Deer Tracks

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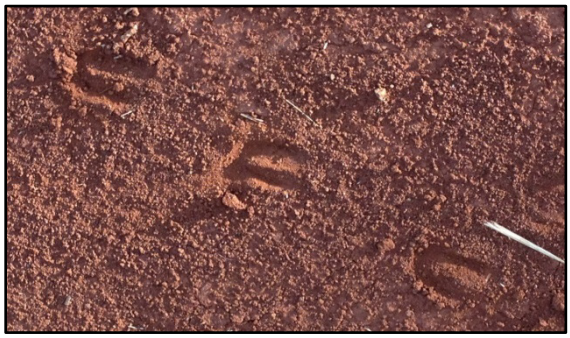
"Used to be anybody could farm. All you needed was a strong back…but nowadays you need a good education to understand all the advice you get so you can pick out what'll do the least harm."
Vermont Saying, mid-1900's

I'm by no means an expert on these unreal creatures. There are many residents on Molokai who have an obsession of thinking like a deer and running like one. I live in the middle of them, and not the other way around, and have come to know them very well.

In Hawaii, we call them Axis Deer, but in many parts of the world especially in their places of origin, India, Sri Lanka, and Nepal they're known by their Bengali name, Chital or Cheetal Deer meaning 'spotted'. Some residents call them 'Bambi' and just adore them, but for many of us, it's an important protein source preferred over beef.



Axis Deer Always Leave Their Mark.

Axis Deer were brought to Hawaii in 1867, and were released on Molokai in 1868. They were also released on Oahu at Diamond Head in 1898, and in Moanalua Valley around 1910.

Also in this Issue:

As late as the mid-1960's, deer were still roaming in Moanalua Valley, and I remember seeing an Axis deer fly through the windshield of a black Cadillac limousine near the bend at Red Hill, blowing out all its windows. In 1920, deer were released on Lanai, and in 1959 and 1960, there were two releases on Maui.

Axis Deer are 'cursorial' meaning they're designed to run and can hit speeds of 40 miles per hour. However some dogs can catch up to them in areas where they don't have a competitive advantage, such as on a paved road or concrete surface.

Their hooves will slide on hard surfaces, so large dogs such as Doberman Pinchers and Rhodesian Ridgebacks will jump on their back, grab them by their neck, and drive them to the ground. My nephew next door had a Doberman Pincher and it caught a bunch of deer in the intersection of Farrington and Pu'u Pe'elua Avenue in Ho'olehua.

A friend of mine says he always feeds his dogs Axis Deer because they will know the taste and smell, and will be ready to hunt at any time, keeping them out of his farm.

Due to an extended drought, and partially due to the shutting down of water troughs for cattle by Molokai Ranch on West Molokai, Axis Deer have migrated from there to the Central Plains where the majority of crop and seed production occurs.

Deer have bucked heads with farmers, and caused millions of dollars in crop damage to the point where farmers have resorted to erecting high perimeter fences at great cost.

USDA-NRCS has instituted cost-sharing programs assist farmers in erecting these fences. I have been experimenting with fencing for several years now and have three fields fenced.

You can determine the number of deer and the relative size of the deer by its tracks, but you cannot distinguish their sex by its tracks. A mature male axis deer weighs about 158 pounds, but the big boys can tip the scales at 220 pounds. Females are much smaller, averaging about 100 pounds.

Axis Deer can find a broken pipe before you do. They will chew on poly pipe if thirsty.

You can determine some things from its droppings or pellets; the animal's relative size, and from the freshness of the droppings, you can tell how long ago they passed through the area. Sometimes, you can even tell what they're eating.

Experts who inspect animal droppings are called 'scatologists'. It's estimated that Axis Deer will defecate about 24 droppings or pellets per day, but in captivity they will defecate about 28 pellets.

Males are called Bucks, and females are called Does, and young ones are called Fawns. Axis Deer make many strange sounds or vocalizations unique to their species, including moans and honks, but the most common sound is described as a 'yup' or 'yow', a high pitched bark, and also bellowing in the case of males during breeding season.

From its bark, you can usually determine their sex. Females make a

high pitched, short bark, and males make a deeper sharp bark. Fawns will squeal when separated from their mothers. When raising their young and sensing danger, does will leave their young lying on the ground usually hidden in bushes, and run away from them, calling attention to themselves to draw danger away from their young.

You can tell the relative size of the male by its bark or 'yup'. Younger males will have a high pitched bark, while the larger ones or Bulls will have a low pitched bark, and the really big ones will have a low bark or bellow that sounds like a combination of Darth Vader and an eerie call of the wild.

I hear deer barking almost every day and night now. That's just an indication of how many deer are around. I can hear them before the sun goes down and before I go to bed. They will wake me up at night, which is getting to be the norm. I might even walk into a herd of them on my morning walk.

On an early September morning, I walked into two of them and the first thing they did was jump in the air and high tail it out of there. They are adept at standing on their hind legs to feed high on a tree.

'*Deer in the headlights'* is a phrase used to describe someone who can't move or react when confronted with a challenge or crisis, sometimes life-threatening. Although they have a propensity to stay on trails they mark with their hormones, Axis Deer can also adjust to pressure. They can make up their minds, and they can change their minds and their habits.

Axis deer have secret weapons that can be compared to GPS, aphrodisiacs, self-medications, and weapons defense systems all is one, and these are glands located on different parts of their body which have varied functions.

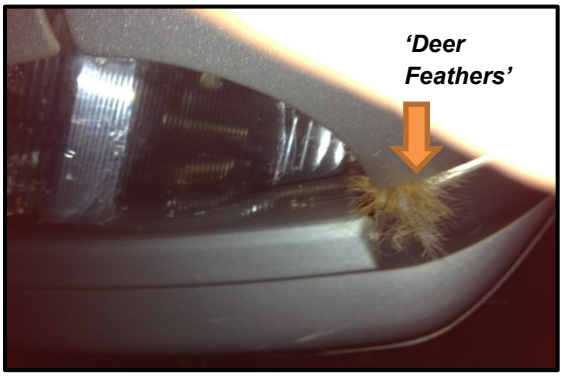
One is well-developed preorbital glands similar to our tear ducts which have hairs that are like stiff little branches. The preorbital gland serves different roles in different species, and males have larger preorbital glands than females and are opened very often in response to certain stimuli.

Pheromone-containing secretions from the preorbital gland may serve to establish an animal's dominance (especially in preparation for breeding), mark its territory, or simply to produce a pleasurable sensation to the animal. They also have well-developed metatarsal glands and pedal glands on their hind legs.

These special glands are used to mark trails or their territory, send messages to other deer, or establish dominance. A further function of these glands may be to produce antimicrobial compounds to fight against skin pathogens. Anti-microbial compounds found in these glands may be created by the animal itself, or by microorganisms that live in these glands.

Deer have also been described as *creatures of habit* and will follow the

same trails, but I'm starting to wonder about this in the real context of this phrase.



'Deer in the headlights' after I encountered a herd on Kam IV Highway on West Molokai with a rental car. My niece called it 'deer feathers'.

I think Axis Deer are creatures of changing habits, adapting to the environmental and climatic changes they're faced with, and also the pressures imposed on them by humans. They are one of the animals of the future because they can adjust to climate change; they are not like dinosaurs.

Deer can modify their eating habits to suit the situation, and can graze when there's a lot of flush growth, but will shift to browsing when food is scarce. They may have a priority list of favorite foods, but can shift to other available food when forced into a situation. Still, they will seek out their favorite foods.

They will even experiment on plants they're not accustomed to eating. All it takes is sampling it and liking it, almost like us when we go to a food tasting event such as the annual 'Taste of the Hawaiian Range.'

Apple Banana and taro are the main crops on my farm, and I used to think they won't eat or bother with banana and taro plants due to their bitter taste or in the case of taro, raphides or calcium oxalate crystals causing itchiness.

That was until a farmer shared that they were eating his taro leaves. This was in an area with no water, so they were forced to eat whatever they could find.

When the weather is cool or during overcast days, they may spend more time eating, but during the hottest time of the day especially in hotter months, they will graze in the cooler times of the day and seek cover during mid-day.

Bucks can shed their antlers annually. After shedding horns, the new antlers will be soft and are referred to as 'velvet' antlers. When antlers harden, they will attempt to remove the velvet by rubbing it on hard wood because it's itchy. If they can't find hard wood in the area, they'll even rub on soft plants such as panax or banana stalks, severely damaging plants.

Deer can drive ranchers crazy. Ranchers will reserve pastures or paddocks for dry times to ration food so they can have sufficient surplus to carry their cattle through the dry months, and this can change from year-to-year. Deer will usually be one step ahead of ranchers, and eat the high quality grass just before ranchers are ready to move their cattle into these new pastures.

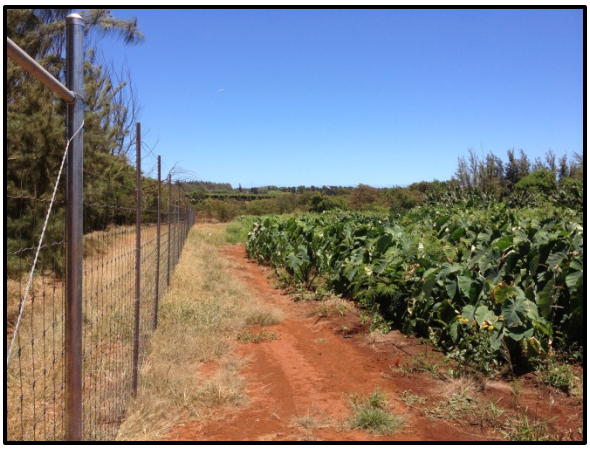
A few years ago, I planted a perennial peanut trial on my farm in a field of apple banana. I received stolons of 10 varieties from the USDA Plant Materials Center on Molokai. I dug 4-150 foot furrows between banana rows with a furrower attached to my tractor. I took squares of planting material with roots and soil, cutting it into 2" wide strips and laying a contiguous row, then covering it lightly with soil.

Weeding was a problem so I had to weed it several times over a year. A big rain at the end of summer just added to the weeds, so I had to weed again. When they finally filled out, some varieties really thrived, while others didn't perform as well.

I held a Field Day for Beginning Farmers at my farm so some of them would consider using Perennial Peanut as a ground cover for orchards. USDA Plant Materials Specialist Bob Joy also came by and viewed the planting. He said this was the best perennial peanut planting he'd ever seen.

What surprised me was up until then, the deer didn't touch it, and this was in the middle of summer when food and water were in short supply. I even wrote an article on perennial peanut and mentioned that they may be 'deer proof.'

Either the deer read the newspaper article or they heard Bob Joy talking about how great the variety trial looked, and in less than a week, they ate the entire Perennial Peanut trial right to the ground. I was flabbergasted!



Keeping deer out of the Hawaiian Taro Collection. CES Molokai Research and Demonstration Farm.

When first introduced to Hawaii, Kamehameha V put a *kapu* or protection on the deer to allow them to multiply, and everyone was prevented from capturing or harming them. In twenty years, the population on Molokai increased to 1000 deer, and reached perhaps to 7500 before attempts were made to control them. From 1900 to 1901, more than 3500 deer were killed by hired hunters.

Before long, there were large herds roaming on Molokai, and during droughts they would denude large areas. Their hooves would create and erode trails, and this is still happening today as its impact on the environment has intensified.

I still remember one of our Ho'olehua papaya farmers, Rick Tamanaha, sustained major losses when the deer bit off the tops of an entire section of papaya seedlings. Prior to fencing his twenty-acre field, Rick tied dogs in his field to scare off deer thinking he had the problem solved. That was until he came out one night and saw the dog

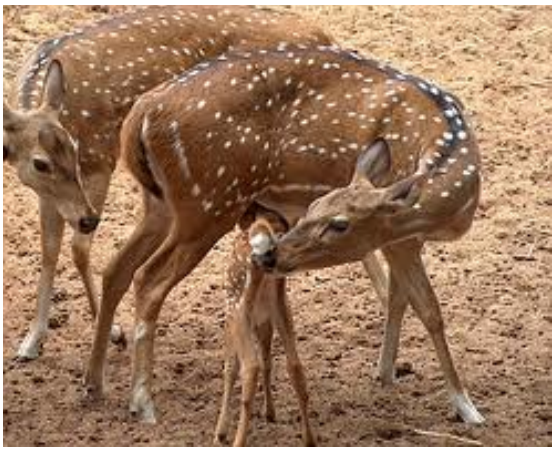
licking the deer's nose! I think some of these animals work together against us.

Micah Buchanan, one of our beginning farmers, also thought he had the problem licked when he tied a team of pitbulls on long wires around the entire perimeter of his fields. The problem was he had left a six-foot gap where two of his dogs couldn't reach each other. The deer came right through the hole and had a feast.

Sought after as trophy animals, Axis Deer meat is among the best of all wild game anywhere. It's lean and tasty, usually with no gamey taste, except some of the large bucks in a very dry summer with a shortage of food.

If you encounter a deer, there are a few body parts you'd like to avoid. One is its antlers or 'racks' and the other is its hooves. These are weapons of your destruction if you corner them. They'll frequently get caught in hog fences, and you have to be very careful when approaching them. It's better to approach them with a long machete or a rifle to put them out of their misery first instead of trying to deal with them alive.

But most times, they can fly through cattle fences such as 10-inch spacing in fence strands without blinking an eye. Males will raise their nose up so their antlers rest on the backs, and align their entire body from front to back hooves, flying through a fence without losing a step.



Two Maui Does and a Fawn - www.mauinow.com

It's difficult to reach a community consensus on how to control Axis Deer because it becomes such an emotional issue since many consider it their food, and you don't keep a man from his food. In essence, WE have become '*deer in the headlights.'*

Some ranchers and others have considered hunting deer and selling the meat, but there are obstacles, logistical and regulatory, to overcome. Federal regulations dictate that deer must reach the slaughter plant within one hour from the time it's shot, and it must killed by a head shot. In addition, a federal inspector must be in on the hunt.

The first two obstacles can be overcome, but the third is more difficult. No matter if you shoot a deer or not, inspectors need to be paid. If their base of operations is on Oahu, you have to pay them from the time they leave Honolulu to the time they arrive back in Honolulu, and probably their parking fee.

The best time to shoot deer is when you can find them, and that's usually at night

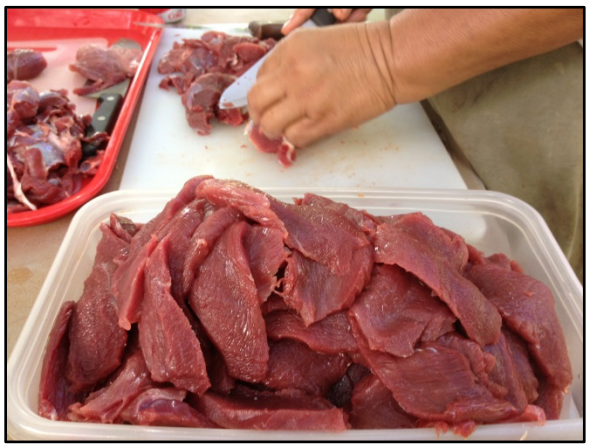
or early morning, but most federal inspectors don't want to work off-hours. Also, the slaughter house has to be ready to receive the meat with their crew ready break the carcasses. All this takes coordination, and like the 'law of the minimum', all you need is one of the pieces of the puzzle missing, and you cannot complete the puzzle. And the deer might not cooperate on the night or early morning hunt, but you still have to 'pay the man.'

Many hunters feel a sense of entitlement, or a special right to hunt on other's property, and this has evolved to the point where some hunters will retaliate when land owners report them or try to get them off their land, such as shooting rancher's cattle or cutting fences. I can see the rationale that you cannot keep a man from his food because a hungry man is a desperate man, but how do you keep order? Anything short of order is anarchy.

Molokai Ranch was very concerned about this issue when I met with them several months ago. I recommended that they find out who the poachers are and hire them as security. First, they looked at me in disbelief, then started laughing and thinking why they hadn't thought about this option first.

If the goal is to get rid of the deer without harming the cattle or getting fences cut, you can achieve this goal by letting the poachers through the gate. But what about liability? There's always a down side to a simple solution, especially a crazy one.

How many deer are one too many? Several years back when we were dealing with the proposed La'au Point development on West Molokai, a friend of mine was tasked with determining how many deer were on the West End.



The only good deer is a dead deer, marinated in your favorite sauce and thrown on the hibachi.

He took a photograph from a helicopter of a 40-acre square and sent it to a friend in Colorado who counts wildlife for a living. From the photograph, his friend counted 1000 deer in 40 acres! What about the rest of the West End, and the rest of the island for that matter? About 3-4 years ago, we started seeing large herds of deer in Ho'olehua. One person counted 150 head crossing a road! Prior to this, a herd of 25 was considered sizable.

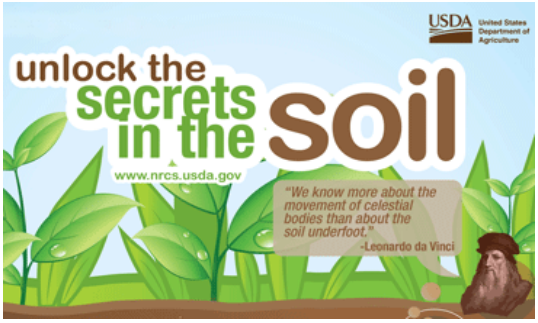
A couple decades ago, wildlife managers on Lanai were counting deer to help plan their hunting season and manage the population. At the start of hunting season, they counted 6,000 deer. At the end of the season, they counted 6,000 deer?!?!

In life, as in farming, some of the solutions are not clear cut, so you have to think outside the box and put some of the most outlandish ideas on the table, considering every possible option, but as soon as you think you may have the problem licked, another problem pops up.

The latest challenge is turkeys migrating from West Molokai into the farm areas of Hoolehua, and some farmers have already being impacted. If only they were as tasty as the Thanksgiving kind, these wild turkeys would be history. Now, we have two problems to deal with. As I write this article, I can hear gunshots nearby, and I know the deer are around, so the battle rages.

Sign-up for USDA NRCS Conservation Programs

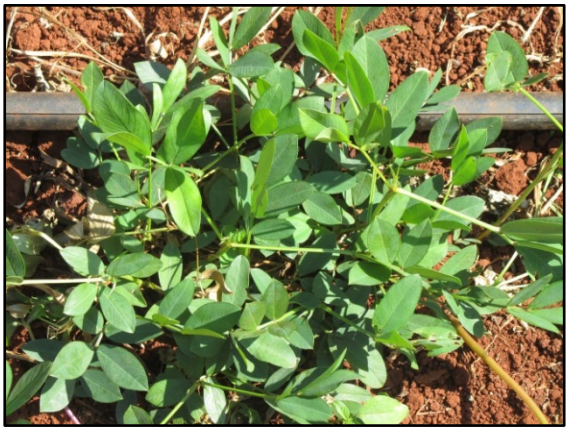
AMA-CIG-ACEP-EQIP If you want to benefit from one of the many alphabet soups of conservation programs, now is the time to sign up for USDA Conservation Programs. You have until October 15 to sign up. For more information, contact the USDA NRCS Office near you.



Check out the USDA Pacific Islands website. There are some great videos on 'Unlocking the Secrets of the Soil.' http://www.nrcs.usda.gov/wps/portal/nrcs/site/pia/home/

NITROGEN FOR THE FUTURE

Farmers of the future will be hard pressed to find a reliable, cost-effective Nitrogen source that's not dependent on petroleum. Nitrogen is fuel for the breakdown of carbon, and for the process of photosynthesis or the greening of plants, and is the most important element required to grow plants.



A Perennial Peanut Arachis glabrata accession under drip irrigation

A natural Nitrogen source is lightning storms that, through a chemical reaction, produce Nitrogen that falls to the ground with rain. A more reliable free source is legumes, members of the bean family.

Nitrogen-fixing bacteria nodules called Rhizobia grow on legume roots and draw nitrogen from the air, bringing them into the ground. Through this

process, some species can produce 150 pounds per acre of Nitrogen.

One legume in particular shows great promise. Perennial Peanut, *Arachis pintoi* and *A. glabrata*, are primitive peanuts that produce very few small seeds compared to the peanut of commerce.

Establishing Perennial Peanut, Arachis glabrata selections in a field of Apple Banana

A warm season, tropical perennial legume native to South America, including Brazil, Paraguay, Uruguay, and Argentina, this nitrogen fixer has many uses including hay, dehydrated products, pasture, creep grazing, silage, ornamental, conservation cover, and living mulch in association with crops.

Perennial Peanut fills a niche where there are few equals. No other perennial warm-season legume rivals its forage quality, persistence, and broad spectrum of uses. And it's nematode resistant!

Since 1995, over 25,000 acres have been planted in Florida of one cultivar alone, Florigraze. This crop closely resembles the quality characteristics of alfalfa, is highly palatable to most livestock, and when grazed, bloating is not a problem as with many legumes.

A. pintoi is well adapted to many areas of the state, but it's not used on Molokai to any extent. *A. glabrata* is rarely used in Hawaii, and is being tested as a conservation cover and living mulch due to its drought-tolerance, and its drought-tolerance compared to *A. pintoi*.

Through collaboration with the USDA Plant Material Center on Molokai and with funding from the Western Sustainable Agriculture and Research Education, ten cultivars of perennial peanut were tested as ground covers and green manures in orchard systems.

One of the main reasons for its limited use is the difficulty in establishing *A. glabrata* compared to *A. pintoi*. *Arachis pintoi* is propagated by stolons and can be easily collected by cutting them on the surface, while *A. glabrata* is propagated by rhizomes and has to be dug out and cut into plugs or strips.

When initially planting this trial, Axis Deer were trampling on it, but weren't grazing it. However, they changed their habits, and adapted to this new crop when fully mature, but it's not on their top ten list of favorite crops.

Weed control is the key, and is the main limiting factor hindering establishment. Planting in the dry season is one strategy to minimize the weed potential. Also, tilling the soil a few times to decrease the weed seed load prior to planting is another.

Phosphorus is an important element for optimal legume growth. Also, adjusting pH to near 6 will improve Molybdenum availability vital for optimal Rhizobia growth.

More information on perennial peanut can be found at the UH CTAHR website: http://www.ctahr.hawaii.edu/oc/freepubs/pdf/OF-23.pdf

Black Twig Borers

One of the obvious long-term impacts of drought on plants and trees is stress that can lead to death of branches or even the entire tree. Older trees are especially susceptible since they're weakened due to age, and lack vigor or juvenility. Insects will zero in on them and attack stems and eventually heartwood.

Older wood is harder and drier, and are especially attractive to certain insects, especially beetles. When you see symptoms such as dead branches, the damage had already occurred months earlier. One cue of this problem on Molokai is dying branches of Eucalyptus trees in the mountains. Along the mauka edge of Ironwood Hills Golf Course, branches of Eucalyptus have been dying back for some time now from beetle damage.

There are many culprits attacking plants under stress and attack. Of these, the Black Twig Borer, also known as the Coffee Twig Borer, is notorious in its ability to kill large trees. A black beetle about 1/8" long, it can bring giant trees down and even attack large healthy trees, but stressed plants are more susceptible.

Male and Female Black Twig Borers. Photo: UH Extension Entomology Department

Belonging to a group known as Ambrosia beetles, they bore into weakened trees and release spores of a fungus on which they feed on. This same fungus will clog the plant's water intake system, killing branches and whole trees.

First found in Hawaii in 1961, the Black Twig Borer is native to Asia and has spread to all coffee growing areas of the world. The black twig borer has a very wide host range and will attack over 200 species of plants and trees including orchids, anthuriums, citrus, coffee, cacao, paper bark, lychee, macadamia, mango, koa haole, Christmas berry, guava, kukui, hibiscus, pikake,

mahogany, Surinam cherry, and numerous Eucalyptus species, among others. We have been receiving reports of dying trees, and this would be the most obvious culprit.

Female black twig borers will tunnel into woody twigs, leaving pin-sized entry holes. Once inside, they will excavate galleries and lay eggs. It is here where they also introduce a fungus, including the Fusarium fungus, which clogs the plant water intake system leading to decline and death. Males will stay in the galleries, while females will breed and exit the pin holes, establishing a new gallery elsewhere, including in an adjacent tree.

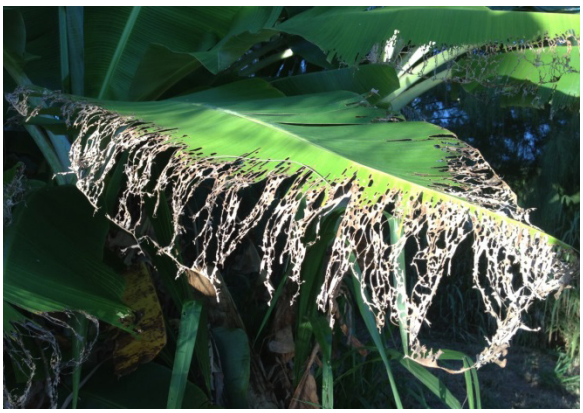
The key to disease and insect control is to grow a healthy plant. Maintaining trees by adequately watering and feeding, and also pruning dead and diseased material, is essential to keeping plants and trees healthy.

For more information on this pest, you can download a publication at http://www.extento.hawaii.edu/kbase/crop/type/xylosand.htm

Chinese Rose Beetles

The Chinese Rose Beetle, *Odoretus sinicus* is one of the most insidious and troublesome garden and yard pests due their wide host range. It can feed on over 250 species of plants, including taro, beans, corn, eggplant, okra, banana, cacao, ohia lehua, heliconia, and roses. First reported in Hawaii in 1891, the Chinese Rose Beetle is found throughout Asia and the Pacific.

Due to our strange weather this summer, we've been having more than our share of Chinese Rose Beetles. Its signature holes in leaves look like someone took a buckshot to your plants, and its damage can stunt and even kill plants.



Chinese Rose Beetle feeding damage on Apple Banana

A golden beetle the shape of a Volkswagen Beetle, the Chinese Rose Beetle is nocturnal, and will start moving around just after dark, and can usually be found finishing its meal from the night before. They emerge from their hiding places around dusk and will feed for a couple of hours, then retreat to their abode, although they will occasionally feed in overcast weather.

During daylight, they will hang out in shady or dark surroundings at the base of the plant, in leaf litter or organic matter, or more likely just under the soil surface, especially on the edge of a wet area. Eggs are laid in the soil and are usually found in the top 1 ½ inches of soil, and they usually take 100 days to go through their life cycle including three

larval stages and a pupa or grub stage. If you dig a little below the surface, you can usually find a large white grub.

Outdoor lights have used to control them in rose plantings around residences at night since bright lights repel them. If you venture outside at night in a Chinese Rose Beetle infested yard with a bright head lamp, they will attack the light and your face, and swarm around your head.

More recently, low-intensity portable solar-based light-emitting diodes or outdoor solar lights have been used to deter and control them in cacao field plantings. When using solar lights with illumination intensities of 5 lux, Chinese Rose Beetle damage was decreased by 75%. A take-off from this idea is drilling a hole in a bowl, attaching it to the stem below the light, sealing it so it doesn't leak, and filling it with soapy water to capture the beetles.

Controlling this pest has always been a challenge, with systemic insecticides such as Sevin as the most common control method. I know gardeners who've had some success with Diatomaceous Earth, but you'll need to spray more each time it rains. At low populations, picking them off at night is viable option.

For low-growing plants that don't require cross-pollination by insects or bees, covering fields or rows with cloth barriers such as Remay cloth has been successful, and was employed on a large scale by seed companies on Molokai to grow soybeans.

For more information on the Chinese Rose Beetle, you can access: http://www.extento.hawaii.edu/kbase/crop/Type/adoretus.htm

The Western Yellow Jacket

Over 25 years ago when collecting strawberry guava saplings in the Forest Reserve of East Molokai Mountains to be used as spears for the Molokai Makahiki, we encountered a swarm of some vicious Yellow Jackets. Later as we ate a lunch of venison and rice, they landed on the venison and joined us for lunch.

I knew right off this wasn't just any old Yellow Jacket; this was the notorious Western Yellow Jacket. Yellow Jackets are wasps, and have a predatory and also a scavenging habit and will feed on many insects, including plant-eating insects and nuisance flies around house and garden. However, they become a major threat when they attack humans, good insects, and animals, including Hawaii's native species.

Yellow Jackets are considered social insects due to their ability to live in harmony with other members of their species, and can also attack in groups, and have been in Hawaii for a long time.

However, the Western Yellow Jacket is a more recent arrival and is believed to have arrived in shipments of Christmas trees. On Molokai, they've been around

for over 25 years. Although not a bee, they've been referred to as the 'Meat Bee' due to their preference for meat or protein, and that means us.

The Western Yellow Jacket thrives in hot dry conditions, and is a brighter dark yellow, almost orangish color, compared to the common Yellow Jacket. They are ground dwellers, making nests in soil cracks or cavities in rocks, and are more aggressive and easily riled compared to the common yellow jacket.

Any ground disturbance such as the thumping of feet or hooves will send them into attack mode to protect their nests. They're a major concern on the Big Island in lava fields when disturbed, and have been known to attack and kill horses.

They search for meat or protein to feed their babies or larvae, and can sting and bite repeatedly. Some individuals are very allergic to them, and should have ready access to medicines that counteract the sting.

In temperate regions, they live only one season, but in tropical areas they can survive for several years and nests can become quite large with over thousands of individuals. The most immediate solution when encountering them is to run like your life depended on it.

Multiple stings can increase the volume of foreign protein injected into your body, and if you're especially allergic to them, they can affect red blood cells and damage organs and tissues in the body, resulting in renal failure.

The longer the hot dry season, the more aggressive they become as populations increase and food supplies become scarce. When food supplies dwindle, they will start to singularly scavenge for food in garbage, on picnic tables, and wherever then can find it, and are usually not as aggressive in these instances.

Once they find food, they will continue to return to the source. If you know where they are, try not to go near their nesting places. Western Yellow Jackets can become very defensive disturbed. Be on the lookout for nests when outdoors. When they're flying directly in and out of a single location, they're probably flying to and from their nest.

Ways of controlling or minimizing them include the use of traps or lures. Trapping is one method that can be employed to try to reduce yellow jacket problems. They will eliminate individuals but probably not the entire nest or large populations.

The active ingredient that attracts the Western Yellow Jacket is Heptyl Butyrate. Attracting them away from residents is important, so placing lure and traps along the perimeter of property in advised. Western Yellow Jackets are good flyers and can forage for a ¼ mile.

Even when using long distance nest sprays, be ready to run because you

don't know how large the nests are, and if there's one, there's probably more. Nests can be quite large and difficult to treat the entire area. Using protective clothing to control them may decrease your chances of being stung, including bee harvesting equipment.

Well, that's it for this month. Hopefully, the rains are on their way and will dispel our concerns about drought, high temperatures, deer, and lots of insects. Help your neighbors and also the schools near your homestead to educate the keiki. Educating the community is everyone's responsibility.

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