

All questions are answered by Dr Christopher Teh, soil biologist and senior lecturer at Universiti Putra Malaysia.



Dear Plant Doctor

If you have any edible gardening questions, fill in the form at the following website: questions.eatsshootsandroots.com



Q I HAVE noticed large patches of greyish green mould/lichen growing randomly on the ground among the grass in my backyard (see photos above). The affected area seems to be increasing during this cloudy and rainy spell. Is it harmful to my plants and how do I get rid of it?

— Suraya

A THESE are patches of mould or fungus. They often indicate a healthy soil, but too much can indicate very wet soil and humid conditions. I would not worry if they appear in small patches but if you find them unsightly, you can let more sunlight into the area by clearing the area enough to reduce the shade; or simply water less.

Q THE lemon tree in my garden is about four years old and has grown to a good height, yet it has not produced any fruits. Why is this so? — N.Vasanthi

A LEMON trees need to be pruned for healthier growth, or if you have been pruning, you might have pruned too much. Prune the tree to have a good height and shape. Remove upright, tangled, congested, and low-lying branches, so you have at the end branches that are more uniformly spaced. Lemon trees are heavy feeders of nitrogen (N) and potassium (K), so you should fertilise your tree with more N and K.

Q I HAVE a lemon tree that I bought three years ago, and it has been growing in the ground, but it's not bearing fruits or flowers. How do you get it to bear fruits? I have been diligently fertilising once a month but fruits don't appear. — Gabriel

A YOU are either over-watering or over-fertilising your tree. Giving too much water or fertiliser may result in good tree growth but yield no fruits. Even if flowers do form, they would abort (drop off), causing no fruits.

Fertilisation should only be done three times a year, not every month. Follow the recommendation on the fertiliser bag as different fertilisers have different formulations or nutrient rates.

I suggest you stop all fertilisers until you start to get a good harvest of fruits. Also, water only when the top 15cm of soil is dry.

Q THE leave tips of my indoor plants have recently turned brownish. I can also see the browning on young leaves just sprouting. The plants are mostly in shade with some sunlight in the car porch. I would like to know how I could improve the situation. — Elaine

A BROWN leaf tips can be a challenge to diagnose because they can be caused by under- or over-watering, excessive fertilisation (causing leaf burns), or problems with the roots.

Closely examine the soil of the affected plants, especially the bottom of the soil. If it is very dry, it is under-watered and you have to water more. If it's dripping wet, stop watering until the excess water drains out; reduce your watering frequency.

Also check the roots. If they appear rotted (including a foul smell), it means the roots have rotted due to over-watering. In this case, these roots are a lost cause and the best is to hope the new roots will be able to grow and the plant recover.

If you have over-watered or the roots have rotted, you may have to change the soil. Try a more free-draining soil so excess water is able to drain out more easily.

Bee-ing in touch with nature

A born and bred city girl retires from the rat race and makes a connection with nature

Ready, set, grow!

By Eats, Shoots & Roots

AFTER Faridah Khalid, 55, left her job as the head of human resource services of RHB Banking Group in April 2016, she was looking for a new hobby when she encountered stingless bees at her uncle's house.

Intrigued by these bees, known also as trigona or kelulut bees, she decided to try her hand at stingless bee-keeping.

Since then, she has turned her backyard in Hulu Langat, Selangor, into a home for 70 native stingless bee hives with the support and help of her husband, Wan Ahmad Fuad Wan Abd Aziz, 58, a relationship manager at Affin Bank.

Their journey has not been without challenges. As a city girl born and bred in Petaling Jaya, she had a fear of bees and no knowledge about them, but her determination to learn and care for the gentle creatures became a route back to nature and to the formation of connections with the community around her.

There are over 500 different types of stingless bees in the world with 40 found in Malaysia. As the name suggests, stingless bees do not sting and are generally harmless to humans. They are a different species to honey bees, and have their own characteristics and honey properties, and grow their hives in the hollow trunks of trees.

In this month's gardening column, we learn about native stingless bees and Faridah's and Fuad's sweet journey with them.

Why did you start bee keeping?

Faridah: I fell in love at first sight when I saw this interesting creature at a relative's house in Kuantan. Not knowing anything about the bees or what to expect, I placed an order for hives. The minimum order was 30 hives.

I wasn't doing it for commercial value. I just wanted to do something after I left the bank to get my brain going and I had space in my house.

What bees do you have?

Faridah: Now I have about 70 hives with nine different species: *Heterotrigona itama*, *Homotrigona alicaeae*, *Homotrigona fimbriata*, *Lepidotrigona terminata*, *Lophotrigona Canifrons*, *Tetragonilla atripes*, *Tetragonula laeviceps*, *Tetrigona apicalis*, and *Tetrigona binghami*.

What were the first few months like?

Faridah: The first three months were hell, because I knew nothing about bees or gardening! Then when the logs (bee hives) arrived, one by one, the bees disappeared!

The seller told us you don't have to feed them, just give them water. There was nothing around then except for some jackfruit trees and I cut them down to make room for the logs. How naive I was, because I knew absolutely nothing!

From there, I started researching day and night in books, on Google, and through asking other people. But even then, it wasn't enough because different people have different sources, environments, plants, species.

That's when I started to learn from the bees themselves. I would start my day at seven in the morning, sitting down for hours to see what they do and how they live. That's how I gained information and knowledge.

What do the bees need?

Faridah: The most important resources that you need to have around are resin, or damar, for them to make propolis (a resinous mixture bees produce to use as a sealant); flowers for nectar and pollen; and, of



Husband and wife bee-keeping team, Faridah and Wan Ahmad, surrounded by Honolulu creepers, which the native bees love. — Photos: Eats, Shoots & Roots



(Above) Bee hives in hollow tree trunks with tunnel entrances that the bees make from propolis and pollen; it takes three days to fill one pod with honey.

course, water. You must make sure the surrounding is clean, and it's all within about 2km radius of your area, because they can only fly 2km.

You cannot burn anything in this space, no fogging, no chemical pesticides. I pay people to cut grass for my neighbours' compounds because before this, they would use pesticides or poisonous substances.

Fuad: If there is enough resin, propolis, nectar and pollen for them to produce honey, they are happy here.

What plants do bees like?

Faridah: Plants with tiny flowers with nectar as their source of food such as *air mata pengantin* or Honolulu creeper, herbs, fruit trees like star fruit and ciku; trees that produce resin, such as rubber trees, jackfruit, tapioca, cempedak, and noni fruit or *mengkudu*.

Fuad: Acacia trees are complete with resin and flowers for honey and pollen. And also rubber trees. These two trees are complete plants for stingless bees.

How do you care for them?

Fuad: They're very sensitive. You have to take care of them, to make them stay. You have to know their predators and make sure the area is clean and there is no build up of water in the log or that it is exposed to direct sunlight as the propolis structure may melt.

You have to maintain the ideal temperature for them to work, and develop. Avoid areas that are too cold. We don't use any chemicals at all here either. Even our fertilisers are home-made, we make our own compost.

What are their predators?

Fuad: Lizards, beetles, spiders, black soldier fly larvae are considered predators. With ants, there are many different kinds. Termites, too, as they will destroy the logs.

How much honey can you harvest from the hive?

Fuad: It depends on the geographical condition of the area. This will influence the resources that these bees bring back. They will build the pods using propolis from the resin or damar available. It also depends on weather and the month.

During fruiting season, they will go out and bring back a lot of honey or pollen. Both are for their own consumption and their brood cells.

We leave about 40% for them. We can harvest 1kg per hive every week, and during fruiting season 15kg per hive every month.

What do you do with the honey?

Faridah: I make raw and rare (unprocessed) honey, honey soap with propolis and turmeric, honey soap with propolis, candle tree and neem, and propolis oils

What do you enjoy most about taking care of the bees?

Faridah: It's relaxing, and de-stressing. It brings happiness to me. I led a very stressful life before. But now, I can just sit down with the bees for three hours non-stop and I get so much peace. Very good therapy. And I lost 8kg in three months!

I'm so happy that this is the path that I chose. With the bees, I learn something new every day.

