Mango Management at Flowering

Julie Bird, Horticultural Extension Officer Ph: 8973 9738

As with any other crop, the profitability of your mango enterprise depends on a combination of top quality produce as well as a high yield. The best way to achieve this goal is to have a profuse early flowering, as well as a high rate of fruit set and retention. Although Mother Nature plays a significant part in the scheme of things, there are some management practices that can help you to produce a more consistent yield and much better quality.

Pollination and fruit set:
Mango flowering in the Katherine region can occur from June through to August. The mango is insect pollinated, so steps can be taken to help ensure a good fruit set is achieved. Flies and bees are the major pollinators, therefore it can be beneficial to increase their numbers. Beehives can be installed at flowering time. The population of flies can also be increased by providing a place for them to breed i.e. road kill or pet meat can be placed in containers and hung in the trees. Other common brews include layer pellets and milk powder to attract the flies.

Most pesticide sprays should be avoided during flowering, as they are hazardous to pollinators.

Irrigation:
Although it may be beneficial to withhold irrigation until 60% of flower buds are visible, it is essential to use common sense when water stressing your trees. If your trees are losing leaves or look very unthrifty, it may be a good idea to give them a small irrigation to keep them going. If your trees are lacking adequate nutrition or are stressed from insect attack, water stressing may be risky. If trees are overstressed fruit drop can be increased, reducing your chance of a high yield.

Nutrition:
April is a good time to test the nutrient levels of your leaves and soil. This will allow any required fertilisers to be applied prior to flowering. This will provide the best chance for a satisfactory crop to set and develop. Soil and leaf analyses and recommendations are available from most fertiliser retailers.

Pests:
Pests such as the flower eating caterpillar, Apple Dimpling Bug and thrips can seriously damage flowers resulting in greatly reduced yields. Flowers must be protected by spraying with a soft option chemical if pest numbers indicate possible yield losses. Preferably spray with a chemical which will not harm your pollinators.

By following good mango management practices you can reduce the severity of the alternate bearing habit resulting in a more consistent and higher yield. Hopefully, by following the above management practices you will be able to improve your chances of obtaining a profitable mango crop this season.
Documentation for Stock Travelling to Queensland

Sue Hourigan, Vet Officer Ph: 89739 716

Based on advice from Queensland, the current situation for stock travelling to Queensland is

1. Qld Health Certificate and Waybill issued by NT inspector for travel to destination within Qld.
2. NT waybill for travel within NT.
3. QDPIF issue a travel permit if there is movement of stock from the Qld Cattle Tick Infected Area to the Qld Cattle Tick Free Area (some pre-approved travel permits for common destination).
4. If there is a market requirement eg, saleyard/abattoir, a NVD may be required as well as the Health Certificate/Waybill.
5. Movement within Qld can be Qld waybill or NVD/Waybill. If a Qld Certificate of Health has been issued then a separate waybill is not required.

For producers that require a NVD, previous versions of NVDs can be offered to livestock buyers up to 1 July 2004, at which time the 1st edition (March 2004) of National Vendor Declaration (Cattle) and Waybill will be required. The revised form includes two new sections. Part C relates to the Livestock Production Assurance (LPA) Scheme and Part D relates to animal movement. For further information on the NVD/Waybill or LPA please contact MLA. For information regarding travel arrangements please contact your Regional DBIRD office.

Facilitating Family Business Meetings with Lyn Sykes

Simone White, Farmbis Facilitator Ph: 8973 9792
An innovative new workshop designed to develop skills in Family Business Meeting Facilitation is now available in the Northern Territory.

Lyn Sykes, Australia’s leading Family Business Meeting Facilitator will present the workshops. Lyn has been working with rural Australian families facilitating business meetings for the past decade.

The course is attracting a wide range of participants including:
- Primary Producers interested in Facilitation as an income option or to increase skills to use within their own family business.
- Government workers dealing with farm families
- Rural Support Workers and Rural Financial Counsellors.
- Rural Consultants
- Professionals including solicitors and accountants.

You will gain skills in:
- Setting the environment to discuss issues that are fundamentally important.
- Effective questioning
- Identifying and dealing with the ‘not talked about issues’
- Your communication styles and how you interact with others
- How to negotiate through blocked communication
- The power of patterns in families
- How to use this new effective decision making tool.

Where: Darwin

When: The workshop will be conducted in two sessions:
- Session 1 – 5 to 7 October (3 days)
- Session 2 – 2 & 3 November (2 days)

Cost: $2400pp* inc GST Covers five days workshop, comprehensive workbook and notes, workshop meals including dinner night 1 and 4, video resources. Discounts available for more than one person attending from same business/company. The workshop costs are eligible for FarmBis subsidy (conditions do apply).

Each workshop takes a maximum of 12 people, therefore early registration is advisable to secure your place.

For more information please contact Simone White at FarmBis in Katherine on 8973 9792.
Welcome to Shamsul
Our New Plant Pathologist

Shamsul Bhuiyan, Plant Pathologist Ph: 8973 9712
I have joined as Senior Plant Pathologist at Katherine Research Station (KRS) on 17/6/04. My main responsibilities are –
- Improvisation of KRS plant pathology laboratory
- Disease diagnostic service of agriculture and horticulture crops for Katherine and Douglas Daly region,
- Surveillance of new and exotic plant diseases,
- Research on various issues such as management of diseases of agricultural and horticulture using integrated crop management practice,
- Communication of disease management technology to industry and public.

Currently I am involved with the CRC Cotton project and Mango seafreight static trial.

My mission is:
- to improve KRS plant pathology laboratory facility for accurate, efficient and speedy diagnostic service for Katherine and Douglas Daly region
- to develop our research facility in the diagnostic and disease management area.

Shamsul Bhuiyan—the long awaited plant pathologist arrives at KRS

The Don is movin’ on

Rebecca Mather-Brown, Technical Officer Ph: 8973 9770
After 8 years of Managing the Victoria River Research Station Don and Judy Cherry are moving to Queensland. Yes the bent bananas are off to become banana benders.

Don commenced with the Department as a Stock Inspector based in Darwin in 1986. He stayed a short while then moved to Gatton for a year to manage the farm for the University of Queensland.

In 1987 he returned as a Stockie in Katherine and then moved to Darwin to be a Stockie for the prickle farmers.

Don said this wasn’t his favourite part of the job..."having to tell hobby farmer Joe that I have to put Bessy, the kids poddy, down because its reacted to TB Test doesn’t exactly make you popular”.

From here it was on to Coastal Plains and the Douglas Daly area where Don was involved in the ‘shooting out’ of ferals on land owned by Aboriginal people.

In 1990 Don moved down the track where he was the stock inspector based a Wahallow and then later moved to the township of Tennant Creek in 1993 to do a brief stint with the animal production team.

Don and Judy took on the management of the Victoria River Research Station in October 1995 and have been there to witness a number of trials commence and complete.

“The best part of managing VRRS has been the people we have met”.

A well kept secret is the fact that hundreds of people visit Kidman Springs every year including international bird watchers and other scientists from all sorts of government and non government agencies. Scientists not only from the NT but other parts of Australia and the world.

Judy Cherry has worked with DBIRD for the past 8 years. Some of you will remember the taste of Judy’s wonderful cooking at the Kidman Springs Field Days.

Don and Judy have bought their own cattle property in Queensland. “Arydrie” is located between Gladstone and Biloela. We wish them all the best in their new enterprise.
Hardi Orchard Spraying Workshop

Julie Bird, Horticultural Extension Officer Ph: 8973 9738

Katherine growers can look forward to reduced spraying costs armed with improved knowledge on setting up their spray rigs. On the 15th of June, an orchard spraying workshop was conducted at the Katherine Research Station. Trevor Pahl from Hardi, Adelaide was asked to visit Katherine, at the request of the growers involved in the mango sea freight trial. These growers understood the importance of getting their spray equipment working efficiently and effectively, especially if their fruit has to endure a long journey to Europe. It was hoped that Trevor could help these growers, as well as other interested growers from around the district, to understand how to use their spray equipment, as well as to help them set up their machines.

The workshop began with some theory on the equipment which is available, which nozzles to use, and maintenance of your machine. The growers were each given a very handy calibration wheel, which will make life a lot easier.

Two spray units were borrowed from local growers for the day. The participants were asked to form into two groups and to calibrate these machines. Water sensitive paper was used to see which areas of the tree canopy were being effectively sprayed. Fluorescent dye was also sprayed out and viewed after dark with a UV light to get a really good idea just how effective our sprays were. The growers were happy with the results for one machine, whilst the other needed a bit more work.

A couple of days later, Trevor kindly visited growers with Hardi spray rigs to check that they were set up correctly.

Vacancy for Manager at Kidman Springs

Following Don Cherry’s departure to Queensland, DBIRD is looking for a new manager for Victoria River Research Station (Kidman Springs), our main pastoral production research station. The manager is responsible for day to day operations of the station, supervision of staff, and the carrying out of research projects in conjunction with the research officers.

Candidates will need to have good cattle handling skills, previous experience in cattle station management at least at an Overseer or Assistant Manager level, and a good understanding of the pastoral industry. Experience in managing staff and office (computer) skills are also needed. A formal qualification or previous experience of research would be an advantage.

Married or single accommodation is provided, and there is a possibility of part-time work for the manager’s spouse.

For further information contact Bruce Sawyer 89992363 or Neil MacDonald 89739746.
Large Mango Tip Borer

Megan Hoskins, Technical Officer, Resource Protection Ph: 8973 9762

The large mango tipborer, *Penicillaria jocosatrix* (Family Noctuidae) is a major pest of mango in the Northern Territory. The common name ‘tipborer’ is misleading as they do not enter the stem. *P. jocosatrix* larvae feed externally on new growth flushes of mangoes. The damage is often mistaken for that of grasshoppers. This pest occurs across Northern Australia and is also found in India, Southeast Asia, New Guinea and across to Fiji, Tonga and Hawaii. This insect is also a pest of cashew trees.

**Description:**
Moths are brown with light coloured markings on the forewings. Hind wings are white with brown margins. The moth has a wingspan of 25 mm, is nocturnal and rarely seen. Immature larvae are yellowish to light green. As they mature several rows of small pink spots become more obvious. Mature larvae are pinkish-purple and about 25 mm in length.

**Life Cycle:**
Their lifecycle can take up to 35 days to complete. Individual eggs are deposited on the underside of newly emerged leaves. Eggs hatch in 3-5 days. Larval development takes about 8-10 days. Mature larvae fall to the ground and find a suitable place amongst the soil and mulch to pupate. Adults emerge after 16-20 days.

**Monitoring:**
*P. jocosatrix* larvae are generally most abundant from February through to June or when new flush occurs on mangoes. Very small larvae (<5 mm) feed towards the tip of the smallest leaves creating a window-like effect. At this early stage of feeding larvae are found readily on leaf flushes. As larvae mature they continue to feed on pink or purple flush leaves until only the leaf midrib remains. Large larvae often do not feed during the day and prefer to take shelter further down the branch concealing their presence. Look for fresh caterpillar droppings, ‘frass’ on new flush growth to detect the presence of mature larvae.

**Damage:** The skeletonising of new flush creates unsightly damage and may result in the loss of entire growth flushes. When pest infestations are high, caterpillars may consume the growing tips of shoots. If the larvae attack pre-flowering flush this can lead to regrowth of multiple vegetative shoots rather than a single flower shoot. If *P. jocosatrix* are present during flowering they have been known to damage flower panicles and feed on mango fruitlets.

**Controls:**
It is best to target smaller larvae and sprays need only be applied to new flush foliage, not the entire canopy. The timing of sprays needs to target the caterpillars which feed on flush mainly at night and through to the early hours of the morning.

Further details on how to monitor or control mango tip borers are available from the Entomology Section at Katherine Research Station.
Cattle, Customers, Community & Cowboys – Keeping them all happy!

Trudi Oxley, Extension Officer Ph: 8973 9763

Today’s cattle producer is not just the person whose job it is to run as many cattle in as they can find, pop them on a truck, wave them goodbye and wait for a fat cheque in the mail. In today’s environment they are faced with an array of challenges - they need to profitably produce cattle that meet market specifications, all the while subject to the fortunes of the Aussie dollar and overseas economies.

They need to understand just what it is their market demands, not an easy task when the consumer is largely overseas, operating with little formal market feedback and selling to a completely different culture to our own. The Territory has its own unique problem of not having enough land under pastoralism to produce the required cattle to meet market demand.

Producers also have wider community pressure to contend with. There is increasing pressure from the urban population of Australia for land managers to become more accountable in the way they manage their land, and to ensure that management and on going infrastructure development is done in a way the preserves our rangelands.

And then there are the staff, no easy job to keep a skilled workforce when we operate in a seasonal manner under what many people perceive to be harsh working conditions!

The Pastoral team at DBIRD has put together this years’ Kidman Springs Field Day with all these factors in mind.

We have selected speakers from industry who can give us ideas, solutions and insights as to just how the industry can continue to be innovative and proactive in maintaining our markets, and productive cattle herds. We need to enhance our image as professional and responsible land managers and improve our ability to attract and keep staff.

The Nutrition Edge

Katherine, 23-25 August 2004

Markets are demanding conformance to specifications.
Cost pressures are dictating improved productivity.
Control in these areas comes with increased knowledge.
Nutrition is the key to achieving control.

“The Nutrition EDGE provided me with an ability to look at the whole perspective and link it all together. I can now go out and look at different paddocks to assess and apply what is needed to reach the standard we want to achieve. It made me aware of things which have not been considered in

The workshop will explore:
- Ruminant nutrition
- Pasture growth and quality
- Cattle performance and grazing management
- Mineral nutrition
- Managing the nutritional shortfall

This workshop will help you:
- Understand the basics of ruminant nutrition.
- Assess your pasture to estimate and predict its availability, composition and quality.
- Achieve your production and turnoff targets and meet market requirements.
- Make sound judgements for every

Contacts:

Naomi Boughen
Alliance Consulting and Management
T: (07) 3367 1113 M: 0438 372 156
F: (07) 3367 1150
E: nboughen@allianceconsulting.com.au

Simone White
Farmbis

Cattle, Customers, Community & Cowboys – Keeping them all happy!
DBIRD Katherine Research Station (KRS) has teamed up with local Katherine primary and high schools to form a collaborative Horticultural / Agricultural project. The aim of the project is to expose local students to Primary Industry.

The project starts with an Induction Day held at KRS to which all participating schools attend. The day is designed to give the students an introduction to the basic principles involved in growing produce and researching information. Sessions on the day include crop preparation, crop planting, crop selection, and crop protection, accessing the Internet and accessing NT Government resources. The students also paint signs for their plot with their school name and class.

KRS is providing land, infrastructure and advice to the students on all aspects of small crop production. The students visit KRS once a week to work on their plots. Students are encouraged to research at school, topics such as crop design, natural pest and disease management, harvesting techniques, value adding and marketing of a final product. At the end of the project the students own their produce and are free to decide what to do with the fruits of their labour.

The students are planting crops such as pumpkin, tomato, watermelon, herbs, chillies, cucumbers and melons.

To encourage the students further they are also competing with each other.

The schools also have an opportunity to display their produce and products at the Katherine show, and are all eagerly growing a giant pumpkin entry.

The students participating in the project are of varied age ranges and backgrounds – proving age and education level are not the main ingredient for producing outstanding produce!

For further information please contact the school plot project coordinator at Katherine Research Station on 08 8973 9704.

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VRRS (Kidman Springs) Field Day

**Put it in your Diary NOW!**

*The Victoria River Research Station Field Day is on again!*

Put aside **August 11th and 12th** and head out to Kidman. The field day will commence around Midday on the 11th of August.

Tours of the research station will be held on the afternoon of the 11th. Then there will be a wonderful evening at the top of the hill watching the sun go down over the paddocks of the research station.

The 12th will see our guest speakers part with words of wisdom and by 2pm you can be on your way home.

For further information, or to register your interest in attending please contact:

**Pam Allsop, Technical Officer**

Ph: 8975 0916
CHICKS FOR SALE
Day to Week Old - $7.50 each
Ex-Battery Hens x Leghorn Rooster (Excellent for Laying / Meat Birds)
Pekins
Silkies

Phone Jo - b/h 8973 9772 or a/h 0407 398 929

Why Did the Chicken Cross the Road?

SADDAM HUSSEIN - This was an unprovoked act of rebellion and we were quite justified in dropping 50 tons of nerve gas on the chicken.

SAEED AL SAHAF (Iraqi Head of Information) - The chicken did not cross the road. This is a complete fabrication. In fact, we do not even have a chicken.

GEORGE W BUSH - We don't care why the chicken crossed the road. We just want to know if the chicken is on our side or against us. There is no middle ground.

TONY BLAIR - I agree with George.

JOHN HOWARD - I agree with George and Tony.

KIM BEAZLEY - There is no challenge to the chicken at this stage, but if I were crossing the road...

SIMON CREAN - @#@!!@ Chicken. No one crosses the @#@!!@ road without my @#@!!@ say so. It’s time for the chicken to put up or shut up.

PETER COSTELLO - According to documentation submitted to the Live Foods Processing Authority, the chicken in question was uncooked at the time of its journey and therefore will not incur a GST charge. However, if that Chicken actually crossed the road for profit regardless of its raw/cooked status, the road crossing would be considered by the ATO to be a service for which GST will be imposed.

PAULINE HANSON - Please explain - what’s a chicken ?

Bill Clinton - I did not cross the road with THAT chicken.

COLONEL SANDERS - Did I miss one?