

# NATIVE TREE HEALTH CARE

PRESENTED BY





Don't be afraid of  
being DIFFERENT,  
be afraid of being  
the same as everyone else

Unknown

“There is no end to education. It is not that you read a book, pass an examination, and finish with education. The whole of life, from the moment you are born to the moment you die, is a process of learning.”

– **Jiddu Krishnamurti**

# Karen Rockoff

- ISA CERTIFIED ARBORIST TX-3308A
- TEXAS OAK WILT QUALIFIED TXOWQ-0291
- TEXAS MASTER CERTIFIED NURSERY PROFESSIONAL TMCNP 4803
- TDA LICENSED APPLICATOR 0771346
- TEXAS NURSERY AND LANDSCAPE ASSOC.(TNLA) MEMBER
- TREE CARE INDUSTRY OF AMERICA (TCIA) MEMBER
- TX FOREST SERVICE WILDFIRE RISK MITIGATION SPECIALIST
- ASSOCIATES (AAS) IN HORTICULTURAL SCIENCES
- CORPORATE MEMBER OF SAN ANTONIO ARBORIST ASSOCIATION (SAAA)



# TREE HEALTH

ENVIRONMENTAL FACTORS  
&  
PROACTIVE MEASURES

# EFFECTS AND SYMPTOMS OF DROUGHT STRESS IN TREES

- **Wilting**- This is a visible symptom of drought. Permanently wilted trees can recover only when additional water is added.
- **Stomatal Closure**- Trees close stomata in response to rapid water loss, but this will not prevent water loss. Significant amount of water is lost through twigs, branches, roots, and stems.
- **Early Leaf Shedding**- Premature senescence and shedding of leaves is induced by drought stress. In a severe drought situation, leaves may be shed while still full of valuable materials.
- **Effects on Photosynthesis**- Reduction of photosynthesis is a major effect of drought and carbohydrate stores are being reduced. Considerable time is needed for photosynthesis to operate in pre-drought conditions.
- **Growth Inhibitions**- Shoot, cambial and root growth are all negatively affect by drought conditions
- **Biological Lag Effects**- Trees have a lag time before normal processes are established. Trees can show effects of a severe drought for 2-3 years after the drought has occurred
- **Pest Problems**- Drought predisposes trees to pest and diseases due to low food reserves and poor response to insect and disease attacks. Drought creates unhealthy trees.
- **Visible Symptoms**- Deciduous trees show curling, rolling, mottling, scorching, chlorosis and early shedding of leaves. As drought intensifies dieback of twigs and branches in the tree crowns will occur.













DISEASE

# OAK WILT

## BRETIZIELLA FAGACEARUM

A FUNGAL PATHOGEN THAT AFFECTS **ALL** OAK TREES.

SPREAD BY INSECTS AND ROOT GRAFT.

DISRUPTS WATER FLOW THROUGH XYLEM TISSUE CAUSING LEAVES TO WILT AND DEFOLIATE.

PREVENTATIVE TREATMENT VIA INJECTION SHOULD BE DONE FOR AT RISK TREES.

TRIMMING SHOULD BE DONE DURING THE HOTTEST OR COLDEST TIMES OF THE YEAR.

EQUIPMENT SHOULD BE SANITIZED BETWEEN TREES AND ALL WOUNDS PAINTED IMMEDIATELY.





Galaxy S21 Ultra 5G



Galaxy S21 Ultra 5G





Galaxy S21 Ultra 5G





Galaxy S21 Ultra 5G



Galaxy S21 Ultra 5G



Galaxy S21 Ultra 5G



Galaxy S21 Ultra 5G



Galaxy S21 Ultra 5G



Galaxy S21 Ultra 5G

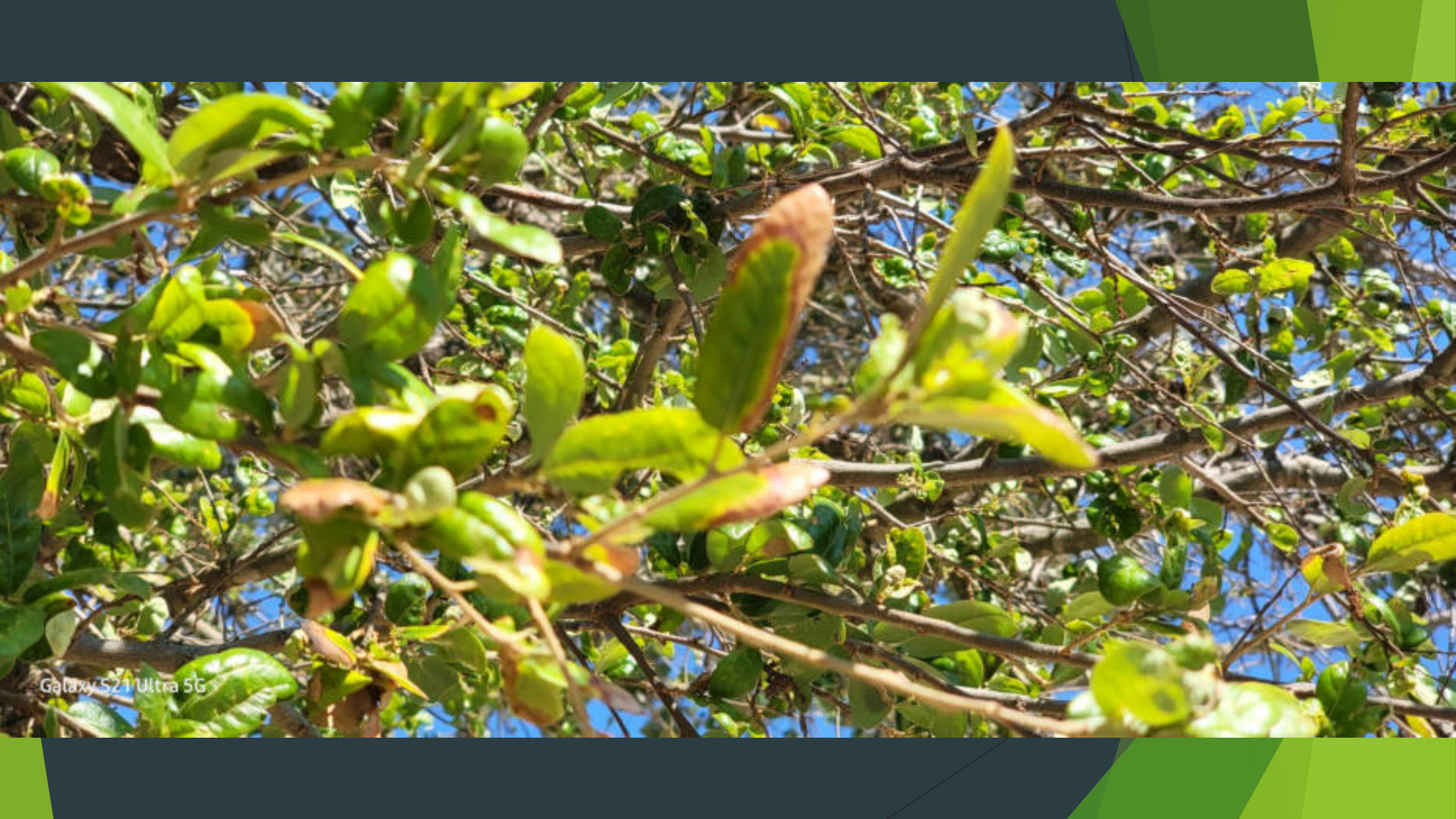


Galaxy S21 Ultra 5G





Galaxy S21 Ultra 5G



Galaxy S21 Ultra 5G





## PHYTOPHTHORA SPP.

### ROOT OR CROWN ROT/SUDDEN OAK DEATH (S.O.D.)

A GENUS OF INVASIVE WATER MOLDS (OOMYCETES) THAT CAN DAMAGE AND KILL ALMOST ALL SPECIES OF PLANT AND TREE.

CAN SURVIVE IN SOIL FOR MANY YEARS AND SPREAD IN RAIN THROUGH RUNOFF AND WIND THROUGH SPORE RELEASE.

CAN DEVELOP WHEN SOIL REMAINS WET FOR LONG PERIODS OR IF PLANTED TOO DEEPLY.

ATTACKS ROOTS AND WORKS ITS WAY UP TO THE CROWN, KILLING THE INNER BARK.

TREES APPEAR TO BE DROUGHT STRESSED OR HAVE OAK WILT (OAKS ONLY). LEAVES WILL WILT, YELLOW OR BROWN AND DEFOLIATE.

TREATABLE IF CAUGHT IN EARLY STAGES





Galaxy S21 Ultra 5G





Galaxy S21 Ultra 5G



## BACTERIAL LEAF SCORCH

BACTERIUM SPREAD BY XYLEM-FEEDING INSECTS SUCH AS SPITTLEBUGS OR LEAFHOPPERS. SPREAD ALSO POSSIBLE THROUGH ROOT GRAFTS.

LEAVES TURN BROWN IN EARLY SUMMER, STARTING WITH OLDER, INTERIOR LEAVES AND MOVING OUTWARD.

CAN BE MISTAKEN FOR DROUGHT STRESS OR WILT DISEASES.

PROGRESSIVELY WORSENS AFTER 3 TO 8 YEARS WITH DEATH BETWEEN 5 TO 10 YEARS.

TREATMENT CAN BE DONE TO LESSEN EFFECTS BUT NO CURE IS KNOWN.





**WILDLIFE**



GoPro 5.0 Ultra 5K

# PORCUPINE DAMAGE



DEER DAMAGE



RABBIT DAMAGE



# INSECTS







UGA5030045

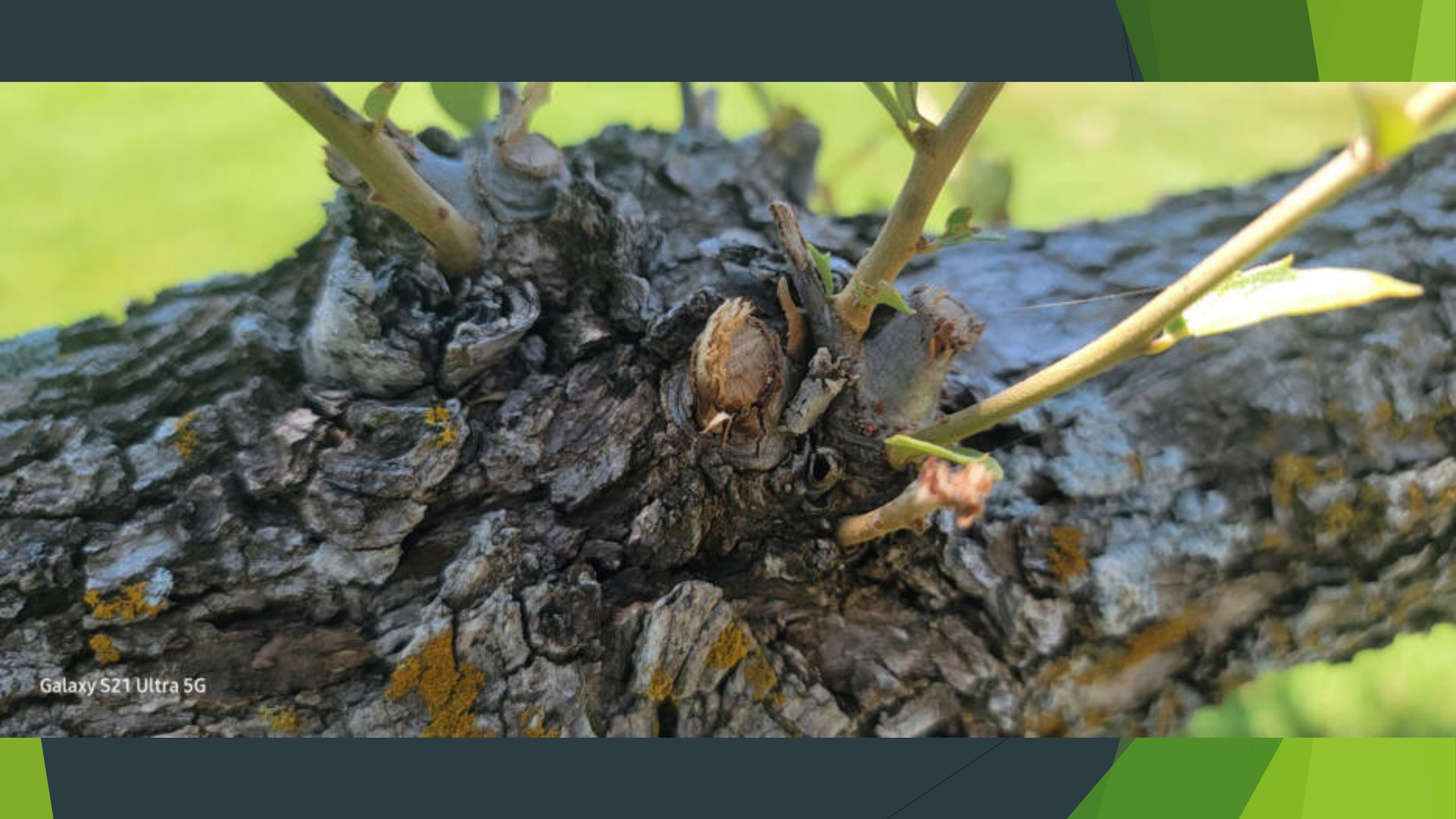




**IMPROPER AND INCORRECT  
PRACTICES  
THAT HARM  
NATIVE TREES**



Galaxy S21 Ultra 5G



Galaxy S21 Ultra 5G





Galaxy S21 Ultra 5G









Galaxy S21 Ultra 5G



Galaxy S21 Ultra 5G



Galaxy S21 Ultra 5G



Galaxy S21 Ultra 5G







Galaxy S21 Ultra 5G













Galaxy S21 Ultra 5G



Galaxy S21 Ultra 5G









# PRACTICES THAT PROMOTE TREE HEALTH

# AIR SPADING

The use of a compressed air-powered tool, or AirSpade, facilitates excavation, soil management, and tree health-care within a tree's critical root zone (CRZ)

The AirSpade can be used to mitigate many soil conditions that are unfavorable to a tree's health, including soil that is overly compacted, poorly drained, anaerobic, or imbalanced in its physical or chemical composition.

The AirSpade can be used to reveal root girdling and improper planting depth on trees, both of which can deteriorate the health of a tree.



# BEFORE AND AFTER AIR SPADING



# WHAT AIR SPADING SHOWS US

GIRDLED ROOTS



PLANTED IN BASKET



SECONDARY ROOT GROWTH



ELEVATION CHANGE

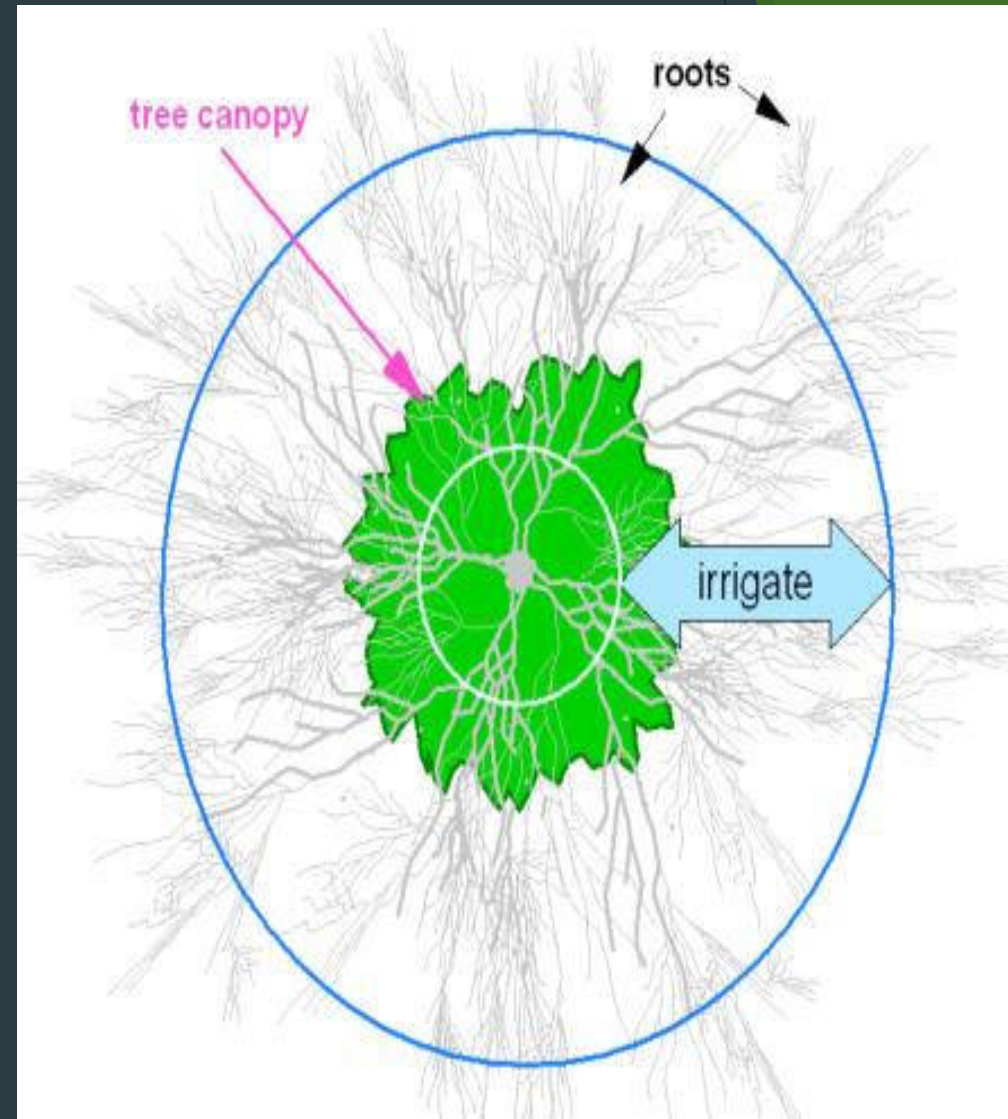


# MULCHING



# HOW TO REDUCE DROUGHT STRESS

- Prevent soil compaction by reducing heavy vehicle traffic or restricting such traffic to designated areas.
- Reduce/remove competing vegetation, especially around young trees.
- Plant trees that are well suited to your site (use local native species).
- Apply mulch around newly planted trees.
- Remove any weed fabric, decorative rock, etc. from around the tree as far as you can go. Roots need room to breathe and grow too! Replacing with mulch helps keep moisture around the tree.
- During extreme drought, do not fertilize trees. Fertilizers do more harm than good.



# Q AND A

