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CITRUS FRUIT SPLITTING -----

I've received a number of calls about citrus fruit splitting open on the tree—and I neglected to alert you last month that this problem would begin to appear in August.

Navel oranges are the worst, followed by tangelos and other oranges and mandarins. grapefruit rarely split. Young trees are worse than older trees.

During hot, dry weather, the peel becomes relatively inelastic. A good irrigation or good rain results in tremendous root uptake of soil moisture—the resulting pressure from lots of water being pumped into the fruit causes the rind to burst at its weakest point. The rind of susceptible citrus is thinnest at the blossom end, which is where most splitting starts. Navel oranges are more likely to split because the rind of the main fruit is usually cracked (often with inverted V's) where it surrounds the rind of the inset navel fruitlet.

Splitting may start as early as July, with most of its occurring in late August and early September. Some years are worse than others, but the problem tends to become less severe as the tree gets older. Probably everything that could be tried to prevent or reduce fruit splitting has been extensively studied—without significant

success.

Julian W. Sauls
Professor & Extension Horticulturist

PECAN IRRIGATION -----

Homeowners should not relax the irrigation schedule for pecans now that the nuts have about completed filling. Many of the problems of stick-tights (shucks fail to open and separate from the nut) and vivipary (nuts sprouting in the shell/shuck) are caused by inadequate water in September-October.

To avoid or reduce these problems as caused by water stress, pecan tree irrigation should be continued as needed into October.

Julian W. Sauls
Professor & Extension Horticulturist

TEXAS PRODUCE CONVENTION -----

This umbrella meeting of Texas Citrus Mutual, Texas Vegetable Association, Texas Citrus and Vegetable Association, Texas Fruit Growers Association, Texas Apple Growers Association and Texas Blueberry Growers Association is scheduled for September 20-23 in San Antonio. I have seen the general program and some of the concurrent sessions for the different associations and there's a lot packed into them. The trade show may well be the second largest in Texas horticulture.

At \$185 registration and no discount for Texas A&M University System employees, Extension and Experiment Station employees will be noticeably scarce except on the day that one of us may be on the program, for which only that day's registration is free.

Julian W. Sauls
Professor & Extension Horticulturist

CITRUS AND YOUR HEALTH -----

Almost everyone recognizes the health benefits of citrus fruit with respect to its vitamin C content and some reports from the medical research community have indicated that the regular consumption of citrus fruits is protective in some forms of human cancer. Dr. Edward Miller, Professor of Biomedical Sciences with the Baylor College of Dentistry, recently sent several reprints of research papers in which the effect of citrus limonoids has been explored in his laboratory.

Limonin has shown good activity in inhibiting oral carcinogenesis in hamsters,

but this limonoid is very bitter, insoluble in water and present in citrus juices at less than 1 to 2 ppm. However, one limonoid glucoside has shown similar inhibitory properties in the same hamster model—and it is present in concentrations of 80 to over 300 ppm in citrus juices. That one is limonin 17- β -D-glucopyranoside, if you are into biochemistry.

While work in Miller's lab and others is ongoing, with much left to be learned about the role of citrus, in particular, and also other fruits and vegetables in our diets, the emerging evidence bolsters the ages-old conviction that fruits and vegetables are not just good to eat, they're also good for you.

Julian W Sauls
Professor & Extension Horticulturist

CITRUS TREE DEATH -----

We're still getting a few calls monthly about citrus trees turning yellow, with some leaf drop and some outright death. This is occurring on trees planted since 1989. In some cases, the affected trees bloom profusely and may fruit heavily, particularly in one section.

Citrus foot rot is the disease, caused by a soil-borne fungus. In virtually every case that I have diagnosed in the last several years, the home gardener predisposed the citrus trees to this disease. It is a common practice in south Texas to excavate a shallow basin in the soil, in the center of which gardeners plant trees. The basin is supposed to facilitate watering the new tree.

I won't argue that the basin can facilitate watering, but it is the kiss of death for a citrus tree—usually resulting in death or severe debilitation within 4 or 5 years.

If you'll check the bark within 6 to 8 inches of the soil, you'll find dead bark, possibly peeling off in spots, and often accompanied by gum exudation.

There is no available chemical treatment—just follow the instructions in B-1629, Home Fruit Production-Citrus when you plant replacement citrus trees.

While we're on the subject citrus trees should be grown on bare ground—no grass, no weeds, no mulch (organic or inorganic)—to help prevent foot rot.

Julian W. Sauls
Professor & Extension Horticulturist

OFF-BLOOM CITRUS -----

Several calls from the area in the last month described citrus that was already full size and turning partly yellow. While these have mostly been navel oranges,

grapefruit and other oranges are involved. The eating quality of these fruit isn't quite the greatest, but is pretty good when you consider that these fruit reached maturity during the summer.

In the industry, these summer-maturing fruit are called off-bloom, which simply means that these fruit developed from flowers that bloomed several months after the regular spring bloom. Any given citrus growth flush is capable of producing flowers, and will if there is bark damage from diseases or other factors somewhere below the flush (usually the damage is near the base of scaffold limbs). Sometimes, the spring bloom may be light, so the subsequent flush may bloom and set a few fruit.

These off-bloom fruit actually set during late May to June or even later last year (1994). They are mature (color break in the rind), so go ahead and try them. My family has been enjoying navel oranges for about two months already, but doesn't care for the off-bloom grapefruit, the peel of which is rather thick and puffy and the juice of which is still pretty tart.

Julian W. Sauls
Professor & Extension Horticulturist

MASTER GARDENERS--AN IMPORTANT RESOURCE -----

Volunteers have always been an important part of how we in Extension are able to carry the message to our clientele. Master Gardeners are no exception, they can represent us well in a multitude of different ways, which are limited only by our own imaginations.

Much like the result demonstration program, this program seeks capable people that are willing to make a difference and that are willing to make the commitments to make it happen. As Extension professionals we pour our hearts into the training and nurturing of these volunteers, but we must also consider that as volunteers they need and deserve to be utilized. When Master Gardeners are not utilized, it's much the same as a farmer owning an important tool such as a tractor, but never taking it out of the machinery shed.

So, don't hesitate to use Master Gardeners for all sorts of things related to home and urban horticulture. The result will be a stronger Extension program and some excited and proud Master Gardeners.

Lynn Brandenberger
Associate Professor & Extension Vegetable Specialist

JULIAN W. SAULS, Ph.D.
Professor & Extension Horticulturist

2401 East Highway 83
Weslaco TX 78596

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