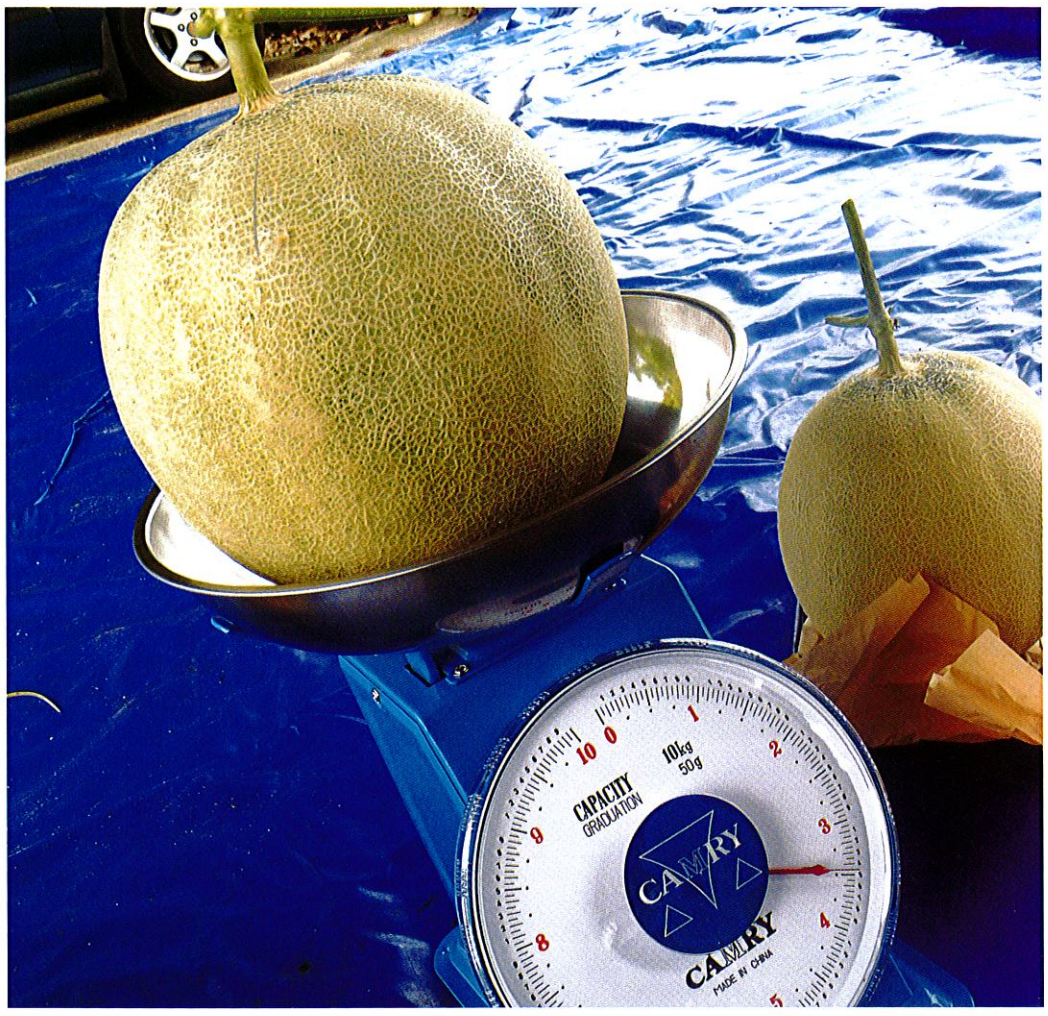
During harvesting season, the melon is cut from the vine instead of being pulled. Pulling creates a cracking wound that pathogens can enter and quickly destroy the quality of the fruit, including ruining the appearance of the fruit.

Students are trained on how to harvest the fruit without damaging it.

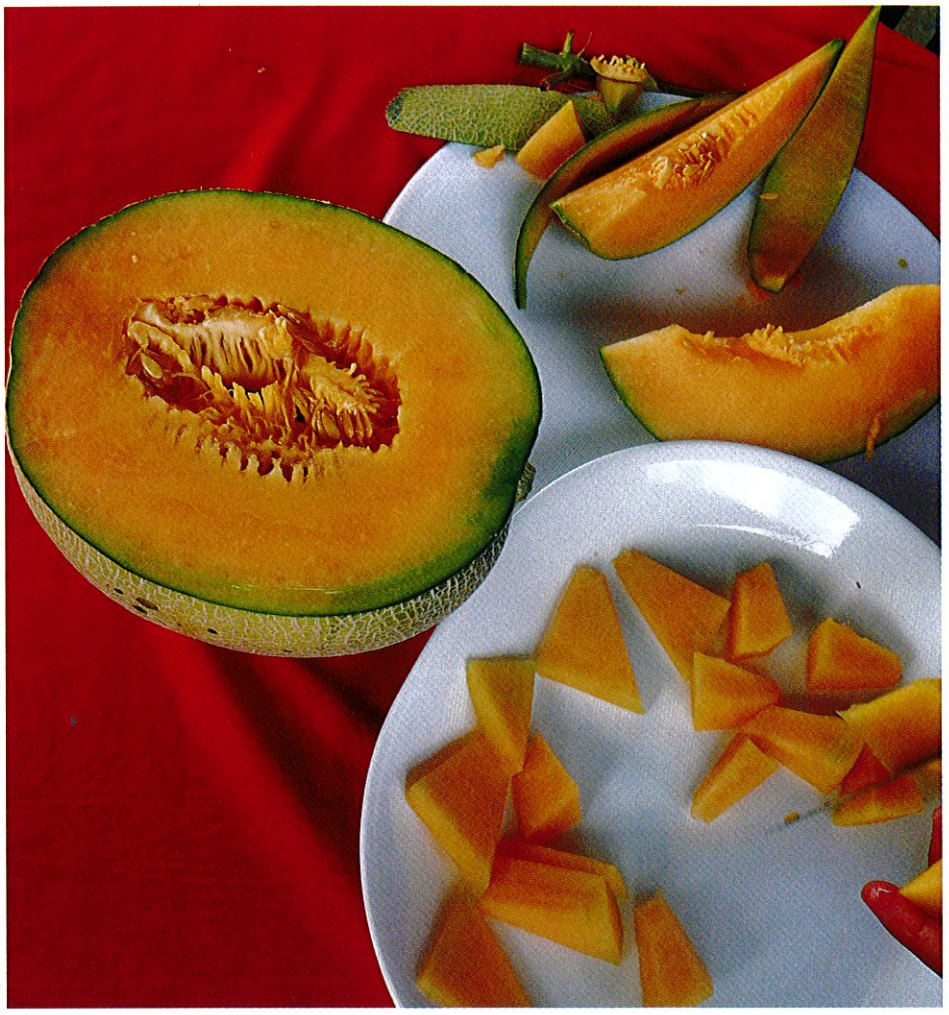
There are ways to tell if the rock melon is ready. Look at the part where the stem is attached to the melon. Check if that part has browned a little. If it is bright green, then the rock melon is not ready to be plucked and therefore is not ripe.



Leave the stems on the melon for as long as possible, as the stem will prevent the melon from rotting.



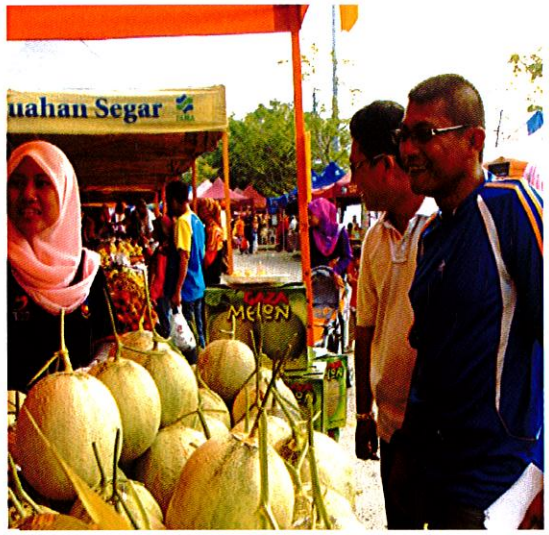
On the average the fruit is 3.5kg in weight. Some 700 rock melon fruits are produced with high quality in terms of texture and skin.



Rock melon has an extraordinary sweet flavour and denser texture compared to water melon.

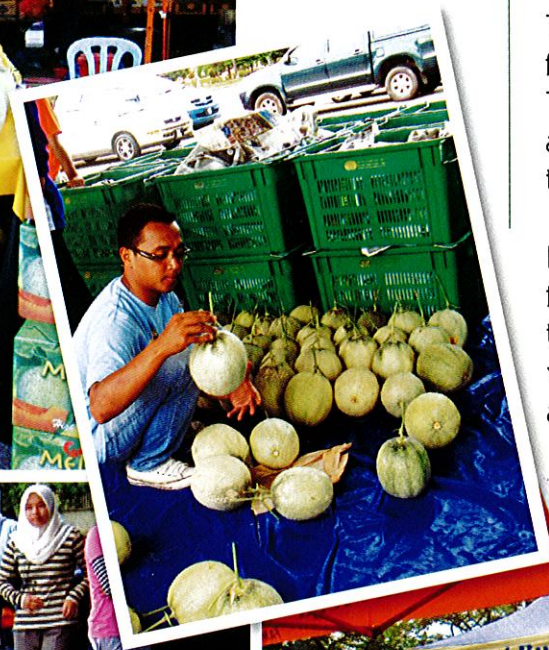
A good fruity smell from its base can indicate a good melon and may have a heavy weight.

A FIESTA



Rock melons are fantastic to add to fruit salads or on top of vanilla ice-cream. The entrepreneur club has a wonderful evening organizing a fiesta where side-products of rock melon are produced. To name a few are delicacies like kuih Tako, cocktail pudding and juices.

ENTREPRENEURSHIP SKILLS



Students are exposed to the entrepreneurship skills by encouraging them to sell the rock melon fruits at the Pasar Tani.

They are taught to grade the fruits into A,B and C types. They are also trained on how to arrange and set up their booth at the Pasar Tani.

It is an enterprising event as most fruits are sold. Students are asked to sell the fruits for three days with the help of their lecturers and friends.

SHARING EXPERIENCES

.....Kerisauan terubat dengan kehadiran hari menuai. Hari menuai merupakan hari yang paling bahagia bagi kami semua, di mana segala kerisauan dan keperitan terbayar. Melihat longgokan bua-buah melon yang berkualiti dan memenuhi piawaian, hati menjadi begitu bersyukur dengan kudrat ilahi. Pengalaman mempromosi buah melon di pasar tani Shah Alam dan melihat buah habis dijual dalam masa yang singkat juga amat mengujakan. Alhamdulilah.....

ZAINAH OTHMAN

.....Setiap seorang pasti merasa bersalah jika tidak menjenguk tanaman melon yang mula mengeluarkan pucuk-pucuk muda dan dengan begitu pantas telah membesar dan memerlukan tempat untuk melilit. Proses 'melatih tanaman' iaitu melilit pokok pula diteruskan dengan penuh hati-hati agar pokok tidak tercedera. Seterusnya, proses yang paling kritikal adalah proses cantasan atau 'pruning' yang perlu dibuat bermula daripada sepuluh hari pokok ditanam dan berterusan sehingga buahnya boleh dituai. Proses ini agak sukar bagi kebanyakan 'pemilik bangsal' kerana kurang mengenali sulur yang perlu dibuang, ditambah pula tumbesaran tanaman melon ini yang terlalu cepat mengakibatkan masa yang diperuntukkan untuk proses ini adalah begitu terhad.....

MAZURA MANSOR

.....Kerana teruja, setiap pagi datang menjengok di tapak semaian bagaimana anak benih mula pecah mata (bahasa ibunda saya)pada hari kedua, menjengah alam dengan 2 helai daun pada hari ke tiga dan seterusnya. Apa yang saya nampak dan dapat, hasil tuaian rock melon di PSA lebih berkualiti berbanding beberapa tempat yang saya lawat sepanjang SIP saya. Besarlah harapan saya , program sebegini diteruskan pada masa depan. Untuk menjadi pakar dan peneraju, proses penanaman perlu dijalan beberapa kali dan beberapa eksperiman berlainan perlu dilakukan.....

MOHD HASHIM

Fertilizer and irrigation ditukar jadi Fertigasi
Pokok dalam plastik bawah bangsal bertiang besi
Dua baris 100 pokok itu yang dia orang kasi
Boleh seorang jaga boleh juga kalau nak kongsi

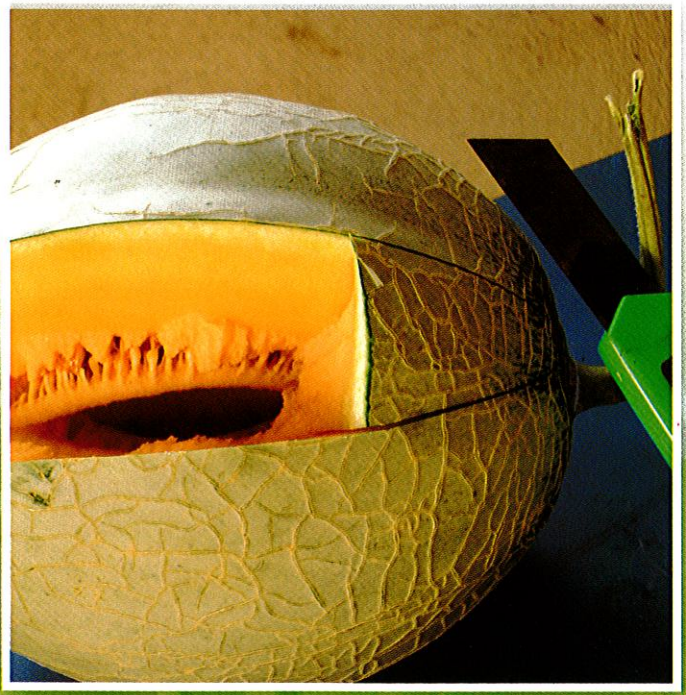
Air dan baja Cik Din yang jaga
Aku jaga pokok agar subur dan nampak lawa
Bunga mula menguning buah mula berputik
Simpan satu saja yang lain mesti dipetik

Bila benih mula bertunas
Hati mula rasa teruja
Ulang alik tak kira sejuk tak kira panas
Kadang balik rumah hampir hampir nak senja

Buah gred A di hantar ke pasaraya
Buah gred B kami dijual di pasar tani mega
Lepas tu kami agih menu masak ikut apa saja cita rasa

Ada kerabu, ada kuih, ada pengat ada juga entah apa-apa.
Pesta rock melon di PSA penamat kisah satu nostalgia.

MOHD SHARONI



From the Project Director...

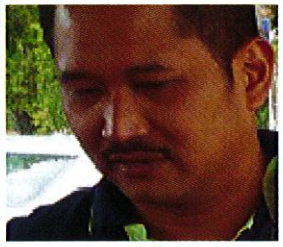
As the project director, I could say that the work and effort we put in to ensure that the rock melon fertigation project became a success was beyond our imagination.

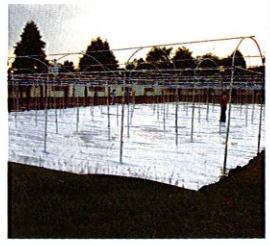
This project was a pioneer for PSA using modern agricultural techniques. The whole process, starting from site preparation till harvest time took about 75 days to complete. The project would not have been successful without full commitment, team work and perseverance displayed by each "farmer" or project member.

In all, we would like to express our satisfaction because at the end of the day, this fertigation project was able to produce beautiful, bountiful and high quality rock melons. It was certainly a new and invaluable experience for all of us involved in the project.

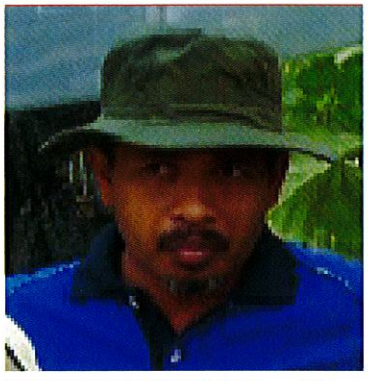

GM PELADANG SDN. BHD.
GM PELADANG SDN. BHD.









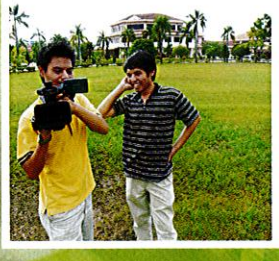


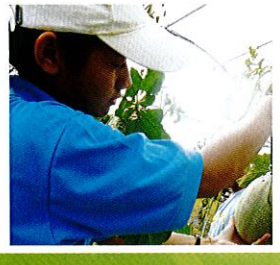
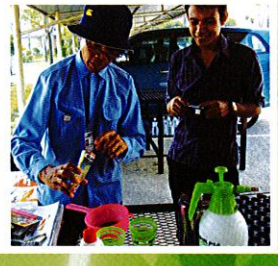
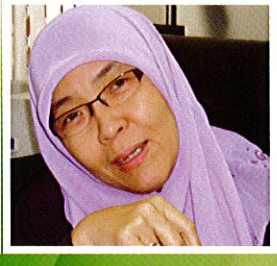









ROCK MELON

A Fertigation Project in PSA

ISBN: 978-983-40528-1-2

9 789834 052812

KEMENTERIAN PENGAJIAN TINGGI MALAYSIA · MINISTRY OF HIGHER EDUCATION

POLITEKNIK
Jabatan Pengajian Politeknik

POLITEKNIK SULTAN SALAHUDDIN ABDUL AZIZ SHAH™

Politeknik
Sultan Salahhuddin Abdul Aziz Shah
Persiaran Usahawan
Seksyen U1, 40150 Shah Alam
Tel: 03 - 5163 400 Fax : 03 - 5569 1903
Laman Web: http://www.psa.edu.my