

CITRUS CANKER AMENDMENTS
RULE DEVELOPMENT WORKSHOP
RULE CHAPTER 5B-58

PUBLIC HEARING

Wednesday, October 10, 2001
531 North Military Trail
West Palm Beach, Florida
10:00 a.m. - 2:00 p.m.

APPEARANCES:

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PROCEEDINGS

MR. GASKALLA: Good morning. If everyone could take a seat, it's a few minutes after 10:00 and we'll go ahead and proceed with the workshop. I assume everybody is familiar with the procedures here, but just in case you aren't, when you came in, you should have signed in. And if you were wishing to speak at the workshop today, you should indicate that on a sign-in sheet, and those will be brought up here to the head table and we will call speakers in the order in which you signed in.

This is a rule development workshop for citrus canker rule 5B-58.001, specifically the proposed amendments to that rule. It's a series, this is the second in a series of three workshops that we're holding on these rule amendments. The remaining workshop will be held this evening down in Miami at the Kovens Center, and again, there is information at the sign-in table on the location of this last workshop if you're interested.

In addition, on the back table there are a couple of notebooks that look like this. They are entitled Citrus Canker Eradication Program Supporting Science and Public Relations Information. This is basically all the information that the Department has used as foundational information or documents in science to base our policies and procedures on, and I think are very pertinent to the rule amendments that we're going to be talking about here today.

There is a couple copies on the back table if you would like to during the workshop or after the workshop take a look at it. And if you would like a copy, if you will get your name and address to me, we'll provide you one if you are willing to pay the copying charges.

Just to start things off with introductions, my name is Richard Gaskalla, and next to me is Dr. Wayne Dixon. We are the representatives of the Florida Department of Agriculture that will be monitoring today's workshop.

Both Dr. Dixon and I work for the Division of Plant Industry, which is the plant protection branch of the Florida Department of Agriculture and Consumer Services.

As such, we're responsible for protecting Florida's food and fiber resources and our food supply from injurious plant, pest and diseases, including citrus canker. So therefore we are charged with protecting the Florida citrus industry, both commercial and noncommercial, from exotic pests and diseases like citrus canker, which brings us to the purpose of this workshop today, which is to look at the citrus canker eradication program, rules, policies and procedures.

Dr. Dixon will be presenting information on the foundational science behind our program with emphasis on the epidemiological studies that have been done that support the removal of trees within 1900 feet of an infected tree.

We will be taking public comment after Dr. Dixon's presentation. Normally we have tried to limit comments to five minutes per speaker. We don't have a real large crowd here today, so we'll be liberal in allowing comments beyond five minutes, but I would ask you to be mindful of not being repetitive of other comments that may have been made preceding yours. Try to be to the point and keep your remarks specific to the rule amendments.

We do have documents on the back table that cover the citrus canker rule amendments that we're going to be discussing here today. But just for the record, I will read the proposed amendments for the court reporter.

If you have the rule amendments in front of you, the first change is in our definition section under Section C, Risk Assessment Group. That definition has been deleted and the definition of exposed has also been deleted.

Under paragraph five, control procedures have been changed to read for legal procedures and the following language has been inserted.

It says, "Removal of citrus trees for the purpose of eradicating, controlling and preventing the dissemination of citrus canker in this state. The Department shall remove and destroy all citrus trees which are infected or are located within 1900 feet of an infected tree." Following that change, all references to risk assessment, risk assessment procedures have been deleted.

In paragraph B under the Immediate Final Order, we have changed the procedures for that. We discussed those in some detail at previous workshops. We are either going to deliver the Immediate Final Order in person or by certified mail. That was a comment we received at the last public workshop, or we will leave them posted on the property in a conspicuous place for the homeowner's information.

The Immediate Final Order shall provide the following information to the property owner:

"One, the physical location of the infected tree which necessitated destruction of the property owner's tree.

"Two, the diagnostic report which resulted in the determination that the infected tree is indeed infected with citrus canker.

And third, "distance between the infected tree and the property owner's tree to be removed." Those are the changes proposed at this time.

One other point that I do want to make is we are here today to receive interested party input into our rule-making process. But as a responsible agency within state government, any rule changes that we make have to be well justified. Can't be based on supposition or opinion or even a gut feeling.

These changes have to be based on well-documented science and be of a substantive nature. They have to be something that we can look at and read and review and know that it's been developed by someone who has expertise in the field and is also being reviewed by others who have expertise in the field.

With that, are there any questions before we proceed with Dr. Dixon's presentation?

UNKNOWN SPEAKER: Can you put in plain language what the changes are without reading them?

MR. GASKALLA: Yes. I mean basically what these rule amendments are doing is making the control procedures more definitive rather than relying on the risk assessment procedures which looked at each individual infestation on its own merit and developed a control procedure accordingly. The new procedures indicate that trees will be removed within 1900 feet of an infected tree.

That is the main change we're talking about here today, along with some changes in the manner in which the IFO or Immediate Final Order of documents will be delivered.

UNKNOWN SPEAKER: Thank you.

MR. GASKALLA: If there are no questions, then I'll turn the program over to Dr. Dixon to talk a little bit about the science.

DR. DIXON: Okay. If technology works, we'll have a show. How many of you have read through Dr. Gottwald, et al.'s manuscript? Did you find it difficult? I did too. I've read it several times. And I find that each time I read it, I glean a little bit more. A little bit more gets into my thicker head and so forth.

So I'm trying to take what someone else has written, their dissertation, digest it and give it to you in everyday language, so bear with me as I do that. Probably I'll do it even better tonight down in Miami.

How many of you have renovated a room in your house or apartment, or you've tackled a job on your car or something, and before you really have the job done, you end up making more of a mess before it's done? Okay. Yes? Thank you. Guilty of that myself.

What I'm going to do is a little bit of stepping back to bring you forward. As a teacher, or as an instructor, I feel that I have to give some basis of this core information so that all of us can move forward. I'm going to do a little bit of this constantly as I work my way through of moving forward a little bit, coming back, reemphasizing a point, trying to give the background to that. So therefore that's why I have the title of Conceptual Review of Citrus Canker Biology, Epidemiology, and then the manuscript.

I'm not going to go through reading the details in this. It's simply to communicate to you the number of places that we have found canker in the State of Florida in this latest round of its presence with the first discovery in 1995 down to that large black area to the lower right-hand corner, Dade and Broward Counties.

October 1995 was when that first discovery was made. It was with a fruit fly trapper out looking at a tree and saw something suspicious in terms of leaf symptoms and fortunately took that leaf sample and brought it through all the diagnostic channels so that we, fortunately and unfortunately, could say it was canker. This was not good news for any one of us.

Citrus canker, our focus in terms of our understanding and our involvement has been with Florida, but it does have a worldwide distribution. I'm not sure how much the colors are showing up, and I myself have a partial red/green color blindness, so certain shades of green look blue to me, so I'm just going to lead you through some of this in case some of you perhaps have something similar to what I have.

What we have is through this tropical area a belt of citrus, and down in here, down in here and over here. That area colored yellow, if you can see that, is where we have citrus under production in the world.

The cross-hatching which is not showing up intensely but is red is where we have canker programs going on in the attempt to eradicate canker. And then those areas -- and the laser just went.

Those areas where it has been eradicated such as in here, large areas you can pick out over in here, and then -- so we've got the three areas covered plus the citrus production. There has been a lot of activity over the years with citrus canker when we take a world view. What is citrus canker? Well, first we can say citrus canker is defined by its symptoms. There is a specific name for citrus canker, *Xanthomonas axonopodis* pathovar, which is what the pv stands for, citri. That's a mouthful. Sometimes you'll see it abbreviated throughout the literature as Xac. That's where that's coming from.

Sometimes you will also see it abbreviated as CCA, citrus canker Asiatic.

And finally, because someone has to keep things mixed up, ACZ, Asiatic citrus canker. That's the name.

What does it do? Visibly when the disease is developed, we make a distinction of there is that which is the disease, there is that which is the organism. As a disease syndrome, we would have lesions on the leaves, on the fruit and on the twigs.

What can citrus canker do besides give you visible symptoms? Under the right circumstances, right environmental conditions, the right host susceptibility and so forth, you can have premature fruit drop. Crop losses, looking at different places in the world, can range from five to 50 percent.

This particular one is a, I believe it's a four-year-old Valencia grove down in Paranon, Brazil. Dr. Jim Graham has been going down to that area for several years, has various sorts of experiments going on with citrus canker.

In this case we had a 50 percent loss of the Valencia fruit. This was more or less a wind-exposed area and it had two crop sprays. Now it ended up with a disease incidence of about 57 percent and this particular crop was just finished, and they had about a loss of 50 percent.

Again, when the disease is rampant, high susceptibility, moisture conditions and so forth, citrus canker, by virtue of having the number of lesions, say as on this twig, can result in twig dieback such as on this one. What happens is the leaves have fallen off and the twig itself has become dysfunctional, and we see it dying back. It's kind of like a limb that has gangrene rotting its way back.

The consequence, if there is sufficient levels of this dieback, leaf drop and dieback, is that you will have unthriftiness, not vigorous growth, a declining health of the tree, which may lead to secondary pests and pathogens attacking bacteria.

The tree itself may not ultimately, if death results, may not be directly due to the canker, although citrus canker can be the precipitating factor.

The question has come up can citrus canker kill trees? The answer ought to be yes, it can, but there are circumstances. That which we have is the best documented case of tree death, young trees and ultimately older trees, is in the Maldiv Islands. And there they had severe citrus canker symptoms, all inclusive of the severe leaf drop and twig, branch and trunk dieback. There was a rapid decline in deaths in many young trees. Over the time the majority of trees were lost on the islands.

The key thing to understand about this situation is that combination of wind, temperature and rainfall that was there. Like anything, as an organism, we as people thrive well when the temperatures are -- well, by birth, I'm a yankee, so I thrive on 40-degree temperature. People who are natives of Florida probably thrive under the 80, 90-degree temperature, that sort of thing.

There are optimum conditions for organisms. Citrus canker, we look at wind, temperature and rainfall. The Maldiv Islands, a lot of rain. Temperatures, up in the upper range, nice for bacterial growth, and the wind, a lot of severe storms, picking up that bacteria off from a lesion and driving it into the next leaf, into the next twig, into the next fruit.

One of the things they found was that when leaf lesions occupied 10 to 20 percent of leaf area, about 80 to 100 percent of the leaves will drop. The other thing I didn't mention is key lime has a high susceptibility to canker.

Quick life cycle, you may have some familiarity with this. I'll try to shorten that which is here.

But ultimately the usual event is where we have some sort of storm cell, thunderstorm and hurricane, a thunderstorm with high winds, this driving the bacteria into the stomates and other openings of the leaf or other structures such as the fruit and the twigs.

As that successful colonization takes place inside the middle leaf or into the fruit or into the twig, there is a

massive multiplication of the bacteria going from the hundreds that may have first arrived to thousands and then virtual millions of bacteria.

The leaf tissue or plant tissues are being affected, and eventually we get to the point where then we have another event of rain irrigation due, makes it such that these bacteria, which have been multiplying like the dickens, now come out. They represent, if you will, not quite like a volcano, but there is that movement out due to the new water being present and a dissemination. Now it can be by rain splash. That's short distance stuff if it's a leaf on top of a tall or small grapefruit tree. If it is at the top of the tree and we have dew, rain and so forth such that you get a drop that splashes, it carries that bacteria down to a lower branch, a lower fruit or a lower leaf.

Another way of dissemination is where as someone is, as they should, clipping and pruning their citrus tree in the yard or it's out in the grove, unfortunately, if the canker is there, then that piece of mechanics, be it shears, the hedger, the clipper, it gets contaminated and it goes to the next leaf, the next twig, and it inoculates that bacteria into what was noninfected tissue.

The other, these rain splash can be short distance. The mechanical can be short distance in the sense of trees close together in your yard or trees close together in a row. Can also be long distance in that a piece of equipment gets contaminated, gets carried to the next yard, gets carried to the next grove.

Another type of long distance is where wind-blown rain carries bacteria. That can indeed be a short distance, because even though the wind has high velocity and is carrying the bacteria in just a few feet, it slams that bacteria into that next leaf and that's it, or particularly if it's like aerosol and then also being carried by the wind, it can be hundreds, thousands of feet.

Eradication is not a new technique. It's been around for a while. This is just a listing of where eradication has been attempted.

Quickly going through this, in Australia up in the northern part, northern territory, 1912 to 1925.

And before I forget, Richard, we haven't talked about this, but I suspect what we can do is ultimately we'll make a huge file and I'll have to break it down, but I would imagine that we can get a fair amount of this on our Web site, okay? I see people taking notes and everything and I've been there, but okay, wait a minute.

Some of these slides have a lot of text and some don't have so much. So what we can do in fairly short order, perhaps next week, is put these into -- I've got to find a way to compress them and probably break it into smaller files, because this is like 53 megabytes, and you don't want to take that over a 26K modem line if that's your hook-up to the Internet. Take notes if you want, but I'm just trying to get ahead of what you may need later on.

Back to this Australia, 1981, Copus Islands, West Indies lines, eradicated. 1984, Thursday Island, eradicated. 1985, Christmas Island, eradicated. 1991 to 1994, they were dealing with it again. This was in a diseased orchard, and they took out the orchard plus an additional 500 meters and they had some small outbreaks. Seems that that has again eradicated it.

New Zealand, they dealt with it from 1937 to 1946. Again in 1969. Did their tree removal actions and have not subsequently found it.

South Africa, 1916 to 1928, eradicated.

Fiji Islands, 1954 eradicated.

Florida, 1910 to 1933, eradicated.

Argentina, they worked at it from 1972 to 1978 and failed. Made the decision to move to management.

Uruguay, they have been working at it since 1977. Their stated goal is eradication.

Paraguay, 1967 to present. Their stated goal is eradication.

Brazil, 1957 to present, depends on where you are in Brazil. It is either suppression or trying to eradicate it.

Florida, 1995 to present, we are attempting eradication.

All right. This, that's some of the background biology, some of what's been going on in the world, some of the successes and some of the things that aren't success, and those that are still in process.

Let's move into the epidemiology. An important thing about canker, as with any disease, and it's a population that's growing, is that it's not static. What you have to avoid doing when you are looking at it and trying to deal with it and conceptualize it is to not have your thinking stop at what's in front of you, blink when the shutter goes right now if you are taking the picture with the camera. There is a time element to it.

Whatever you are looking at, you have to try to say okay, what's this going to look like down through time? How is this going to change? Whether you are doing something or not, it is going to change through time.

If we have through time and we're looking at the Y axis, this is the X axis, as time progresses, what happens with canker or a disease, we use as a general disease, is it increases with susceptible hosts being out there, right environmental conditions, continued progress in the disease development, you will find over time this curve.

The incident of disease in that population of susceptible hosts increases. Eventually it may reach the 100 percent. All the trees are infected, period.

When you come in with a control action, which can be control in the sense of suppression or control in the sense of eradication, you may attempt tree removal. You are trying to get the diseased organism out. You are doing that by removing the tree.

The level you are removing trees, you may affect that disease incidence with this green curve, or if you are cutting more plants, the L curve. You are suppressing the disease incidence, depending on how many diseased trees you are removing in getting the disease out.

The unfortunate thing is at these two levels of cutting, whatever they might be, you are not removing enough to drive disease incidence back down to zero. You still have disease occurring over time.

What you try to do is figure out how can you get to this pink curve? So you have disease started for a while, there is getting to more and more trees through this period of, for instance, ten years.

Can we come up with a removal program such that the disease incidence goes down? As we get the causes of the disease out, we have no more there to cause disease.

Is this a unique approach? No. Some current examples is with plum pox virus in Pennsylvania. It was picked up in 1999, in Canada in 2000. It's been present in Europe since 1915. What they are doing up in Pennsylvania right now as they find plum pox in an orchard is that they are removing trees up to a 500-meter, or converted, some wheres around 1740 feet.

In Europe, Chile and Canada, they remove all trees. Then they go different distances, depending on their perception, their opinion of what they have as a virus size, because there is more than one type of isolate of plum pox, and what they see is the incidence that's occurring.

In California, they have an issue of citrus Tristeza virus, which actually we have here as well. They elected to eradicate, and they removed infected trees in the entire orchard when the incidence was greater than a certain threshold. I think that was 10 percent, but I'm not going to go to the bank on it.

Other ones, citrus greening, moving more towards the citrus world, if you will, citrus greening, which you might

some day, unfortunately, we may be a victim of that as well. We have things in process to try to minimize that and try to deal with it effectively if it shows up. It's also called Huanglungbing. It's a bacterium, is a citrus canker.

Diseased trees, entire orchards are removed in an attempt to eradicate the disease throughout Asia and South Africa.

I want to make a comparison and contrast to kind of frame your mind for later on, which is that both with citrus greening and citrus variegated chlorosis -- and we have a sharp shooter right here, I got looked at on that one -- we have insects, the pathogens. The microorganisms don't use or are benefitted by wind spread. They are actually picked up into the salivary glands of the insects when they feed on the plants.

Then the insects have wings and they fly and go to another tree, and as they are feeding, their salivary juices have to go into the plants to prepare the plant cells they are going to feed upon, and now that bacteria is injected into that uninfected plant.

The difference is that citrus canker does not have a known insect vector. There is no sap-feeding insect or anything like that that picks up canker and moves it to another tree, but the equivalence that seems to be there is wind. In a sense for citrus canker, wind is like the insect vector for these diseases. I just want to salt your mind with that here. Not assault. That's salt.

More symptoms and again partial explanation of getting closer to the manuscript is here we have canker on lemon, and here on grapefruit, and we have the lesions. There is this darker sort of lesion you see more associated or dark halos associated with the lemons versus the yellow halo for the grapefruit.

This appearance has seen let's say pathologists come up and start doing some dating, which is important in a manuscript. This critter, it does not directly vector citrus canker bacteria. What I try to draw out is that wind is that dispersal agent for canker.

But this insect plays an incredibly important role that the more I keep looking at the literature, the more I keep talking to pathologists. Talking to Tim Gottwald yesterday. I was picking his brain, is I just have voiced, I am getting more and more impressed of how much the presence of the Asian citrus leafminer, and it's a new presence in Florida, has demonstrably changed what we thought we understood about the epidemiology of citrus canker.

Quite honestly, at the outset, I think at this point now we could say that '94, '95, '96 in Florida, we really hadn't factored in the Asian citrus leafminer. It's within the past few years and recent study that's done, what happens in scientific circles, people constantly comparing observations, just shop talk, coffee talk, doing experimental work has really brought to my mind and several other people's how important the citrus leafminer is. It's a leafminer. The adults are really small. Unless they are fluttering about when you observe a citrus branch, you are probably not going to see them, even if they are there in high numbers.

The adults deposit their eggs on the leaf. They mine into the leaf. They get just underneath the cuticle.

All of this mass is the remnants of the feeding area of the leafminer. This is a little more distinctive, and you can see the tunnel along the edge. And then over on this one.

The leafminer gets under the cuticle. If you look at it real close, you would think you are just seeing a shiny layer that has separated a little bit from the leaf mass itself. That's a cuticle layer that's been raised up because the leafminer is feeding underneath.

Along the leaf of that cuticle there are minor breaks in the cuticle. So you have in effect virtually a massive open wound. The canker bacteria -- I'm going to anthropomorphize -- loves that, in that -- it's a terminology. I'll use terminology and I'll try to drop back and use everyday words. The wound is an infection court, as the pathologists say. It's a courtyard that's open to infection. You have exposed host tissue that the bacteria has to get to to successfully colonize the establishment. It's the marines going on the beach.

Once they get to the right host tissue, then they can start growing and multiplying in numbers. All of that area wounded by the leafminer can be colonized by the bacteria.

The net result is getting this 100 to 200 times more resulting bacteria or inoculum being created than ordinarily would happen.

So the leafminer is creating far more wounding of trees than there used to be. Having wounds is nice to bacteria. Then when they get to this type of wounded area, the canker bacteria multiplies like crazy far more than usual.

Another nuance of canker in the interaction with the leafminer. Down in Brazil, this is working out in a grove area, so these would be, this would be a grove. All these cells would be presumably trees sitting in a row.

Dr. Armando Bergamin has worked with Tim Gottwald and Jim Graham. Dr. Bergamin was able to document all these black areas are individual trees that have canker.

One or more of them probably started as the epicenter and then everything is clumped around that. You see that it's fairly tight. We have an outlier over here. Here's another grove, fairly tight. We have a couple outliers running here.

That's without the leafminer there, without making the wounds. In other words, down here, no leafminer, no wounds.

Now we've got leafminer. See how much more spread out it is. Far more dispersal of the disease. Not the bacteria. I'll keep working at trying to make the distinction between the bacteria dispersal and the disease dispersal. Two different things. I want to make sure I don't confuse you on those two.

So one of the components there is the presence of the leafminer creates far more places for the bacteria to successfully colonize, and it can be of some distance.

I'm not going to belabor this. This can be described mathematically. That which would be tree leafminer strong aggregation can be described mathematically as negative exponential, and that which has the dispersion, some aggregation, but there is also long-distance dispersion described with the inverse power law.

I made the illusion to try to make a distinction between bacteria dispersal and disease dispersal. If you were to graph this out, the blue line is a negative exponential.

And see how this curve is dropping down the further distance out? This is being indicated by this clumping, strong clumping up here. Inverse power law, we have the clumping, but there is this more, this difference here, more of this dispersal long distance.

Down here, the thing is that before leafminer and after leafminer, the bacterial dispersal was more or less a negative exponential and it could have gone to the inverse power law. But in part it doesn't matter how far the bacteria go. It's then also they get to colonize.

Just like I can be in this, if I can do this right, try this analogy, I can be in this room with a massive flu. You don't want me here with a massive flu.

MS. PETERSON: What about anthrax?

DR. DIXON: No, let's not go there.

MS. PETERSON: Why not?

DR. DIXON: Because I'm just speaking of flu symptoms. So with the flu, if I sneeze, I put out a cloud of aerosols

with the virus in it, flu virus in it.

You are in excellent health, you are not susceptible. You don't get it.

I'll pick on you. Your susceptibility may be a little higher. You had a hard day at work yesterday, so you are a little tired, and my virus hits you.

And because you are more susceptible, or you might have some infection for it, a wound, which would apply to the flu, then you may get the disease. The bacteria may colonize you. These things are fluctuating all the time from one day to the next.

With the disease, what we're seeing, because of the leafminer and because of the weather conditions we have in Florida, particularly because of the leafminer, not only do we have disease, the citrus canker bacteria which always have been sprayed out, but now as they are still sprayed out, they are finding places they can get to that they couldn't get to before. The leafminer has made that place to get to at a distance.

A lot of stuff here. Just come back to the reminder that we do have, have had over the six years a lot of places with canker showing up.

We're moving closer to the manuscript and the scenario that was set forth. Canker being found first back in October 1995, goes up in the section here. Each of these yellow blocks is a square mile. This section here, we're able to say what's the likely epicenter, at least one we first worked with.

So we have this 14 square miles, 14 squares here, and we have come to a current distribution of disease in Collier, Hendry County, Palm Beach, Broward, Dade, up here in Manatee and Hillsboro.

How did that come about? What are the things that led to that?

Again, picture showing how we can do dates, birth dates, if you will, aging of lesions, which is important in the manuscript. Appearance here being one month old, three months old and six months old.

Another thing we do in the sense of working backwards, we try to figure out where the epicenter, where the focus was for a disease is we look to see where we have disease, if it's on one side of the tree, and by working backwards, we may be able to discover that focal tree, the tree that started it in that particular area.

With the square miles, this section here translates down here, close to the Seminole Elementary School, and then zeroing in on that the Duck House, as it got called.

This is a tree that was about five to seven years of age. Dr. Tim Gottwald is on the left. Dr. Jim Graham is on the right. Six years have gone by. Their hair is grayer. The oldest infection, seven, eight flushes back. Their estimation was that we're looking at an infection that had been there for perhaps two to three years, so we may be able to date the initial infestation to have taken place in 1993, maybe 1992.

One of the things that keyed us into the age, it does not show well on either of these photographs because it's too dark, but the lesions that they were able to find on the stem width. As they kept looking at what has gone on there is to find, this being identified as the first epicenter, continued looking at it, suggest making it a separate introduction of the disease, actually another section. Since 1995, the disease spread. The opinion is that one of the primary agents behind the spread of the disease, found it to be spread is that of the meteorological events or storms. Certainly in looking at the national oceanographic atmospheric association records is that those wind events started smearing the disease some distance.

Key elements to an epidemiologist to the spreading of the disease were the conditions of that in that we had, and particularly in South Florida, regardless of the particular year we looked at, we generally have a number of days with rain. Bacteria likes that. 135 to 145 days of rain. Greater than a tenth of an inch of rain. Sixty to 65 inches of

rainfall annually, and 70 to 80 thunderstorms per year.

The green indicates, green bars indicate a ten-year average. The red is pointing out specifically that of 1995. And we see that for most of the months, we had more rainfall that year. And again, unfortunately, that's a good thing for bacteria. That's what they like. This is what this bacteria needs.

Questions have come in about South America. Let's go to South America. Guys ready to go on a trip with me? Okay.

We're looking at Argentina, Bolivia, Brazil, Paraguay and Uruguay as having citrus canker. What is it about them that are like us? What is it about them that isn't like us?

If we look at Brazil and the prime area of citrus production, we have several states, Rio Grande do Sul, Parana, Sao Paulo and Minas Gerais, if I'm pronouncing it right. What we have is what starts becoming differences that are important to disease expression, disease survival, is rainfall. Down in this neck of the country we have the high level rainfall, 80 to 100 inches. Up here, it gets close here to 40 to 50 inches per year.

Where is the disease epidemic? Just there is a lot of it down here. Where is there less of the disease? Up here. Regardless of the management practices, it's partly being driven by the amount of rainfall.

What do they have for topography in Brazil for growing citrus? Generally rolling hills to wide expanses.

What's important about that? Wind. Where is that wind allowed to build up? Where is that wind allowed not to build up? What is the exposure of the trees to wind? Wind in the sense of it's out there and it's wet, it's carrying the bacteria.

And the other thing that drives what goes on to the amount of disease there is the cultivars. For the most part, Brazil and Argentina have made the switch from, as they once had, a fair amount of grapefruit to having little. They have made the switch to more of the less-susceptible varieties of canker.

I try not to say resistant, because that's a confusing term. I think most of us if we heard the word resistant, means you can't get it. And really virtually any citrus can get it. It's just some are more likely than others. So I try to couch it obviously in more susceptible or less susceptible.

So depending on where you are at, the amount of disease you have is a reflection of the rainfall to wet or drier. Do you have more topography or hilly areas or flat areas so the wind gets to build up? And what is your distribution of cultivars? Do you have a lot of the highly susceptible ones or the lesser susceptible ones?

Real quick, we jump to Argentina. I'm showing Uruguay here. I don't have any information on Uruguay. They are provinces as opposed to states for Argentina: Corrientes, Entre Rios, Misiones. Very similar to Brazil.

Rainfall tends to be a little bit on the drier end of being some where around 50 to 60, 65 inches. They also have, they have a little bit more topography. They have a little more hill structure that's there or hilly landscape versus that area in Brazil.

And they have also have moved to less susceptible cultivars or varieties of citrus so that they are at a point that they grow in Corrientes, they have about two percent grapefruit, about eight percent lemons, and then the other majority are tangerines and oranges.

The distinction I want to make of Florida versus Argentina and Brazil is they are not exactly equivalent. You can see if we just take straight numbers, come down to temperature first, if you look at Immokalee, look at Ft. Pierce, look at Argentina, the curves are pretty close to the amount of average monthly rainfall. Argentina is the green one or the topmost line here. It's off a little. Fairly the same.

The -- I'm sorry, those are the temperatures. I had rainfall on the brain, but I moved to temperature, so this is temperature.

Now we go to rainfall. Again, Ft. Pierce being red, Argentina the green, and Immokalee the black. On the monthly rainfall, it seems that they are similar. There are some nuances.

With Argentina, this green area right here, there is for their respective spring, because they are in the southern hemisphere, is higher amount of rainfall during those months than during our respective spring.

Then as we move into the summer, theirs drops down a little bit, whereas we're picking up our rainfall in the summer.

There is an important aspect to the weather patterns that Argentina has versus Florida. Argentina is getting its frontal events from the Antarctic. They are coming in from the southwest and they are days or weeks spread apart. So we have wet, you have a frequency of wet periods and then dry. Wet and then dry.

Florida, as you all know living here, our rainfall is a little bit different, particularly when we get into our summer period, as you can have three rainfalls in one day. And they can be day after day, not weeks spread apart.

Now we do get into drought periods, because their ability is out there, but that's the general trend. That constant humidity, that constant moisture and the high wind -- Florida has more high wind events than Argentina. Those end up making the survival, spread of bacteria far greater in Florida than in Argentina.

So there are the similarities and the dissimilarities.

As the program was going on, we had the sense that the removal of trees out to 125-foot distance from identified positive trees didn't seem to be working. We were chasing. We weren't getting ahead. The horse was on the back forty. We were trying to go now how the heck, what the heck is going on, and how do we get it back in the barn?

Back to the curves I had shown you earlier, just a little bit different. Again, that curve, there is nothing going on in the sense of management strategies. The disease progresses as long as there are host plants it can get to.

The pink line seemed to be putting us in this position. All right, we had less disease. Any point on this line is less than if we were doing nothing, but it wasn't enough, because still this curve was increasing. We don't want that curve going up over time. We want that curve going down.

The question became how do we get there? How do we achieve that?

There is a quote out there by Ernst Gusmann, 1946, pathologist describing disease gradients. Citrus canker doesn't have spores. This is his quote. "It is not the millions of spores lost by the way that are important, but the few which reach their goal at the periphery of the dispersion zone" -- and that is part of our challenge, to figure out how far they were going, it wasn't 125 feet -- "and are still capable of infection."

How far was that bacteria really getting and then establishing? That's the difference between the bacteria dispersal versus the disease dispersal.

Now disease dispersal can be strongly influenced by the citrus leafminer.

Some words, epidemiology, science of disease in population. Epidemic was used a long time ago by Hippocrates. For him, that was working with people. What is among the people, if you took the word and broke it out into its parts.

Plant disease, as I've tried to emphasize going through so far, is an interaction of a number of things. You have to have a host, you have to have a pathogen, you have to have the right environment, and it has to be visualized over

time. It's a very dynamic thing.

An epidemic occurs with a change in the amount of disease in a population of hosts over time. It is not just the disease. It is that the disease is happening over time.

I'm going to end up inflicting some statistical models on you. I apologize for that, but they are a tool of language for epidemiologists. These people are different, and Dr. Gottwald would hit me if I stood there in front of you and said that too, and I've told him that he is different, but statistical models is mathematical biology. It's a language.

And I'll be the first person to say that unless your brain is wired that way, it's hard to get there. I've taken my statistical courses and everything else and I still just -- it's like playing a piano. You walk away for a while, you've got to come back and fumble with the keyboard again before you can really get back into it.

Models, regardless of the word, are just simplifications of what someone has observed. They are trying to describe it in a mathematical sense. Models are statistical, they are in a statistical form to estimate parameters.

Here's one that starts getting more to the heart of it. Spatial analysis, which is what took place with the data from the manuscript, often gives a static temporal characterization, but if you do it several times, you do it this day, you do it the next day, you look at it again the next day, you can actually describe a picture, and there is a figure in there at the very end that will show you that.

When you do that sort of thing, like every discipline out there, there is buzz words, spatio-temporal characterization. At your next cocktail party you can rouse somebody by talking about this.

The GPS-Based Spatio-Temporal Analysis of the Urban Citrus Canker Epidemic in Florida. These are the people who are involved with that study in the sense of experimental design, implementation, the analysis.

Tim Gottwald is a research leader as well as a plant pathologist.

And then Dr. Earl Taylor, he is the support scientist as listed here. Both of them work for the USDA at the Agriculture Research Center in Ft. Pierce.

Number two is Dr. Xiaoran Sun, one of our plant pathologists. He worked on the citrus canker program specifically based out of Miami for three years, and then for the past almost three years he has been up in Gainesville.

Tim Riley used to work as a support scientist under Tim Gottwald, but he just moved over to a different branch of the USDA, and he is the chief plant pathologist.

Jim Graham, Dr. Graham is a soil microbiologist at the University of Florida, Citrus Research and Education Center in Lake Alfred. He has worked on canker for nearly 20 years.

And Dr. Frank Ferrandino, he is an astrophysicist. What the heck is he doing working on citrus canker? He is with the Connecticut Agriculture Experiment Station, and his thing is looking at how things occur over time and distance, spatio-temporal model. He works with and has conversations with Stephen Hawkings, the astrophysicist on black holes. Truly a completely different language when you move into that, but certainly being an astrophysicist and spatial-temporo physicist is important in working with the universe. Big distances there.

So those are the people.

In the abstract, we have a number of short statements that, the abstract is supposed to go the core of the article. Tries to capsulize, usually in one paragraph, although it can be long, the nuts and bolts of what they report and talk about in the rest of the manuscript.

And when they first try to set the stage, they looked at five study areas, looked at the spread of canker and

particularly determined if the practice of removing exposed trees within 125 feet affected by citrus canker was adequate to curtail further disease development, the curves that I've shown you.

To accomplish this with those five study areas, they had nearly 19,000 trees that got tagged, in a sense. They each were looked at. They used the global positioning satellite system to determine their actual position on a piece of ground.

And while they were there, they made assessments for the disease severity, the age of the infection, the citrus cultivar, the location of the infection and the canopy size. Tried to describe what's going on with that tree when they looked at it.

For each tree, the date the tree became infected was estimated and used to separate trees into contiguous 30-day categories. Every 30 days was a box. And when they went out on their systematic basis, their scheduled trips to look at the trees and stretched over the study period, they would see lesions on the tree with the first visit. They aged them, as I showed you a little bit with the pictures, how they can appear differently based on their age, and said all right, we know we ultimately found our most, our oldest lesion of all five sites. That stays there.

Then any other lesion they found on any other tree can get compared to that one with the date it was discovered, and they could create a birthday. With that birth date, they could drop it into the -- and we'll see this later -- what's called the T1 box, first observation period.

They dropped it into the T2 box, the second clump of 30 days. Altogether, they had 25 boxes they could drop these trees or the lesions into.

As they would, for each area studied, these measurements between the focal tree, in other words buck disease trees, buck positive tree, newly-infected trees were calculated for temporal windows, because we're going back to using 30-day boxes, which is a reflection of when survey could get in on a 30-day basis for the canker program. Said let's look at this in the sense of 30 days, 60 days, 90, 120 days, tying into intervals of inspection survey.

A Visual Basic Application is simply a unique set of computer programming language called Visual Basic. Another one is called C-Plus. Another one is called Fortran. Those of you here early on maybe have used the card readers and all that and did some Fortran programming, or you attempted to do so. Visual Basic is just a language a person can write to instruct a computer what to do.

They did a very simple thing. You can only do this with computers with massive amount of data, but ultimately what they did was simple. They used that program to say here are all the diseased trees and here are all the next newly-diseased trees. What's the distance to the nearest tree?

They didn't look at what was the greatest distance possible and say well, okay, then we know that this tree here and this tree way over here, we're going to use that distance to say that's how far the disease can be spread.

They ended up taking a conservative approach and said let's look at it of if we have a newly-exposed tree, what's the nearest distance to a positive tree? Thinking that closest positive tree was the one that caused the infection.

And that is not necessarily true, but what it does do is it gives you the shortest distance, is conservative. As said here, it is an underestimate of the spread.

For the first four 30-day periods among the five study sites, the calculated maximum distances, even though we used the nearest one, ranged from -- kept using meters, so I tried to do it using feet -- was 39 feet up to 11,398 feet. That was what was observed.

Another trend we found or they found was that disease increased during the first two-thirds of the time studied, then reached asymptote due to dry conditions in the final third of the duration of the study.

What's that say? What that says is at the beginnings of the new infection, we found a lot of spread. Then as time went on through our study period, the number of new infected trees was dropping off. The asymptote was flattening out of the curve. Weren't having new trees show up. Tim and the others went back and looked at the rainfall pattern and felt that that was influential on that driving it down. That's a known phenomenon of citrus canker.

Talking with someone from Argentina, Dr. Nel Canteros from Argentina, they have years where canker blossoms, because for Argentina that year it's a wet year. And they have years where canker is not blossoming. It's at a low level. Even though the year before it may have been a high level, subsequent years it is a low level.

If you look at rainfall and its distribution, it would be considered a dry year. That's what happens. And we saw a little bit of that here in Florida over the period of time we were looking at the trees in the study sense.

Cross-correlation analysis indicated that the disease incidence was best visualized 107 days following rain storms with wind.

We had a distribution over time of wind events, rain events. We had a distribution over time which was described by a curve of when, of the age of when we were picking up the disease. Cross-correlation means you compare the differences between those two curves, and from that, as a statistician, you can find where there is the greatest correlation.

And what was found in Miami during that time frame and those five study areas that were best picking up symptoms when they were about 107 days after a significant rain event.

Analysis of regional spatial point patterns at that time was performed temporally for each 30-day period via a modified Ripley's K function.

This is where it really starts to get deep. This starts moving into geo-statistics and some really complicated analytical language and concepts. I think further along this one, it will be a little bit clearer with some visual aspects.

Same thing with spatio-temporal analysis over times. There is an illustration at the end that I think is better at that.

This bit of correspondence to rapid spread of disease across the region studied the response to rain storms with wind followed by a filling in, again what's called a semivariogram.

At the very end of this presentation I think we'll visually bring that across to you. A stochastic quadratization technique was used, and when we look at charts, I think it will be clear what took place.

We have a manuscript. What has that manuscript gone through to get to the point that you have it in your hands, or some have it in their hands and so forth?

First there was a formulation of study. Questions were put together by the Department. We had to look at it, who could do, who was qualified, who was competent, who was knowledgeable to do this sort -- to answer questions. We asked that they give us a written proposal and that the proposal describe what they attempt to do. And the agency would look at it and accept it.

What did take place, investigators went out and got the data. They analyzed it. They wrote about the results of the analyses, and then it went to a non binding period. In other words, some people they worked with, fellow plant pathologists went to them and said, "Look at this. Where am I not clear? Where am I not saying you are right? Where do you have a question?" So they made some critical review.

It was cleaned up. The manuscript was submitted to the journal, in this case Phytopathology. Phytopathology is the world premiere plant disease journal for getting feathers, if you will, if you want to have, as a plant pathologist,

to have a publication accepted by Phytopathology.

The journal editor first reads through that manuscript, and usually there is more than one editor. They will have them split into sections of a particular discipline. They will read through it and go "Yeah, this looks like it's fairly credible. I am now going to send this off for anonymous peer review."

Phytopathology is the journal editor accepts -- first step, he sends it off. The anonymous peer reviewers go through, do their reviewing, ultimately say, "Well, we've got some questions, but we think you ought to, the journal ought to accept the manuscript if the author can deal with the questions"; or they will say "Hey, it's a bunch of bunk. We don't think the journal should even think about it." And if the journal editor agrees with them, that's it, it's done.

In this case the manuscript went through the anonymous peer reviewers. They sent the remarks back to the journal editor. The journal editor has agreed that the article should be, the manuscript should be accepted, pending that Tim and the other authors satisfactorily answer some questions posed by the reviewers.

I talked with Tim yesterday, and I interrupted him while he was doing that.

Ultimately after Tim makes the changes and the other authors agree to them, it will go back to the journal editor. The editor reads through it and compares the questions posed by the peer reviewers and the answers by the authors, says "Hey, it's all fine, it's going to show up in the journal."

That step has not taken place. And then sometime down the road after the editor has accepted -- depends on each journal what kind of schedule they have, some have fast turnaround, could be two months; others have slow turnaround, it could be eight months -- it will be published.

In this study we have the usual, any good scientific study, we have questions or hypotheses, material, methods, analysis, results and conclusions. Probably the two principal questions was the applicability of Argentina's conditions of weather and experimentation to Florida. In Argentina 125 people developed. It was based on bacteria dispersal and not so much disease dispersal.

And then with the work they did in '79, 1980 in Argentina, how do those grove findings relate to Florida's urban situations?

There were three sites in Dade County and two sites in Broward County. They tried to locate for what's called the D1, D2 and D3 sites that are the northern leading edge of infection, recently surveyed for the disease. Should be one of the two infected trees of young infections which serves as the inoculum source. That is something to investigate.

They were of varying size, four, two and one for D1, 2 and 3. In Broward, one square mile to six square miles. There was a difference between how things were handled in Dade versus Broward. Broward, a diseased tree was found, it was removed. And in Dade a diseased tree was found and was not removed.

Site D1, there are specifics there, and I think for the essence of time and with us putting this up on the Web, you can get those parameters then.

We had 16 experienced inspectors surveying, looking for trees. The lead was a plant pathologist who examined and evaluated all trees who were found to have disease symptoms.

Again, altogether almost 19,000 trees were assayed in the study period.

They recorded latitude, longitude, species of cultivar, tree age, age of oldest infection, severity of infection, directional section of tree infected. They compartmentalized north, east, south, west, top, middle, bottom thirds. Surveys were conducted as many times as 60 days apart.

These were the data sheets that were used, and they had coding down at the bottom for the cultivar variety, the tree size, tree severity index, and age of the oldest lesion. Tree size here.

Earlier I had spoken about how they dated things. This is just a survey date minus the age of the oldest lesion or given birthday for a lesion, they called it, and in the manuscript infection initiation date. That was established for the oldest lesion they found on the tree.

This is just showing some appearance, and this is not looking as well as I'd like on the projection. What they are able to pick out and compartmentalize in terms of age is like two weeks and one month or three months, four or five months or six or eight months.

In terms of the location of the trees that were used in GPS units, this is the Garmin unit that they used, brand name. At the time that the GPS system was operating, there was a built-in inaccuracy by the Department of Defense, so that the best you could get was plus or minus 7.5 meters. Since that time, that has been removed. So now if you went out with these same units, went to the same tree, you would be far more accurate in the number you got.

What they did is they translated -- scientists can't leave well enough alone. There are reasons behind it, but it is the usual normalization, as they call it, the conversion and so forth.

But they took these lat/longs which are based on the spherical world and took it to the Universal Transverse Mercator system, which is another way of dividing up the world, but on a flat plane. Ultimately that was done just to make it easier and more accurate to measure distances.

This is the UTM. If you were looking at a USGS quadrangle map, just that you have unique numbering on the bottom and on the sides. So you could do that from the map itself. They were using a computer program to do that.

They used a simple formula. If you have a tree here, a tree here, use the equation of the right angle triangle, and they calculated the hypotenuse. With the UTM, the way it's arranged on the map, you read across and read up, and you can determine your distance. They would go into each tree with a long tape to measure the distance.

Again, they broke them into 30-day categories. Their curves were plotted on time based again on those 30-day boxes. The first derivative of the increase of incidence was plotted. I'll show that on the table. Wind and rain tables they collected from Miami and index was calculated wind gust and rainfall.

Altogether with the way they found the distribution of lesion age was 25 time periods. So in effect, they were looking at things that occurred more or less from October 26 of 1997 to November 15 of 1999.

Again the Visual Basic routine was used and emphasis that this was a conservative estimate. And when they did the frequency distributions, they broke them into 50-foot categories.

They did another thing of let's take all the trees that we found that were diseased and calculate all the distances to all the other trees of disease. Not the nearest neighbor.

They broke that into 100-foot categories. This will give us an estimate of long distance, almost an overestimate.

The spatial point pattern you will see again at the end, some of the variance in relation to that.

Okay, some of these charts. As I've been showing you with the red and green lines and so forth, this first one here is just disease incidence. Each one of these, D1, D2, D3, B1, B2 is indicated by a line on the graphs. This is disease incidence here going from zero to one, and these are the time periods, T1 through T25. So over time, disease increased.

I used that word earlier about asymptote or flattened out. This would be asymptote. Now you have seen it.

Another thing that they did is what was the size over the whole time period? When was the disease, what was happening in a more dynamic sense in that disease? They took that change in disease over change in time, and this is a complicated mess certainly with this projection. With the actual draft it's a little bit more discernible, but we have basically leech of the three sites, and this is probably D1 or D2 here. You have three peaks over time of the amount of disease showing up.

And then what we have down here is the rainfall distribution for four of the sites. This is, this indicates 540 days here.

I forgot I had this close-up. This shows it better, D1, the one I pointed out earlier. Three nicely and jumping out peaks during that time period. If you could follow each of those curves to the different line pattern, you find the same thing.

This is just another depiction of how things looked if you could remove all the background noise of having a positive tree and then each of these are trees associated with this one, and the different distances indicated.

This is looking at the frequency of occurrence of new infections on specific time periods, these boxes, the T2 box, the T5 box for different sites, and just showing that within that particular time period, we had two trees at this distance, very close. If you draw out from hereto 167 meters, come up here, you can see on D1 at this time period, we had one tree.

We had one tree way out here for this line. For this one here, we had one tree at 609 meters. Down here, we had one here and one here, this large distance, and certainly clumping. This could indicate close clumping.

I can more quickly show you this from the table. Again the manuscript, with our oldest time period, at the beginning what was put into that box were four trees. Then with the next investigation they found ten. Of those trees, the furthest tree away considered as the nearest neighbor was 1,159 meters. The 1,159 meters would be somewhere around 3,800 feet. Basically you've taken the meter value and multiplied it by 3.281, it will give you the feet measured conversion.

The other thing to point out here is through time, we went from the initial four trees to the 535 being as focal trees at the end of it.

And another thing to notice is we have a long distance here at the beginning, and as time progressed, we have a shortening of the distance, 135 meters, which would be about 600 feet.

In this one, when they first made their look they didn't actually have one that they could put as the actual alpha tree, but in subsequent inspection they found ten trees. Ultimately within that study site is there was 333. And the maximum distance was 618 meters. I tried to put down at the bottom what the study population size was. 618 meters is 2000 feet.

Two, 26, 587, and again, a decline in distance spread. This was a population of 790.

Two to 266 at the beginning, long distance. In the end, short distance.

One and 113, to 399, about 1300 feet.

This is what I had spoken of earlier of correlation and looking at the wind/rain index that they are able to derive and the events that took place versus picking up symptoms, and it is about 107 days.

This is where they broke things into a frequency sense of 100 feet, and they took the diseased trees, and rather than doing the nearest neighbor which was a conservative estimate, they said how far can you stretch this in the sense that we just say any one tree is related to some other tree and let's methodically and with a calculator computer go through and make all those measurements?

So you get a distribution and a maximum value up here for D1 is 640 meters, which is about 2,100 feet.

We had the greatest frequency of measured distances between any diseased trees about that and certainly was less than the other categories.

With B, the B diagram, D2, we had 457 meters, so on and so forth. The distances of 60 meters, 243 meters, 235 meters. That would be an overestimate.

Probably this one here is the one that does the most. If you take all the trees in this one and calculate from all the trees against all the trees the distance between them, you can generate a curve. This dotted line where it's in a statistical manner, you have calculated the 95 percent intervals.

Another way of saying that is 19 times out of 20, if you were to do this again and again and again and again, you would find that the curve that you can generate mathematically is going to fall within the bounds of those dotted lines.

Are you with me so far?

Now let's go look at what is going on in terms of distance with the diseased trees. There is a squiggly line rambling all through. These are Ripley's K, what they call cumulative distribution function, which in the manuscript are incredibly complex equations, but by analysis with the computer software, you can derive some parameters.

One is the range of spatial dependence. This line, this solid vertical line right here, if you follow it up, is where this squiggly line of diseased trees and their distance distribution crosses the dotted line, all of the trees in the study site measured against all the trees in the study site and their distance relationship.

Where that happens means that this curve, which is above, physically it is above this curve, suggests we have aggregation, that any diseased trees within this distance, which is just a little less than one clump of label range of spatial dependency for the disease trees in the study, in this particular case, this site, this time period, was a little less than one kilometer. They were related to each other. They were that distance to each other.

The maximum distance was, as indicated here, and indicated on this curve, this precise spot right here is where the departure from randomness is the greatest. It's a measure of the strength of aggregation that the diseased trees are related to each other. They aren't just of a random distribution.

Over here things are random. In here they are not random.

Once you calculate that point and drop it down, you can get the actual distance measured. This is the point of the maximum difference. This is the actual value of the maximum spatial dependence, distance. That's a little less than half a kilometer.

How can I say this differently? Got to say it. That within a half a kilometer, strong aggregation. This is what was found. Those trees were distinctly related. That's the phenomenon of canker.

Out to .9 kilometers, they were related, but not as strongly. But it is still in the statistical model considered related. They were out there as a family.

Then there was thrown in another thing that Frank Ferrandino, using this dotted line here, where the squiggle line crosses the 95 percent confidence interval to back it off even a little bit more to try to be even more conservative.

This one was to try to show you things at a snapshot, because that's the way it was -- this is a snapshot, even though I speak against snapshots, to try to -- these next ones more go toward what an epidemiologist tries to work with and gain a further understanding, and in A, B, C and D we're taking the RSD, the effect of the maximum difference, maximum spatial difference and plotting them over time.

And what I'm going to try to summarize from all of this is that when you first go into an area, you can discern, because there is not a lot of disease yet to cloud the picture, you can actually get a good grasp of how far the disease has dispersed.

As time goes on, you get in fill. And it becomes harder and harder to precisely know that distance of aggregation.

So if I was standing here and I had bean bags and I started throwing them, say I had five and I threw them out and I achieved some distance, but some might be close, you can quickly pick out where they are and measure distance.

But each of those beanbags is a new site of infection. What's going to happen at that new site of infection? In 30 days, 60 days, 100 days, they are going to throw out -- they are more heavy now. And that guy's out there that I threw out, with the right wind driving it, he is going to throw it back at me.

So now it starts getting confusing when you come in a year later and go his here and his here, did he come from me or did he come from him?

So that's what happens over time. So the early periods for an epidemiologist gave them the insight to see that long-distance spread, and it is harder and harder to pick it out as time went on. Susceptibility is a picture that's in there of things that are important to cultivar resistance, host health, horticultural care and growth stage. They looked at a lot of things in a sense of beyond distance, because they could measure things. They looked at a number of other parameters to try to describe what's going on with canker.

We have a whole mess of linear regressions, and there is a way to summarize this beyond that which is presented here.

First what they did is we have the study site. And they used a program to generate -- we had this table. This is a quadrant. This is a .25 square kilometer quadrant. This is my study site.

I had a computer program that firstly, if you mind doing this, I drop it. That becomes one of those points. I pick it up again, I drop it. Now it's here, this point up there. I did that 500 times, okay? That's how those points came about.

Then they went into each of those quarter-square kilometers which had to have at least two diseased trees, and they said what's going on with these trees, and any other trees? Because they have measured things about tree height, incidence of disease, severity and so forth.

And they said okay, with all of that that's going on, does the host density that was in the early situation affect the disease incidence and severity? No.

Does the host susceptibility affect the disease incidence and severity? Yes.

Sometimes more, sometimes less, because that susceptible changed from one quadrant to another. So they investigated those sorts of things. They thought they would actually see some expressions of relatedness, but they actually didn't take place.

That was for D1. This is for D2. If you go through and read the manuscript, just for statistical sorts of things, a couple of things you're looking at is what is the R-squared value if it approaches one, then that means there is a real relatedness between your dependent variable, your Y axis, and your independent variable, your X axis. So as a statistician, you go is my R square value higher or lower?

If it's high, that lets you know the line depicted as a mathematical equation describes what was going on.

Slope is another one. Here we've got a fairly flat slope, fairly flat. Here we have got one that's more of a tip up to it. There is a tip up to that slope.

Again, that's indicating to you a sense of relatedness of a value increased x . In other words, if I eat more food, I get fat, that sort of thing. There is a relatedness if I don't change my exercise routine or something like that. So they went through and investigated a number of parameters.

This is the one I think that concretizes it all together, even though it looks like a mess.

Let me pick this one here. We have five different study sites and then four different time periods. And using the semivariance coming from the spatial point pattern, and using Krige -- what is the heck is Krige? Named after a person, D.R. Krige. What it is is an interpolation so you can fill in holes to describe something. It uses degrees of relation.

Ultimately what this says is in the cooler colors, the green and blues, you can use that as color coding for the amount of disease incidence or diseased variable.

This is where we had the start, and in this particular study site this would be the Krige Disease Index. This is time period five.

If you go to box ten, the tenth 30-day period, there is not much change, 10-D3. We go to the next time period, which is T14. We have some wind events, storm events and so forth takes place. Now we are starting to pick up the disease spread. We see the disease being pushed down this way. Disease in here. Disease in here. We also had the disease out here.

We go to our 18th 30-day period, this area, just as an area is getting larger, and we see some growth taking place up here; however, this is a new area that has shown up.

So what they -- and using each of these again, limited disease, as time goes on, more disease, more spots and more in filling. Take it back to beanbags, I tried to use. You see how things start getting close together, no matter what? There is no place to go. The ability to discern the range of spatial dependency gets more different.

This one I tried just to zoom in on and again give you that sense of openness, beginnings of the disease presence and the study site as time goes on, the in fill that has taken place as each of the new places that came from here to here, they each start throwing out their bacteria longer and shorter distances and new disease starts from there.

That is a repeat.

This is coming back to a study that was done back in 1990 -- written up in 1992, Smoak Grove, just to again bring out this picking out distances that the disease can be spread to.

And this is indicating distances, measuring this particular grove that they were able to chronologically follow, 754 feet, 1300 feet, 2600, 2001. That's just a different visualization.

Getting to the 1900 feet, with that knowledge of dispersal of the disease, was an attempt at a balance of resources minimizing disease spread.

Question comes of why not retain the 125-foot radius, increase the survey work force? We have an understanding that single storm events can spread the disease more than 125 feet.

The resulting increasing quarantine size makes it harder to do what's really necessary, which is to resurvey in a timely manner. The only way you do that is increase the work force. Unfortunately, as we go through it, I've gone through the program, survey crews haven't always had 100 percent access to all properties.

And that 107-day maximum detection time frame results in some disease escaping visual detection until the next time you come around.

The nearest neighbor was a conservative estimate in terms of approach. If we were able to actually have a precise knowledge to know which focal tree actually caused the secondary trees, we would find that distance would be greater than any distance that we've talked about.

We do know that the urban environment in comparison to commercial planting differs in citrus plant age. Horticultural health plant density varies. There are differences there. We see them.

In the long run what it comes down to is, in terms of spatial dynamics of the disease, there is a commonality of the residential and the commercial. And that wind-blown rain spreads the distance in both situations over similar distances.

We have employed the 1900 feet in Hillsborough County, Sun City Center, and we are 19 months or 20 months –

MR. GASKALLA: Twenty.

DR. DIXON: -- 20 months with no further appearance of the disease.

Now this is just visualization of trying to show that this is the jumping around of the disease, the long and short distances. All I'm trying to say at this point in time is dispersal is long and short distance, and the issue of disease is it has to be looked at over time.

These maps show if we looked at where canker has occurred in Florida over the past six years, it would have this distribution. If we looked at canker as it looks in the last six months, this map was done about three, four weeks ago, it was where this area was smaller and we had one grove that had shown up in Hendry, but we were down from seven counties down to four.

So finally, it is not the millions of bacteria lost by the way that are important, but the few which reach their goal at the periphery of the dispersion zone and are still capable of infection.

What changed in our picture, our understanding of citrus canker from the early 1900s and then the 1980s, compared to the 1990s, 2000, is we really didn't have a good understanding of what wind events were doing for the dispersal of the bacteria. That's just part of the equation. And we certainly didn't have the citrus leafminer which we have now.

And the citrus leafminer has made it so that the bacteria can more often find a successful home at the long distance spreads that wind-driven rain achieves. It is what I call the Florida citrus. There are the years of pre citrus leafminer and the years of post citrus leafminer, and the reflection of 1900 feet, 1950 feet, 1801 feet, 2100 feet.

Something is going to be, has to be of that nature to reflect the new distribution of the disease that now occurs in Florida. I've lost my voice.

MR. GASKALLA: Thank you, Dr. Dixon. We'll hold until after the public comment period.

And with that, first let me ask our court reporter if she needs a break.

She is going strong, so we'll go directly to the comments. Mr. Richard Zoppi up first.

For all the speakers, if you would introduce yourself from the podium and speak clearly and deliberately so we can accurately record the comments.

MR. ZOPPI: Okay. I was about to say good morning, but we have just experienced an hour and 45 minute class by the good Dr. Dixon, and so I have to take a couple of minutes to point out something here.

First of all, my name is Richard Zoppi, and I'm a resident of Boca Raton.

I don't question any of the facts that Dr. Dixon has presented, but Dr. Dixon in his presentation has omitted several points. The primary one is the transmission of the citrus canker.

And it's true that the canker is spread by wind, rain, but it is more spread by man and also can be spread by birds and insects. But man is the main culprit in the transmission of this canker disease, and specifically the decontamination process that is not used by the Department of Agriculture.

I have a little bit of credibility. I don't have an education in plantology. I do have some practical experience. I've been trained by the United States Army. I don't know if anyone has been in chemical and biological warfare and decontamination.

There is no decontamination process used by the Department of Agriculture survey that trespass from property to property. They are, if they are going to stop the spread of canker, should have their hands and feet sprayed at the minimum. They do not do this at all.

Other infractions in promoting the spread of canker by the surveyors and the responding organization that's a subcontractor of the DOA in the eradication program is the use of the tools. The tools that are used in central and north Florida are crop duster planes for spray, also mobile truck tanks for spray.

The tools that are employed by the DOA for South Florida and specifically Dade, Broward and Palm Beach County, are chippers, which use to permeate the air, chainsaws, stump grinders, and open trucks as they transport from the infected area to where they are going to be burned or landfill. Also, the employees have been seen and known to be bagging the fruit for their own home use.

The words, listen to the words that are used even in this presentation and on the DOA's Website as to specifics: Seems to be. Concept. This is an idea. Concept.

Listen to or know the definitions. A concept is an idea. It's not a proven fact. These are the words that the DOA uses: Presumption. Probability. Possibly. Estimate.

They are all vague and not exact. I'm sorry, I had to mention just some of these things.

I've also, I am a Vietnam veteran. I've also in 1995 been in Italy and South France where they grow citrus. I've been in Israel and Turkey and Egypt. They spray for any problems. They spray. This summer in July I was in Southern France. They sprayed.

Okay. I'm sorry, I'm very upset with the DOA and for very many good facts. My name is Richard Zoppi and I'm a resident of Boca Raton. Good afternoon, Mr. Dixon, Mr. Gaskalla. I would like all the good people here to stop, look and listen, follow the money and take action.

This rule you want to change is really a part of a greater change that is going to happen. That change is the total eradication of the Department of Agriculture's citrus canker eradication program. The courts will declare the CCEP unconstitutional.

Simply put, the DOA just does not get it, but boy, are they going to. I point out that the DOA is guilty of civil rights violations, conspiracy, arrogance, disrespect, quid pro quo, lies, unscientific data, mismanagement, destruction of property, blatant aberration from the truth, a quarter of a billion -- that's B as in Bronson -- wasted dollars of taxpayers' money, terrorizing neighborhoods, intimidation, stupidity, threats, breach of their oath of office, trespassing, and other convoluted infractions, violations and injustices that the Department of Agriculture is shamelessly proud of. The Department of Agriculture should change their name to the Department of Anarchy. The Department of Agriculture is an evil enemy of the people of Florida.

The DOA is a big-time loser. The DOA has declared a false emergency, has failed decontamination procedure and has failed responsibility and is a failed program.

Now would be a good time for you, Mr. Dixon, and you, Mr. Gaskalla, to resign from the DOA while you both have some credibility and self-worth. Stop, look and listen to the people. That decision is yours; however, I invite you both to cross over to our side before the opportunity is gone.

This war, and I choose that word very accurately, this war that the Department of Agriculture brought to South Florida three years continues. Too many of our legislators have been complacent and have represented special interests rather than the people they are sworn to protect and represent.

I wonder if our legislators know that the DOA has eliminated the public input and is in contempt because they have already sent off this draft to be published, rule number three, or the new, new rule, whatever nomenclature they slap onto it. This is the third rule. It's putting again the cart before the horse. This workshop is a charade.

I'd like to specifically address the DOA employees here and ask yourselves why, when, where, how did we get this? How did we get in this position here where the grove owners and the people, the residents of South Florida are at odds? How did we get here? What created this situation?

And I'll tell you. It started with Bob Crawford, your old commissioner at the Department of Agriculture, the same Bob Crawford who has abandoned you, has abandoned the State of Florida, has gone over and quit his position as the commissioner of Department of Agriculture and his responsibilities to protect the health, welfare of the people of Florida, and is now the director of the citrus industry.

And where are you left? This mess that he has created. We're all in this mess. It's gone on and is still going on.

The main point is this for my main point. This is America, not a police state. We, we, us, we, the people, are Americans. We, the people, have a Bill of Rights and a Constitution. We, the people of Florida, are Americans. If anyone doesn't know the meaning of the word inalienable, I'll tell you. It means it cannot change. It cannot be taken away, as long as there is an America.

We, the people of this blessed United States, say to you, the US and the state DOA, that there is no law, there is no declaration and there is no rule that circumvents or supersedes the United States Constitution.

Thank you, and God bless America.

MR. GASKALLA: Mr. Jack Haire.

MR. HAIRE: I'd like to leave this with you and a copy for you for your notes.

MR. GASKALLA: Thank you.

MR. HAIRE: My name is Jack Haire, resident of Fort Lauderdale, Florida. I was at the workshop in Fort Lauderdale last month and I had some revised data that I provided to Richard Gaskalla. One of them has to do with the revised export data and graphs. Some of this, some of you might have picked this up when you came in the room.

One of the questions that Mr. Gaskalla had for me at the last meeting was the concern that I did not indicate the loss of the European market due to their roles at a country that's in the European market that produces citrus, that if they would not accept, if there was a canker quarantine in Florida, that no country in Europe, countries such as Norway, Sweden, Germany that has no citrus, would not be allowed to accept shipments from Florida.

I included in my graph the amount of money and the total percent of the citrus that would be potentially lost, and it comes to 2.19 percent or about \$21 million.

This is one of the points that the citrus industry and Department keeps making that the \$9 billion citrus industry is at risk. It is pretty hard to jump from 21 million to \$9 billion.

That's just the foreign market. The United States and the market in Canada, I went through the list of the different cities and locations where we possibly could not ship Florida citrus, cities like Los Angeles, San Francisco, New Orleans, San Antonio, Texas. All of these totaled up amounted to less than one percent of total export, or about \$1 million.

Before the meeting I spoke with several gentlemen here that are in citrus. They specifically said they are in small citrus. They told me that I was naive, that I did not consider all of the items, and I couldn't agree more. I've been forced to go to find these figures on my own, because the Department of Agriculture has refused to provide them.

I'm here to listen. I want to hear what the grove owners have to say. We want to know where you've been when we were down in Homestead, South Dade and Broward County.

The grove owners down there were very angry. The deputy, Craig Myers from the Department of Agriculture had to have police protection in a town hall meeting in Homestead. That's how angry the folks were.

In keeping with the trans-shipment, yes, I did notice in one of the documents that Canada actually ships citrus fruit into the U.S.A. I thought how is that really possible?

And probably it ships from Florida to Quebec and then comes back in, or it comes from Spain, Italy or Lebanon or somewhere, but actually Canada actually ships fresh fruit. So yes, there is trans-shipment.

The Department of Agriculture has drawn the battle line between the residents and the citrus industry. Due to the lack of data that they have provided and information, and the lack of cost studies, which was the second item that I had a question on, Richard, cost studies are nonexistent. The Department has actually written this out that they deem it is less costly to destroy the residents' trees using taxpayers' dollars than for the citrus industry to spend their own money on their own trees for, to treat their own trees and also to live with the canker.

How does the Department know these costs when they don't know what the costs are to the residents? So I'm asking my question to feedback on cost estimates.

A third question is where is the 1900-foot study that has been underway that has been presented three years ago in a secret meeting with the only public present were members from the citrus industry?

All we have to this day is a draft. We still lack the data. The information here presented by Wayne, I'm sure that's not the whole picture. We have not had a chance to peer review it with our scientists. We have scientists from North Carolina State University.

I understand also that the pathology magazine that Wayne refers to, that the publication had been postponed another month. Commissioner Bronson promised back in May that that would be published next month. We still don't have it.

Richard, we also want to have a new environmental impact study done. The last one was two and a half years old. It was never updated when you went from 125 feet to 1900 feet.

I'd also like to know what the status is on the quarantine in Palm Beach County, Richard. We had discussed this last time at another workshop.

I also want to pass on that I understand residents in Palm Beach are immediately replanting citrus trees after the destruction of their trees. You can buy citrus trees in Home Depot and Lowe's.

I understand that the DOA will respond to these questions before proceeding with rule making. Many questions were asked. When we will receive the replies and consideration of these questions, such as Dr. Ackerman's questions on product evaluation and assistance from the Environmental Protection Agency, the EPA?

And also, when will the Department advise the legislature and governor that canker does not kill trees and that eradication is not the only solution, as they did when they presented their findings on the, that ended up in the emergency order?

Do you know when we will receive replies to all of these questions that the people have asked?

MR. GASKALLA: Yes, Jack. I think you covered a lot of ground there, and for me to go back and recap it all, I'll do the best I can, but all the answers to the questions that you asked are within the notebooks that are in the back of the room. And we'll be glad to supply that to anybody that would like to have them.

To start with, on your economic study, you looked at only the issues regarding lost markets, and there is much more than that.

There is loss production cost or loss production due to fruit drop, increased production cost to growers. When you lose an export market, you have excess fruit that's got to be shipped somewhere else. That's going to depress other markets. Growers will get less return for their dollar.

So you've got to factor all those things in. When you do, what Florida Citrus Mutual did in their study, which certainly was more appropriate for an industry group to provide that information to the Florida Department of Agriculture, those are the figures that we have to rely on.

MR. HAIRE: Okay. I know full well the figures that the Citrus Mutual provided, and they did indicate that the citrus industry could live with canker. I believe the figure was \$170 million a year. The loss of exports was 100 –

MR. GASKALLA: Actually \$342 million a year, and I didn't see anywhere in that study where they said they would live with canker.

MR. HAIRE: I beg to differ. I believe it was published in the Palm Beach Post and I also have a copy of it. And if you add the 172, I think you come up with your 342. So I think my figures are very accurate.

MR. GASKALLA: Well, we will give you an in-depth response to all the questions that you have given us in writing, and we have responded back to Dr. Ackerman by letter. And any other comment, question that we get within these series of workshops will be fully responded to.

MR. HAIRE: Okay, which brings me to the next point, that if the Department has already submitted the final rule-making prior to this workshop, that it be published in the Florida Administrative Weekly on October 19th, how are those things going to be considered when you've already done it?

MR. GASKALLA: Well, it's not the final rule. What it is, we will be noticing the rule for adoption. And within that process, there is a clause that another administrative hearing can be held or a formal hearing can be held in Tallahassee.

And if I get any information at the workshop that we're at now or this evening that would warrant changing the rule, we'll immediately withdraw and make those changes.

MR. HAIRE: Okay. Is there any chance to have these formal and administrative hearings here locally instead of Tallahassee where it's almost impossible for the people to react?

MR. GASKALLA: If it's a formal hearing, that will be set by the Division of Administrative Hearings, which is a state agency. It's a formal court proceeding, and they will decide where that hearing will be held.

If we have an informal hearing, it will likely be held here in South Florida.

MR. HAIRE: All right. I'd like to make one more point before I leave here, that the Department of Agriculture

continues to blame the petty lawsuits for not being able to properly control canker. I'd like to note also that they are not calling it, calling it eradication now, they are calling it control or effective eradication, which tells me that you are going to leave something behind. This is per Mr. Graham, Dr. Graham, I believe, in the federal court hearing.

I'd like to go on and say excuse me, but it has been the Department that has road blocked their process for nearly a year by not going as directed by the court back in November of 2000.

As far as petty, perhaps they did, the Department would like to address the 16 cities and counties that have come to the full support of all the people.

The entire issue could have been settled back in the first part of this year except for the Department's ruling. It is not the people that have held this up. The Department is now being forced to go where they have feared to go, the rule-making process and before a non biased foreman which the Department has denied to the people.

In closing, I'd like to say that canker is not a threat to the health, safety and welfare of the people. It is only a threat to the economic welfare of the citrus industry. Thank you.

MR. GASKALLA: Barry Silver.

MR. SILVER: Thanks. I'm Barry Silver. I'm one of the attorneys involved in some of those petty lawsuits against the Department of Agriculture. I'm not speaking so much to the Department of Agriculture as I am to the rest of the public to try to share with them some observations in order to shed some light on the situation.

We recently got back from a criminal trial, and some interesting revelations came out there. A client of mine was arrested for supposedly standing in the way of the citrus industry's eradication program. My opinion, what should be arrested is the CCEP, not the citizens of the state who have the good wisdom to stand up to it.

My client made the mistake of not inviting people onto his property to have his trees cut down. It wasn't enough that they cut his trees down, but they actually wanted an invitation from him. Because he refused to give it, he was arrested.

Fortunately, he was found not guilty, but in the course of that trial Mr. Fagan testified and came up with a rather interesting comment in which he said that he knows that my client's tree was infected, because every tree within 1900 feet of a focal tree is automatically infected.

I've heard a lot of things from the Department, but that was rather odd. You might want to comment on whether you think that's an accurate statement, Mr. Gaskalla.

Are you able to comment on that? Is that true, that every tree within 1900 feet is automatically infected?

MR. GASKALLA: First of all, I wasn't at the proceeding that you are referencing, so I don't know exactly what Mr. Fagan said, but I'm sure that what you're characterizing is probably not exactly the way that he put it.

More likely what he said is that there is the potential for every tree within 1900 feet of an infected tree to show symptoms.

MR. SILVER: I'll get you the transcript then, but you will see that he did say that he knew for a fact that this tree was infected, because every tree within 1900 feet is infected. If that's the case, the 1900 foot rule couldn't possibly work, because if all trees within 1900 feet are infected, then certainly many trees beyond 1900 feet are infected, and the program is hopelessly doomed.

I've also asked this for a long time and haven't got an answer. Maybe you can help me. Many of the people of Delray Shores had their trees chopped down without any notice. The Department admitted that, yeah, we made a

mistake. We cut down hundreds of trees without notice.

And I'm curious as to if any compensation will be paid to these people, unless you figured they don't have any chance in court anyway since it's so stacked against them, so what's the difference if it is cut with or without notice, but I was curious if you planned on compensating those people whose trees were cut without notice?

MR. GASKALLA: That's a legal question outside the parameter of today's workshop, and I would ask you to make your comments specific to the rule we are here to discuss.

MR. SILVER: Then I'll try to do that.

The scientific data that was showed or the purported scientific data I think can be summarized by scientific principle called Akem's Razor, which is a scientific principle that says that when you have some type of phenomenon you are trying to describe, the one that's simplest is usually the most accurate. The one that's convoluted usually isn't accurate.

I think we saw a good demonstration of the principle of Akem's Razor, because in all of the data we saw, there wasn't anything which showed how they got to 1900 feet. There wasn't anything that scientifically explained how 1900 feet was the magic number, but there was something saying something to the effect that they just kind of reached it by consensus.

If it was reached by consensus, then I think as some type of compromise the Department should simply say we decide to compromise at 1900 feet. And we think that will help us to get rid of a lot of the canker, but not, but keep some of the trees up, and there is the compromise we came up with.

The problem is the Department is trying to pretend this is scientific. They are trying to pretend that 1900 feet is based on science, and it clearly isn't. To perpetrate that type of fraud upon the people of Florida I think is wrong. I think it's wrong to base a policy on a fraud.

The legislature relied on certain facts which you know are false. And when they declared a state of emergency, they said every tree within 1900 feet is automatically infected. We know that's wrong.

They said a tree with canker is automatically going to die. We know that virtually never happens, that's wrong. They cited a case which stood for those principles in Miami, and clearly that's not the case.

So I would think the Department would want to tell the legislature that their state of emergency is based on a fraud.

It also sets a very bad precedent. The state of emergency is based on the supposed fact that as long as canker exists in Florida, there is a state of emergency.

Now most people think that canker has always been here since 1910 and always will be. If that's the case that if there is any canker in Florida that justifies a state of emergency which authorizes the Department of Agriculture to completely suspend everybody's Constitutional rights, that's an exceptionally dangerous precedent. This situation is bad enough, but if we have a precedent where the Department can arbitrarily say oh, there is canker, state of emergency, your Constitutional rights disappear based on lies, that's very very dangerous.

I think the Department should maybe see the forest for the trees, if you will pardon the expression, and realize that what they are attempting to do is a very scary scenario for the future.

You also might want to check out the deposition of a Mr. Severe. At his deposition – he is a tree cutter who works for you -- he said that in his opinion, the eradication program is flawed. And he said that he was instructed to keep infected trees up for months or years at a time, and that there were hundreds of these trees that are now up and the Department decided to leave standing supposedly as proof there was some focal tree that was infected.

If the Department is actually allowing healthy trees to be cut down immediately and diseased trees to stand, that turns the policy on its head.

He also testified that there was great pain that he experienced from watching people's trees being cut down and that he could see the pain in the people. Now you said that you just accepted automatically the figures of the citrus industry. They come up with some figure, 8.5, 9 billion, that's the total figure for the industry.

We don't believe that -- supposedly that's the total, but that's not the amount that the industry would suffer. That number we really haven't come by, but you just relied on those figures.

Why are you so willing to rely on a lobbyist, but you don't rely or even ask the people that you supposedly represent how much it's cost them?

Why don't you ask them how much it's cost them when someone, for instance, in a Haitian neighborhood loses the source of nutrients for his family and friends, loses his ability to donate fruit to the poor?

Why don't you ask them how much it's costing them --

MR. MEYERS: Barry, excuse me, some of these gentlemen, I don't know, they thought the Haitian individual losing his nutrients was funny. They had a good laugh.

MR. GASKALLA: You are out of order. He has the podium.

MR. MEYERS: Is it all right to yield for that one statement on the record?

MR. GASKALLA: It might be all right with him, but it's not all right with me.

MR. SILVER: I will always yield to Mr. Meyers. Perhaps I'm missing some of the humor here also.

MR. MEYERS: I just wanted to point out for the record they had a good laugh.

MR. GASKALLA: Excuse me, you are interrupting everybody's else's turn to speak.

MR. SILVER: Let me follow up on what Mr. Meyers is saying and let me make this perfectly clear and serious.

There are hundreds of people that fled a tyrannical government in which their rights were abused, in which they risked their life to come to a place where they believed in their heart that their rights would be respected, and the damage that has been done to these individuals who were such adamant adherents and believers in American democracy, the damage that has been done to them and their families when they watched their government trample upon their yards and upon their rights and take away their source of livelihood sometimes and their source of food and nutrition for their families, the damage that has been done to these people as well as to our democracy is incalculable.

And the spread of canker is not nearly as serious as the spread of rancor and the spread of cynicism. That's deadly serious, and you've never even bothered asking the people that you represent how they have been affected by that.

Instead, you just rely upon wildly inflated figures of lobbyists who aren't necessarily known for their ability to be candid about their issues.

I did notice that you had up there something called Ripley's analysis, and I think Ripley's is a good name to put on there, because Ripley is known for his book about Believe It Or Not. I choose not to believe it. I think that those figures are an example of how statistics can be used to hide things.

I think that the IFO should stand for intentionally false and obfuscatory.

UNKNOWN SPEAKER: Could you repeat that for the record?

MR. SILVER: Let me see, I think I have it written down in a more clear fashion. Let's put it that way, intentionally false and obtuse. I think that might be more accurate.

I would also like to ask if the fact that the Department cut down 20 million trees in the eighties and then realized it made a mistake, that it wasn't really canker, causes the Department to now question its judgment and might give it pause before it starts cutting down millions more.

I also would like to know if you have any reluctance to continue the program when the judge in Miami tells you that the program is intolerable as a matter of law, principle and policy, a judge in Broward, Judge Fleet, says the policy shows a great disregard for the rights of the people, when the administrative law judge tells you that you exceeded your authority, when you try again and then withdraw your own rule because it doesn't work, when the first DCA confirms the decision and when a judge in Delray tells you that you prosecuted a man who shouldn't have been prosecuted. How many courts have to tell you that you're wrong before you'll stop wasting taxpayers' money on a fruitless endeavor to eradicate all the trees in South Florida?

I would also be curious to find out, Mr. Gottwald said in his initial study, he said something to the effect that this canker spread will reach a point one day where it can't be controlled. Even he conceded that as canker spreads farther and further, eradication becomes impossible.

Now that we've seen it spreading all over the place, including beyond Palm Beach County, I'm wondering at what point will you realize that it's impossible to eradicate citrus canker?

By the way, I also wonder why, if the canker existed for three years in Miami before it was stumbled over by one of your workers, why you are so concerned about the supposed problem of citrus canker?

I have a lot more, but I'm going to try to wrap it up, because there is a lot of people who are very impatient.

I would say that the *Xanthomonas axonopodis* virus is not nearly as serious as the sanctimonious virus that has affected the Department of Agriculture in which they feel that the rights of the people are completely irrelevant. The risk analysis never takes into account what they have risked, and if you will pardon the expression, I would say the issue is quite clear-cut.

The issue is does the Department hold itself as a law unto itself or will it respect the rights of the people that it claims to represent?

My voice not very good today. I'm a little bit under the weather, so you are fortunate, I will not grace you with a couple of my songs that I've written for the occasion, but perhaps at the next formal meeting I can share some of these songs with you.

I will tell you, though, on behalf of the people that I represent, we're very disappointed that they weren't able to be here, that you put this meeting in a place that doesn't even affect the people of Palm Beach County. Generally they are in Boynton and Delray and Boca. You move it somewhere far from where the affected people reside, and you place it at a time when most of them can't show up, because they work.

I'm not really surprised about it. It's in keeping with the general policy of the Department of Agriculture to disregard the rights of the people it represents; however, I just want to point it out to you, because perhaps next time around you might be able to make this meeting at a time that they could actually attend it.

Thank you for your time.

MR. GASKALLA: Next is James Griffiths.

MR. GRIFFITHS: Thank you, Mr. Chairman. I'm a foreigner in a strange land apparently this morning.

I am an citrus grower from Polk County. My name is James T. Griffiths. I've lived there for 50 years. I've been growing citrus for over 50 years. I've worked for the United States Department of Agriculture for the IFAS division and insect control, and over the course of the years I think I know something about regulatory affairs.

I'm here today to simply support the rule that is there. It's a good rule. I am aware of the difficulties in arriving at the right answers. I think my experiences are worth something.

I've been in Argentina to look at canker in the three states where it's present. I've been in Paranon province in Brazil, which was mentioned before as a place where they are living with canker. They are living with canker, because they don't plant hamlin trees and they don't plant grapefruit trees, they don't plant lime trees, and they don't plant lemon trees.

I might say some of that was on my advice to them ten years ago. I think I know what I'm talking about. Canker is a severe disease. It costs extra money to live with it. We in the citrus industry don't want to live with it.

We think we have the law on our side. We think we have the signs on our side, and I think we have a little greater rationality from what I hear this morning on our side.

Mr. Chairman, we support the rule and hope to get it through. Thank you.

MR. GASKALLA: Thank you. Lisa Backman.

MS. BACKMAN: Hello. I'm Lisa Backman. I'm executive director of Polk County Farm Bureau. And I am here to say that the Polk County Farm Bureau Citrus Growers, which are most of the 800 active farmers in my membership, wholeheartedly support the 1900-foot exposed tree parameter. It's the only way we're going to beat this insidious disease.

And I think that Dr. Dixon's presentation, as lengthy as it was, underscored just how exact and how the best minds in plant pathology and citrus canker specifically, in regulatory eradication programs, how much time and effort went into it to develop that 1900-foot parameter. It was not something that was arrived at indiscriminately.

For those of you who don't know where Polk County is, it's in the center of the state between Tampa and Orlando. We are the home of Florida Citrus Mutual and the Florida Department of Citrus.

And just to bring it home to you folks a little bit more, there is a good chance that the orange juice you had to drink for breakfast this morning was made in Polk County. We are proud to say that we produce or we process, let me say, more citrus into juice than any other county in the United States.

So as you can imagine, the citrus industry is a large employer in Polk County. It employs 23,000 people, as a matter of fact, and that is the lion's share of Polk's largest industry, which is the production and sale of fruit and fiber. Two out of ten people in Polk County work in the production and sale of fruit and fiber in Polk County.

And do not kid yourself that if citrus canker continues to spread, it will not impact the citrus industry. It will cripple it.

Let me stress again that Dr. Dixon pointed out that the losses could mount to over 50 percent, that juice yields in processed oranges could be reduced by over 10 percent, which would eliminate the sliver of profit that growers are realizing now.

And do not kid yourself that what does or does not happen in South Florida in this program doesn't affect my citrus growers and their employees in Polk County, because it does.

This program has gone on long enough that it has shown some successes, as Dr. Dixon pointed out in his presentation. Because the residents and growers cooperated in the program in both Manatee and Hillsboro Counties, they have not found disease there in months and in years and in part of Manatee County.

In fact, they are about to lift the quarantine restriction on the movement of fruit in part of Manatee County now, but the program continues here because people who don't have any formal training in plant pathology or eradication programs interjected themselves into the process and did not allow the Department and the USDA to do their jobs.

So now it's moved into the Indian River growing area of the state. It's moved into DeSoto County. It's moving into the heart of the citrus production areas of the State of Florida.

What's at stake here? The wholesomeness of the orange juice that you guys drink in the morning and the healthy Florida economy that you already live with.

What's at stake in Polk County and the rest of the State of Florida? The livelihoods of the hundreds of citrus growers I represent and the tens of thousands of people they employ and the hundreds of thousands of citrus growers around the State of Florida, tens of thousands, let me say, and the hundreds of thousands of people they employ.

Do the folks who oppose this program want that on their heads? I think not. Thank you. MR. GASKALLA:
Mr. Andrew Meyers.

MR. MEYERS: Good afternoon, Mr. Gaskalla, and everyone else in the audience.

Let me start out by saying that I think we need to take some of the rancor out of this fight. We disagree with what you're doing. You know that. You disagree with what you consider to be our interference into your exclusive province. We know that.

You guys aren't the enemy and we're not the enemy. We have a clear enemy. We're trying to find him somewhere in the Asian subcontinent over there. Let's try and not fight over this. Let's try and get the best result.

I can tell you as the lead attorney trying to stop the Department from doing what it's doing here, if we thought that what was happening here was necessary to preserve the commercial citrus industry in Florida, my government, Broward County, would tell me to get out of the way and get out of the way fast.

The problem is I've been involved in this thing, it's been about a year now, I have yet to see that this mass destruction is necessary to protect the commercial citrus industry. I'm still waiting for that information. I'm still waiting for Dr. Gottwald to come up with the report that doesn't say draft on it. I'm still waiting for a number of things.

And the woman who spoke before me -- there she is -- said we don't want this on our heads, we don't want to make people unemployed. We don't want to ruin the commercial citrus industry. That's all very right, that's true.

But we're not interlopers into this process. We're protecting our Constitutional rights and the rights of our residents. Please don't declare us the enemy.

We've heard a lot of bad things said about the Department today. Mr. Zoppi started us off with quite a lot of it. He also predicted that you guys are going to lose in court. I don't know if you are going to lose in court. I don't know if you are going to win in court. I really can't predict that.

But what I do know is it's time to come together to figure out what needs to be done, and I've offered to meet with people on any number of occasions to figure out what absolutely needs to be done and let's see if we can approach this thing cooperatively.

What did amaze me, I must tell you, though, is you sat there, Mr. Gaskalla, when Mr. Zoppi was blasting you and then Barry Silver was blasting you, and it didn't seem to faze you. I used to work for the state. I spent seven years as special counsel to the state under the Chiles administration. I'm still a public servant. I work for Broward County. Were I the target of such a barrage, I'm not sure I could have handled it as stoically as you did. I don't necessarily intend that as a compliment. I just say that as by way of observation.

The only thing I want to ask you is has the Department fully reviewed all of the comments it received from the September 13 public hearing?

MR. GASKALLA: Yes.

MR. MEYERS: Has the Department decided to make any changes to its rule based upon those comments?

MR. GASKALLA: No.

MR. MEYERS: Have a nice day. Thank you.

MR. GASKALLA: Mr. Richard Kinney.

MR. KINNEY: Good afternoon, Mr. Chairman, members of the audience.

I am Richard Kinney. I'm a grower and a farmer in Pasco County, and today I am here representing this little guy. He is my son. He is four years old now. And what I want to do is try to protect the opportunity for him to farm in Florida. Let me explain.

Jake and my wife and I live on 110 acres in Pasco County. We have 22 acres of slash pines. And we have 60 acres of pasture and I have 23 or 24 acres of tangerines.

Slash pines, let's take the slash pines real quickly. I understand the southern pine beetle could devastate my slash pine grove. I planted those pines for him so when they get 20 years old, I'll be able to harvest them, maybe get 15, \$20,000 and put him through college.

That's a project that down the road I hope to maintain and preserve. I work it. I've got a cut in the fire preservation or prevention areas and so on and so forth. But the southern pine beetle could destroy that slash pine.

And what if my neighbor down the street or Alachua County or Duval County gets southern pine beetle and the science indicates that we need to take out those three trees in her back yard; or the fellow down the road has 1,000 acres and he gets southern beetle, and the science indicates that in order to preserve my 22 acres of slash pines or the slash pines that's a big industry in all of the southeast and in this country, it's necessary to eradicate or burn those trees?

If the science indicates that, doesn't it make sense that we do that?

As a matter of fact, don't we have an ethical responsibility if not moral responsibility as individuals and legally to do that?

Now let's take the 60 acres I have in pasture. I've got about 20 cows. I had about 40 a couple years ago. I sold a herd. Cow prices are up. I'm trying to build the herd up again. My son and I go down there and feed them every night.

What if the folks down the way get hoof-and-mouth disease? You heard of hoof-and-mouth disease, what happened in England with hoof-and-mouth disease? Why did they destroy those animals immediately, even exposed animals? Why did they destroy them immediately?

Because they could devastate the entire, every herd in all of England, all on that island. That's why they do that. So down the street if he gets hoof-and-mouth disease, a neighbor, a lady has two cows back there or there is a whole herd, they got a moral if not an ethical responsibility to have those animals destroyed.

I would expect him as a director of Division of Plant Industry, representing the State of Florida and even the USDA and this country, to come to that resolve necessary to protect the cattle in the State of Florida, not only the cattle, but hoof-and-mouth can destroy the deer population in the State of Florida.

Now let's go to my 22 acres of tangerine. I'm not making any money now. You want me to deal with citrus canker? We have science that indicates we need to take that out to 1900 feet.

We have experience overseas. You think those five scientists, these Ph.D.s are trying to trick people, that we are into this process taking on people politically and that this isn't very hard to do because we're trying to trick somebody, there is a conspiracy out there that we could lose our livelihoods?

Again, I go back to this little guy. I want to preserve the opportunity for him, to pass the farm on to him. I want to make it pay. I got bills to pay. I got taxes. If I can't grow the slash pines because we don't have the resolve to take out the infected trees, the slash pines, if we don't have the resolve because somebody has two cows behind her house and it may or may not have hoof-and-mouth disease and it destroys all the cattle, and we don't have the resolve to do that, and we don't have the resolve to take out citrus canker because it devastates our whole citrus industry and I'm not making any money now, you know what blemishes are created on tangerines, I can't live with it, I mean where are we?

Again, I think you and I have a responsibility to all, a responsibility to all the Jake Kinneys in the world to take out devastating pests and disease that can devastate segments of agriculture to do what's right.

I got this in the mail last week. See these sequoias? They are 50 feet at the bottom. Some of them are 2000 years old. What if we were to get a pest or disease in Chicago or New York like the Asian longhorn beetle and they could devastate these forests?

Why if the people in Chicago, "You are not going to take the trees out in my yard. It's not going to happen." We could devastate this. Is that acceptable? Whose rights are being violated here?

Mr. Chairman, we support the rule. I want to pass my farm on to my son. Please adopt the rule as proposed.

MR. GASKALLA: Mr. Doug Bournique.

MR. BOURNIQUE: Good morning, Mr. Chairman. I'm Doug Bournique with the Indian River Citrus League. I represent 1200 growers on Florida's east coast. The Citrus League is an organization that represents an area. The area starts here in Palm Beach County, State Road 80, and goes up to Volusia County, up to about Daytona Beach.

A lot of our older growers are right here in this county, some of the greater groves of central Palm Beach County, and they are here today. Some of the growers are here that represent those growers.

The history of citrus in this county is a long history. I've grown up in this county personally, as have my family, my daughters, six generations, Palm Beach County. So we are from here. We know this county well. We know that industry well. I've grown up with the Callerys and the Cushmans. I played football with them.

And this county needs agriculture. Agriculture is strong in Palm Beach County. There is a big citrus industry, there's a big sugar industry here. Without defenses like you are proposing today, none of those industries would be here today. We support the rule change and the amendment.

Could I have a slide, please? The Indian River citrus industry is an old industry. It's been around for over 100 years. The league has been in existence for over 70 years. We represent the growers that grow citrus. To be a

league member, you have to be a grower first and foremost.

There are many growing regions in the state and they all join in this effort to eradicate canker. There is a gulf region of the river, the Peace River and the Sun Ridge, and they are a very vital big part of the state's economy. There is 850,000 acres of citrus in the state. There is numerous packing houses and processing plants.

This is a bad slide. I apologize for this. I'll speak a little louder. I need to point out some things. Thank you.

The Indian River region that I represent starts here in Palm Beach County. There is packing house facilities here. There is about 14,000 acres of groves here. Martin County, there is 50,000 acres. St. Lucie County, there is about 120,000 acres. Indian River County has 70,000 acres, and Brevard County, there is 14,000 acres, and Volusia County has about 1,000 acres, but it's all one big green belt.

This is the heart of the Indian River region starting with most of the acres are Martin, St. Lucie and Indian River County. A lot of this since I've put this together a few years ago is filled in. There is more citrus out here where it's mostly one big contiguous blanket, about 200,000 acres of industry. The red dots are packing houses. There is 42 packing houses, five processing plants here. Palm Beach County is just below this.

I did this for another project, another reason, a highway, which is this red line, but Palm Beach County is here. Again, that has about 14,000 acres below this and a packing house down below. All of this citrus is fresh fruit oriented. In other words, everything that is grown here in the way of grapefruit or specialties is grown to go into a packing house and sent to markets. Eighty percent of all that we pack goes offshore.

This area alone means \$2 billion to the economies of Stuart and Ft. Pierce and Vero Beach and Cocoa Beach, \$2 billion. We employ 20 percent of the work force.

Canker has now moved the way into Martin County. We now have it in a grove located, excuse me, over here, this area. The prevalent wind from the southeast is blowing this way. Canker infestation here has been here about a year, year and a half.

And we have grave concerns it is going to move into our major producing areas. This grove right here, there is about six, 7,000 acres of citrus right here, and it's already here. These growers have got a battle just to make to try to keep their livelihood going.

We've got a serious economic situation for the Treasure Coast part of Florida. It's big. It's real, and it's here. And it's a part of Palm Beach County, your future, part of Martin County and Indian River and St. Lucie and Brevard and Volusia Counties. It's our history. It's a part of what's happened here for decades, and we can't live with it. Indian River citrus will cease to exist if canker is allowed to spread through it.

The lesions on the fruit knock us out a grade. No market in the world will accept a piece of fruit with lesions on it, not because of the canker, but the lesions. There are graders and inspectors that knock it out of grade.

So there is not only the canker part being blockaded from other countries that have citrus, it's the grading of the fruit and the eventual destruction of the tree and loss of production. We have only made money one year since 1991 in grapefruit, one year. Just one.

We're an industry that's been hit economically by global trade agreements and by overproduction and problems that plague us. And our cost of production is going up. Canker, we have to disinfect everybody that comes into the grove.

I could show you slide by slide of what we have to do just as growers. And we have got growers that are going to testify after me, but the cost of that is prohibitive. And we're not making money right now.

Slide, please.

The production of citrus is a backbone of this area. As I mentioned, it's a \$2 billion economy. Now that tourism is faltering, this is the part of your economy that is employing people and it's keeping the economy going.

It's all part of this area. As I mentioned, citrus is still grown on the barrier island, has been grown out here since the turn of the last century, over 100 years, and it's still employing people out in the barrier island. If you let canker spread, this will all go. You'll have more condos, more real estate transactions. These people want to stay here. They want to be a part of this area. They don't want to go anywhere.

My board of directors I work for is basically unchanged because of the fact that they want to stay in this business. They don't want to give it up. This is what they know, what they love. It's like being a banker, an attorney or a Broward County commissioner or whatever else they do that they love. You want to continue to do it. Nobody wants to give it up.

Next slide.

This is the slide I want to show you. Agriculture is big where you live. The yellow is agriculture in your back yard. That's Lake Okeechobee, Palm Beach County, Martin County, St. Lucie County. This is sugar cane down here and row crops. All yellow is agriculture. The cattle industry that Richard referenced is up here above the lake. And all over here from this break this way is Indian River citrus.

Ag is the backbone of this region. I know we all see condos on I-95 and golf courses when you are over here just on this little strip of the coast line. This white area is condos, but the lion's share of what goes on here is agriculture. If you ever get up in a plane and get five miles off the coast, you are going to find that the heartbeat of this area is ag. Congressman Foley's area has more ag in it than any other Congressman in the United States.

This slide just shows that these are conservation areas here, but this is all ag. And it's, if you let an industry by industry die by having diseases in it, as a citizenship, you are giving up the economic backbone of this area, vitality of this area and all that Florida is all about.

With that, I just want to mention again your point about exports. We export about 80 percent, and the markets will backlog us if they say no in France, say no in Italy, say no in Spain, all that fruit gets pushed to other markets. Our growers aren't making money now. They will then give up the ghost and be forced out of business, so export markets are important.

That's my presentation. Mr. Chairman, I just want you to know we support the rule change on behalf of our grower membership. Thank you.

MR. GASKALLA: Mr. Charles Walsey. Am I saying that right?

MR. WALSEY: I need the lights. I can't see.

Thank you very much. My name is Charles Walsey. I am general manager and partner of Indian Trail Groves, the largest land area in Palm Beach County being farmed for citrus, 4500 acres.

We also represent Mr. Irving Cowan and other citrus growers in our area through our Community Development District.

We wholeheartedly support the 1900-foot radius for quarantine and destruction of trees. Our groves, if you took out 200 acres, approximately, which is in the 1900-foot radius, would amount to about 200 acres. We feel that there is no alternatives available to us other than the science that the University of Florida produces for the citrus growers and Lake Alfred for us, along with what the Department of Agriculture is trying to do.

We definitely feel for the homeowners whose trees have been destroyed. They all want a piece of Florida. And I have trees in my back yard, but I, you know, I don't harvest them for outside work. They are for my own enjoyment.

However, when we run into a situation like this which we did in 1985 which the Asian strain or the smaller strain that was in the nurseries, and the state did react maybe a little too fast; however, I think this is a real problem that the commercial citrus growers are facing, and there is no alternative to what has to be done to be able to stop the spread of the disease.

We need to eradicate it, because if I can't produce citrus, Palm Beach County will only let me put on one unit to 10 acres on my land. And at that rate, our land will not be able to be profitable to pay taxes and to support the employment that we do.

We started harvesting on Monday grapefruit for export to Japan. We have spent a lot of money raising our fruit to keep it blemish free. With citrus canker, okay, there is no way we could export to Japan. That means -- and I heard some numbers thrown around here like \$2 million. Just our crop alone for export to Japan is probably worth about \$300,000. And there is a lot of other people who do supply Japan with fruit.

Our tangerine market, our honey tangerines go to California. And they have to be blemish-free, and we spend a lot of money on those.

If we cannot control what we do, then what good is having an industry that supports so many people? Thank you.

MR. GASKALLA: Robert Sexton.

MR. SEXTON: Thank you, Mr. Gaskalla. I am Bobby Sexton, president of the Citrus League. Doug Bournique is our collective boss.

I'm not going to try to rehash what has already been said. A lot of good points have been made, but there is a fundamental question here that we all have to answer ourselves. Can we live with canker?

And the answer is no. I've read Mr. Jack Haire, who did a detailed analysis by pulling figures together, which was completely erroneous. I was trying to point that out to him as well.

The citrus business is an 8-billion-plus industry. Our industry in the Indian River district which you just got educated on is strongly geared toward a fresh market. If we do not have the fresh market, we will not survive.

Mr. Haire pointed out that the economic impact was only a couple million dollars of markets we would lose. The fact is if we get canker lesions on our fruit, there is no market that will take our fruit. Consumers don't buy blemished fruit, pure and simple. They won't buy it.

If we can't ship it fresh, there is no value to grapefruit in the juice market. It will not pay the pick load and haul to send it to the processing plant.

The only way for us to survive, and I'm talking about 220,000 acres in the Indian River district, is to ship your product fresh. If you can't do that, there is 220,000 acres that will not be in citrus because of canker. You cannot live with canker, period.

And with that decision being made that we cannot live with canker, then the problem becomes we must eradicate it. We cannot live with it. It must be eradicated.

I am no greater scientist than any one of you. I defer to the State of Florida with five Ph.D.s who tell us that not only do you have to control canker or eradicate it, I don't want to argue semantics, you must take out affected trees and 1900 trees around that infected tree. Then you will eradicate canker. We have history with that. It's proven, it works, and it's the only way you're going to control this disease.

And Mr. Zoppi -- I don't know how to pronounce your name -- I listened to your rhetoric and I feel your pain. I

think your problem is more enforcement and the lack or disregard for the rights or how they are executing the program.

I don't think you really disagree with the idea that canker should be eradicated and that thousands of people's livelihood should be threatened because of a disease that the industry would get. I don't -- to me, more of your comment seemed to be you don't like the process and the way the people are man-handling the people in the South Florida area.

To that end, Richard, I think the State of Florida needs to try to work in as cooperative a manner with all homeowners and citrus growers to remove canker and not to impede upon your rights; however, this disease we face is a detriment to our health and economic welfare, and to me that's just as valuable of my inalienable rights, my right to make a living as your right to have a tree in your yard.

I would take out anything that would affect you in your livelihood, and I would expect you to do the same. We have an obligation to each other to the common benefit of us all and to the economic welfare of us all as a country. I would expect the people of South Florida to respect that right as well as our right to grow food and to feed this nation of ours.

Thank you very much.

MR. GASKALLA: Robert Underbrink.

Before you speak, let me just ask, you know, this workshop was supposed to adjourn at 1:00.

Is there anyone here that was counting on being out of here at 1:00 that needs to speak next? If so, let me know. If not, we'll just proceed down the list.

MR. UNDERBRINK: Thank you. I won't go through a lot of the topics that we've talked about on the ag side.

My name is Robert Underbrink. I'm the president of Consolidated Citrus. We own 50,000 acres of citrus in the state, largest grower in the US. We also manage an additional 12,000 acres in Martin County. We have over 20,000 acres of citrus which you've heard now the spread of canker includes Martin County.

We have had canker in one of our groves. I'm one of the individuals that can stay up here and say it's infected our grove, and we can't live with it. We had 340 acres of grapefruit that were pushed out. We had to write off over \$2 million on our balance sheet due to that infection.

We support the 1900-foot rule. We are not happy with the fact that we have to go along with this, but it's something that's necessary to be done. We've seen that, because some of the earlier statistics showed when we pushed smaller amounts, it continued to spread.

With some of the rain events we've had and the winds we've had, it's almost imminent it's going to continue to spread. We need to eradicate the source.

Some of the source has been down here in the South Florida area. I would invite any of you individuals, assuming you don't harbor an infected tree at your house, to visit some of our operations. Decontamination, we spend over \$200,00 a year in decontamination. Every piece of equipment that goes in and out of our grove has to be.

We have been cited before for not having someone there when someone passed through our inspection that didn't follow procedures, so we strongly adhere to that. Every time we hear a new alert, we go back through those procedures. We recalibrate our equipment.

If the Department of Agriculture is not following the rules, we want to be sure they are too, because it's very important to us. We know it's more difficult in a homeowner's situation where you have landscapers and a lot of

people going in and out of the homeowners' homes to do that, but it's very important that we continue that.

And we all agree that there probably has been some problems with the Department, but we're doing our best and we continue to look at ways to improve that. We pushed 40,000 trees. And I haven't had any come off of those trees for the last two years. We're finally getting back to the stage that we can replant.

So we are renovating the land. We have to go back into that acreage and spend almost \$2,000 an acre just to put that land back into production, not to mention it will take us five or six years to get production back off that land, just to get where you have income coming in.

So we have seen it. We have been there and we are hopeful that we don't continue to have a spread.

We recently acquired what was called Via Tropical in Indiantown, which is in Martin County, 12,000 acres of citrus, and here just 60 days later we have an outbreak in Martin County. It concerns us. It's a major, major problem for us.

We do employ a lot of the migrant workers. Somebody snickered here a while ago about whether we think it's funny. I don't think it's funny. I know a lot of people come to this country looking for a job, and the first thing we can provide them is agriculture, because that's what they know, that's where they came from and that's their livelihood, and we respect that.

Yes, they do make a lower wage than a lot of people here in this room and what we all expect in life, but we provide a decent job. We provide insurance for their families, and we would like to protect the livelihood of those individuals, so we respect that.

And I feel for each person. I know that everybody has been compensated other than those maybe they cut trees down that didn't, but there is a compensation program for those trees. I guarantee you that the income for that tree has more than offset that fruit that was pulled off that tree. If he wasn't fairly compensated, we should look into that.

We support the rule and appreciate your time.

MR. GASKALLA: John Barden. And while John is coming up, I just need to say something for the record, that when statements are made about what we do or do not do within the Department of Agriculture and I don't respond, I don't want anyone here to think that that means that we are guilty. We do have policies and procedures in effect to decontaminate between properties. We do try to go overboard to respect individual property rights.

But ladies and gentlemen, I've got a work force of over 900 people on this program, and I'm not going to tell you that I haven't had people that didn't decontaminate between properties and that we didn't have people that were maybe not as polite as they should have been, but when those incidences are reported through the supervisory chain of command, those people don't work for us anymore.

So I don't want anybody here to think that we condone anybody being rude or abusive or not following proper procedures. The procedures are there for a reason and we enforce them 110 percent.

Proceed.

MR. BARDEN: For the record, my name is John Barden representing Barden Fruit Company in Avon Park, Florida. I serve on the Citrus Canker Technical Advisory Task Force representing Highland County Citrus Growers, and I would like to publicly thank Wayne and Richard for all the hard work they do and all the other scientists. They have worked long and hard.

Could you imagine what it would be like if we didn't believe any science ever? Where would we be in this country or around the world? Can you imagine the disease we would have? Now in farming, we're losing farmers every

year. Look at the number of farmers now. There is so many fewer, and I'm not sure of the exact numbers, than we had 20 years ago.

But yet we are more productive. Here we're trying to use fewer chemicals per acre, because the land is the environment and we're caretakers of that land. Plus chemicals are very, very expensive.

As you've heard today, we're not making a whole lot of money in this industry right now. It is tough. And here you are saying live with it. That's four to six copper sprays a year. That gives you a very high copper toxicity in your soil. We can't do that, guys. So more chemicals is not the answer. We're trying to use less and less in this industry.

But I am here today in support of the 1900-foot rule for the canker eradication program. This rule was based on scientific data that was presented to the task force by Mr. Tim Gottwald and Dr. Jim Graham.

In the data presented, it was shown to get 95 percent of inoculum, you need to go at least 1900 feet and up to roughly a mile if you want to get, I believe it was 99.8 percent of inoculum.

I believe that the data was accurate and that removing the host material at least 1900 feet is a must if we're going to eliminate this disease.

Back in 1984 it was mentioned in the mid eighties we had a citrus strain of canker called nursery strain. I had just got out of college and my first job was to replace a block that had dropped some tangerines, and that wasn't profitable, so we come back, looked in hamlins. Next year, freeze came through and got the buds when the chutes were about that far out, so I replanted it.

State of Florida came in three months behind me and pulled those trees up and burned them. We bought those trees from Ward Citrus Nursery, not only those trees, but other resets throughout our operation.

Summer before I had taken a short course up in Lake Alfred experiment station, and a classmate from Argentina was there. And his family is a member of the largest citrus co-op in that country. And so anyway, he was up there the next year when we were pulling those trees.

I said, "Daniel, are we doing the right thing?"

He said, "Absolutely. You do not want to live with canker the way we lived with it in Argentina. If you've got a chance to eradicate it, do it."

So do what it takes is put 1900 rule back into effect and remove all the host material within the radius. The longer it takes, the further the disease spreads and the more the process costs.

Imagine for a moment if we had this latest scientific model that was developed by the scientists back in 1995. That one little area around the Miami International Airport, we could have gone in and wiped it out.

We may have saved the 1.37 million commercial trees destroyed as of last week before the newest find in Arcadia, and 590,000 residential trees if we had just had that science a few years earlier.

We are losing ground each day we do not have this 1900-foot rule. Can we live with it? No. I don't think we can.

I asked this question in one of the task force meetings, and Tom Jerkins with Blue Goose Citrus answered that Dole went to China to plant, went over there and planted a large acreage of grove. Got over there, and after five years they abandoned it, mainly due to the problems caused by canker. Walked away from the investment.

No, we cannot live with this rule.

In closing, to eradicate citrus canker from Florida, we must have the residents of the state just as committed as commercial growers, the State of Florida and the USDA. Thank you.

MR. GASKALLA: Nat Roberts.

MR. ROBERTS: Thank you, Mr. Chairman. My name is Nat Roberts. I'm a resident of Palm Beach County. I am also the general partner and general manager of Callery Judge Grove. We have a 4,000-acre grove, a 75,000 square foot packing house. And in two months from now we'll have a payroll of approximately 350 people combined operations.

Citrus canker is not a theoretical problem to us. We are not so far away from here. Our groves are 12 miles from this building.

Mr. Silver said it seems to inconvenience to many residents of Palm Beach County. I disagree. This is exactly in the geographic center of the county, north and south, and 12 miles from our grove.

The residents of Palm Beach County as well as the commercial growers here want this disease stopped. The reason that the residents of southern Palm Beach County are faced with this problem is because we did not stop citrus canker in Dade County and we failed to stop it in Broward County. It is now in southern Palm Beach County and it is spreading north. We need to stop it.

As I said, it's not a theoretical problem for us. Over the past couple of years three different residents have brought infected trees in and planted them north of our groves within five miles. That represents a direct threat to our business and to the employees who work for me. Needless to say, without trees, I would not have employees.

As the gentlemen before me have spoken, we are businesses, but we are businesses comprised of employees who come to work every day and depend on paychecks that we can provide them. Those paychecks come from the earning streams we have been earning from our businesses. If the trees go away, the packing house is of no use.

Southwest Florida where commercial growers and the residents that have been affected have worked with the scientists' recommendation, and the program has worked. You heard from Mr. Underbrink that they are talking about replanting citrus trees.

Southeast Florida where the southeast program has ground in my opinion essentially to a halt in terms of reducing the infection and the number of trees that are being exposed, it has spread. It seems to me fairly simple that the scientists' theories have proven in absolute fact.

I will end that by saying as a citrus grove owner and as a resident of Palm Beach County, I strongly support the state's program and implementation of this protocol.

MR. GASKALLA: Frank Bouis.

MR. BOUIS: Ladies and gentlemen, I'm Frank Bouis from a little town up north of here. I'm a citrus grower and have been for most of my adult life. Sitting back there for the last three hours a little bit trying to think of what I could say that hadn't been said, because I don't have any desire to plow any of those furrroughs again.

For the record, I would say that I support the 1900-foot rule, not because I think it's the best, but because I believe it's the best game that we have at this time.

Folks, we in agriculture, especially in Florida agriculture, are faced with a continuing series of foreign invasive pests. Most of them in Florida come through the Miami International Airport. Now we know that people in South Florida are not responsible for that, but they are the conduit for that.

I suppose if the southern boundary of the United States was the northern boundary of Polk County -- excuse me, of

Palm Beach County, that we wouldn't even be talking about this, because it would be a matter of international relations, but it isn't. We're all in one country. We like to wave the flag lately and talk about how we are united, and indeed we are.

We cannot live, we in agriculture, cannot live with the continuous series of invasive pests, one of which is canker.

There are others. There is an insect called diaprepes that is devastating my trees, and I cannot control it, because even though there is a chemical that I might use every three or four years on just a few trees, I'm not permitted to use it, because environmentalists think it might get into the groundwater and move around.

So that instead of spreading out a pound or two or three of chemical every three or four years, I am now pushing and destroying by burning many, many trees and using many, many, other pounds of chemicals.

The point that I'm trying to make is that these invasive pests are real serious and a continuing problem.

If we as a society do not stamp them back, then they will spread and extend until they permeate all of the country. You would not I think have your attitudes here if the invasive pests that we're talking about was anthrax or mad cow disease or hoof-and-mouth disease. You would all rise up immediately and say that anything had to be done to get rid of those things.

I'm not about to tell you that the Florida Department of Agriculture's system is the best system, but I will only tell you that it is the best one that we have.

And I will tell you that if it is stopped as it has been stopped, the disease doesn't stop spreading. It continues to spread. So that if it is stopped, that is the system of controlling the stop, then when it started again, you start back several steps or a lot of steps.

That's the problem. It isn't a nice one. I grieve for your rights, your trees, but you've got to deal with the world as it is. And that today in the 21st century is the world as it is.

Thank you.

MR. GASKALLA: Susan Peterson.

MS. PETERSON: My name is Susan Peterson and I'm from Fort Lauderdale. I'm a freelance writer. I've done a lot of interviewing of old-timers in Broward County and Dade County, people who went through World War II, and people from the twenties who developed Fort Lauderdale, got through the depression somehow and built our city and our county into what it is today.

I'm not the enemy. I am a consumer. And I was listening outside before to some of the growers talking about the problems that they are having, and I understand that. And I was talking to Stan Bronson from the Agriculture Extension Service, and I -- this is my Exhibit A today. I'm also an athlete. I'm a national champion master swimmer.

And after a workout one day last week I decided I'm going to buy myself a little thing of Tropicana Season's best orange juice, improved taste. It cost a dollar five cents in the convenience store.

And I thought I needed some extra potassium, and I drank this and it tasted terrible. It gave me stomach acid. Mr. Bronson said, "That's probably not even Florida juice. It's probably shipped in from Brazilian concentrate."

I remember when I used to live in South Carolina and came down here for Christmas vacations and Thanksgiving to visit family and friends, I loved stopping by the Indian River groves. We could get a gallon of fresh-squeezed juice and we would have that whole gallon finished between two people between Indian River and Charleston, South Carolina.

And I'm just going to mention briefly the same comments I submitted at the other hearings. This is the fourth hearing where I've spoken on my concerns about the, what I call the citrus eradication program.

As far as Dr. Gottwald's study, it came out in the courtroom, Judge Fleet's final judgment on motion for injunctive relief almost a year ago, that the problem with Mr. Gottwald's study was that the only way to reliably determine the source of infection is through genetic or serological testing, DNA testing, to prove that an infected tree on a perimeter, say 1900 feet, that the infection came from the focal tree. That's the only way to prove it. It's like proving a murder case, who done it, based on DNA evidence.

That was never done. It is just a supposition that the tree on the border was infected by the other trees. But I've already talked about that in previous hearings.

I spent a lot of time in Palm Beach County because my mother is actually in hospice care up here. She's 91 years old. She grew up on a farm in Finland and later her family's farm was confiscated by the communists after World War II.

Where she lives, a lovely assisted living facility, they have four or five mature citrus trees. I'm afraid to even mention where it is. The Agriculture Department is going to run and cut them down. But the old folks there depend on their fruit for their nutrition. It's very important for them.

I have a little -- not so little anymore -- healthy key lime tree in my yard.

And the point about consumers won't buy blemished fruit, well, you should come down to the Publix on 17th Street Causeway, which is kind of a ritzy Publix, and try to buy some unblemished fruit.

I was looking for key limes and lemons the other day. They had lemons from the Bahamas, full of blemishes, but I guess -- I bought one just to see what it was like. It was okay. They had limes imported from Mexico, full of blemishes. Not one piece of fruit in those fruit bins was unblemished.

As far as key limes, they had these dried up little things from Mexico that looked like they had been around for two years. They can't compare with the fruit I can get from my tree.

And, you know, the remark I made before when Dr. Dixon was speaking about what about anthrax, I didn't say that lightly. I don't think you folks from the farm areas understood what it's like to live in an urban area and have the threat of a crew of mostly men hired by the subcontractors from some labor pool, many of them don't speak English, come on your property whenever they want with chainsaws. It is terrifying.

I have friends, single women living alone, woke up in the morning, looked out, there was some creepy guy looking in their window who was from a citrus canker program.

And right now people are very nervous. I was very disappointed that the Agriculture Department didn't have the grace to cancel the hearing on the 13th of September, 48 hours after the horrible terrorism attack. We had a big turnout of people who were very concerned, very well-educated people, by the way, many with Ph.D.'s, law degrees, doctors, psychologists, who spoke very sincerely about their concerns. And their remarks are available in the transcript of the hearing, and I wish you folks from the farm area would read some of their remarks and understand how we feel.

Everybody right now is in a war situation. It is terrifying. And I'm just going to briefly mention a couple of articles from the paper recently. One was from the Palm Beach Post, October 8th, "World War II Victory Garden Revived in Florida Man's Yard."

It talks about in World War II nearly 20 million Americans took part planting enough food to feed their families, friends and neighbors in urban areas as well as rural. These gardens produced 40 percent of all the produce consumed in America during World War II.

I'm very disappointed that they cut down the lime groves in Homestead, because I used to buy their limes. I do not like to buy imported produce. And if we're in some kind of a lock-down war situation, we need to have our domestic crops.

And I do believe that it is possible to -- I hate to say this, but to live with canker to control it, because it's out of control, and a very great part of the spread of the canker I believe came from the Department of Agriculture's activity in Miami-Dade.

They would take shipped -- not shipped. They would take cut up, diseased tree parts in open trucks and bring it to the landfill in Miramar, which is right by Joe Robbie Stadium. That was a very rainy, windy area.

The next part of the citrus canker spread was just north of Joe Robbie stadium in Miramar. And despite what Mr. Gaskalla says about his 900 employees and they do what they can, I really do believe that a lot of the spread has been caused by the Department of Agriculture activities, especially -- and here's where we get into the bioterrorism part -- the chipping.

In Judge Fleet's courtroom there was scientific evidence presented by witnesses about the effect of chipping, what it does. It's one thing to have a leaf of a tree that scatters and goes on to another property, but when you have the diseased trees chipped, tiny particles go up into the air stream, and they can move many miles. I'm convinced they can jump counties too, just like birds do.

Now you see some of the crews coming around with their chainsaws and unfriendly attitudes, you would know how fearful it is for the citizens living in the urban areas and how easy would it be for a terrorist to throw a little bioterrorism material onto a tree that's about to be chipped? It would spread all over the neighborhood.

I think they ought to stop the chipping program immediately. I think it's too hazardous and dangerous.

I'm going to read a very brief thing. It's called "Beyond Vaccination, New Ideas on the War on Bioterrorism," from the New York Times.

MR. GASKALLA: Excuse me, is this relevant it to the rule?

MS. PETERSON: Yes, it is, because it's relevant to the latest science that could help to eradicate the biological disease.

MR. GASKALLA: Proceed then.

MS. PETERSON: I will, and I will give these articles to you.

"Dr. James Baker, Jr. at the University of Michigan developed what he and his colleagues jokingly referred to as a salad dressing that can kill many types of microbes, including hearty anthrax spores. They say the disinfected concoction made of microscopic droplets of soybean oil suspended in water is safe enough to apply to the skin or to equipment or to spray into the nose to stave off infection and even drink in small quantities. This is how it works.

"Dr. Baker explained that when some regular salad dressings are shaken, bubbles of oil get dispersed in the water. Those bubbles contain energy from the shaking which is stored as surface tension. This energy is released when oil droplets coalesce again. But bacteria is like a big oil droplet. They coalesce with it and blow it up," he said.

And there is an article in today's New York Times about "How Far-away Events Hit Home for Town in Eastern Oregon," how people are not sleeping.

And I have a question for you, Mr. Gaskalla. Are you sleeping well these days?

MR. GASKALLA: As well as usual.

MS. PETERSON: Well, I'm not, and a lot of people in Broward County who live near the airport are not sleeping well. People are very fearful. And we do not want any more organized home invasions of people with chainsaws coming onto our property.

I also am concerned about diseases like tuberculosis. What kind of background checks do you do on those subcontracted crews, if any? Where are those people coming from? How do we know they are not terrorists?

Some of the people who live in farming areas may lack this, but what would you do to protect your family if 20 guys who didn't speak English come on your property with chainsaws and start rummaging around there? What do you think you would do? Would you welcome them on your property? I don't think so.

And the last thing is we're in an economic recession. Everybody is hard hit. People need their fruit trees. This is our victory garden. We are in a war. And there is no more secure source of food than our own healthy fruit trees that are in our yards. Don't take the food out of our mouths. Find another way. Thank you.

MR. GASKALLA: Mary Truchelut.

MS. TRUCHELUT: Truchelut.

MR. GASKALLA: Sorry, mispronounced it again.

MS. TRUCHELUT: Am I the last speaker?

MR. GASKALLA: No, there are three or four more.

MS. TRUCHELUT: My name is Mary Truchelut. I'm from Broward County. I don't know where to begin. There has been a few things said that I want to comment on.

The Martin County infection, this latest one, was actually industry induced, has nothing to do with Broward, Miami-Dade or Palm Beach County infections. I just want that put on the record. There is a lot of reference to it here today and inferring it came from the south. It did not. It came from the west coast.

MR. GASKALLA: I did not hear that inferral, but that's fine. You can put that into the record.

MS. TRUCHELUT: It seemed that everyone who mentioned it then began speaking about Broward County and Miami-Dade County and Palm Beach County and that the canker was moving north. They immediately went to that statement.

So I just want to clear the record that it actually came in the West Florida grove that's also owned by the same people.

MR. GASKALLA: However, that canker likely from that grove came from South Florida. So there is a connection.

MS. TRUCHELUT: It came from southeast Florida to southwest Florida?

MR. GASKALLA: Yes.

MS. TRUCHELUT: How could that be?

MR. GASKALLA: Probably man made a movement.

MS. TRUCHELUT: Could be agricultural crews that transported it.

MR. GASKALLA: Possibly.

MS. TRUCHELUT: I think the issue here too is we don't really know why the canker is spreading. We are assuming that this 1900-foot study and Dr. Dixon, I believe -- I missed his name, I came in late -- we're assuming all of those things are in evidence and that they are proven, when actually canker could be spreading in many other ways.

And also what I object to about the study itself is that this is focusing on infection. It is not focusing on the trees that do not get infected. Where is the opposing study that lets us know how many trees were not infected and the trees that were protected by let's say wind breaks, some kind of maybe DNA that they have that prevents them from getting the canker, the leafminer situation?

Why aren't we presented with the numbers of trees that are still healthy? Why isn't there an opposing study to the 1900-foot infection study?

UNKNOWN SPEAKER: You were presented with that by the scientific study that was done. He showed the spreads.

MS. TRUCHELUT: No, he did not show the number of trees -- I'm sorry.

UNKNOWN SPEAKER: He showed the areas.

MR. GASKALLA: Wait a minute, stop.

MS. TRUCHELUT: He did not show the number of trees that are still healthy and not infected.

MR. GASKALLA: Well, but the trend in that study showed that over time, more and more trees within 1900 feet were getting the disease, so you can draw --

MS. TRUCHELUT: I understand that, but it does not show how many trees did not get the disease in total, aggregate, a number. Where is that number? We need to know that.

MR. GASKALLA: That number would be available, but you've got to understand that that number is going to change every day as more trees become infected. Eventually they will all become infected.

MS. TRUCHELUT: I'm not going to go there with you, because a lot of the trees that are infected have been standing for years. I have one in my own neighborhood that was not cut for six months. It was discovered for September or August, and they finally come out and cut it in March. So that's nine months.

MR. GASKALLA: There have been some impediments, that's true.

MS. TRUCHELUT: Well, there has been more than a few.

I want to talk about the environmental impact of cutting down all the trees in South Florida that can be cut down, and if we're losing 600,000 trees, we're losing a lot of canopy that could be helpful in a drought situation. We don't know the environmental impact of losing all these trees, and this calls out for a current updated environmental study.

If it's true that we've lost nearly two million trees in total, why hasn't there been some kind of study to show us the impact of that loss? I think that should be a part of this 1900-foot rule consideration.

And in closing, I just want to say that I notice there is a lot of orange juice served at all these meetings. I stopped

buying orange juice last October. I'm encouraging a lot of people to stop buying Florida citrus products. Do not underestimate the power of the people to organize a boycott against this program if it continues.

Thank you.

MR. GASKALLA: Tom Jerkins.

MR. JERKINS: My name is Tom Jerkins. I'm the general manager of a company called Blue Goose Growers, which is a farming company in South Florida.

Predictably, I would like to go on record of being in support of the 1900-foot rule. I don't want to reiterate too much, but I would like to speak on behalf of the employees of the industry rather than the ownership.

My company represents maybe 15 to 20,000 acres of ownership. Those guys have risk in the business like anybody would have business risk, but I'm here mostly to speak for the 150 or so employees that work for my company managing properties that are involved, and they represent what is mostly the employees in the industry that's people making 20 or \$30,000 a year and paying their taxes, trying to send their kids to school.

So I want to think about the effect on the employees within the industry and reach out for some of the support of the homeowners to try to meet us halfway, try to help us eradicate this. Not just on behalf of the ownership, but on behalf of the employees.

I do have a lot of experience, maybe 25 years or so in the business, enough to form a kind of expert opinion that it's not viable, not possible to live with it. I think the industry would be at risk if canker were to come in. I think we would see our business move offshore.

This is an industry that produces 100,000 jobs, diversity of jobs. A good quality of product would simply go to Brazil, Costa Rica, Mexico. I can't really believe that most of the people in South Florida want that.

So that's my comments. Again, I'm in support of the rule. Thank you.

MR. GASKALLA: Hal Prewitt, and then the last card I have is John Greene. And if there are others that would like to speak, it will be your last chance.

MR. PREWITT: Good afternoon. My name is Hal Prewitt. I'm a local resident. A couple of comments.

I'm in favor of the 1900-foot rule. I'm disturbed by one of the speakers a few minutes ago says they want to boycott orange juice. I can't think of anything more crazy and ridiculous. This is not a war of local residents that have a couple of trees in their back yards versus orange growers of the state. This is a problem of eliminating canker.

If you think there is anything to be gained by calling some sort of strike or against orange juice and orange juice growers, you miss the whole point and what the whole objective is all about.

We need to join forces to eliminate this problem, not try to cause other problems and cause unemployment and other losses in the state. That's not the solution. I wish there were a simple solution, but unfortunately, there is not.

We are very early in this war. One reason why I am for this rule is because we're so early in the start of it, we have a great opportunity to eliminate it before it spreads too far where it is totally uncontrollable. And this is why I believe many growers in the state are in fact for that.

The opportunities by this continued delay, by people fighting this, because you have a tree in your back yard, you have a loss. I understand the difficulty. I've heard as well about the problems many of the residents have had with

the process that goes on. I think those are being addressed and will be corrected.

You have to look at the big picture. If we can halt this before it gets out of the localized area and it spreads to the rest of the state where it causes severe economic loss, loss of jobs, loss of income to the rest of the state, that will benefit all of us, not just the few of us that are going to have to lose a few trees in our backyards.

Every day we delay, every single day somebody comes up with some excuse and says this is about civil rights, this is about this, this is about some of my rights, this is about somebody scaring me in my yard, is really an obfuscation and a delay in us winning this battle.

Ones of you that are against this, please carefully consider of what the result is of you battling against this. What is the impact? What is your real objective? Is it to save your tree in your back yard or is it to cause harm to the rest of the state?

MS. TRUCHELUT: To save the Constitution of America.

MR. PREWITT: We're not battling against the Constitution. We're not trying to save the Constitution.

MS. TRUCHELUT: This program does.

MR. GASKALLA: Please.

MS. TRUCHELUT: I was heckled.

MR. PREWITT: We are trying to eliminate canker, a biological problem affecting trees that affects income and people's jobs in the state. That's it.

To obfuscate, to cause confusion, to say it affects your ability to eat food in your back yard when you walk out and all of a sudden you are going to starve or some of these other ridiculous things is just nonsense.

This is not about civil rights. This is not about the Constitution. This is about doing what's smart. We have a problem. What's the simplest way to fix it? It is very early in the stage. This is what the scientists tell us today, this is the best solution. Stop trying to find reasons why it won't work.

Your statement you made a few minutes ago that says what about these trees that didn't get it? Well, guess what? There is probably going to be trees that don't get it. I wish there is a lot of trees that don't get it, but that doesn't mean you don't take action because one tree in the 1900 feet didn't get it. You miss the point. You miss the whole objective of what it's all about.

MS. TRUCHELUT: You don't cut healthy trees down.

MR. GASKALLA: Stop. If you could wrap up your remarks, please.

MS. TRUCHELUT: He is directly talking to me. I'm only responding to him.

MR. GASKALLA: No, he's not. I didn't hear him mention your name.

MR. PREWITT: I'm speaking to the record, and the record is I'm for it.

I ask each of you, I know you're passionate about it. I know you have concerns. I'm a resident too. I have trees in my yard.

I also have, as you probably guess, I'm also an citrus grower. I want to point out to you that I put in excess, myself, I write the checks, \$750,000 back into the economy.

Your actions risk that money that I'm spending. If my grove gets canker and I need to kill all those trees, your community is going to lose that \$750,000 that I write, and over the last ten years it exceeds millions of millions and millions of dollars.

Who is going to replace that? This is not about civil rights. This is about jobs. This is about money. This is about income.

I am willing to sacrifice a few trees in my back yard if I can stop masses and masses of loss of unemployment which will cause a mass of other problems. The whole system will collapse.

You can't keep -- you can't think so minuscule. Think about the big picture and what the major problem is. Thank you.

MR. GASKALLA: John Greene.

MR. GREENE: Good afternoon. My name is John Greene. I am here representing Mecca Farms. I, like Nat Roberts, have been, I guess I'm a resident here in Palm Beach County, third generation Floridian, and my family came down from Georgia sometime back. We're all farmers.

Right now presently here in Palm Beach County we operate about 1500 acres of citrus groves. And I'd like to take exception to an earlier phrase that was used referring to the situation as a false emergency.

To the contrary, the time is now to adopt the proposed 1900-foot rule for canker eradication. If we don't get a grip on the canker now, I and many of us present would agree if we don't adopt DOA's proposed rules for eradication, another nail will be driven to the coffin of an already-struggling industry.

And I know many of us in here are highly concerned. Imagine what will occur when farming is exiled completely from Florida. Not only citrus, but vegetables. Our history, my history, your history, our economy, your economy, your state and my state will suffer.

I'd like to make some, a comment on something that I thought was stretching, but I'd like to possibly enlighten maybe myself and others.

If we lose farming as an industry here in Florida, not only is it because of citrus canker, it's because of things like NAFTA, Fast Track Trade Authority. Our heritage, Florida's heritage, Palm Beach County, a heritage will go by the wayside.

I know a lot of us are concerned about gas prices, how foreign countries are dictating to us how much gas is going to cost so we can drive our SUVs. When farming is wiped out of Florida, you can't get fresh vegetables, you can't get fresh fruit from Florida, you will be dependent on a third world emerging country.

If you are worried about right now some one throwing anthrax into a chipper, what you ought to be concerned about is cyclospora and other diseases that will be coming into our country from who knows what? Thank you.

MR. GASKALLA: Mr. Ken Keck.

MR. KECK: Thank you. Just a few items to correct the record.

We have heard some references today that Florida Citrus Mutual is an administrative arm of the DOC, and that is not true. It's a grower organization representing 11,500 growers throughout all of the citrus-growing regions in the state.

Secondly, it's USDA IFAS that says canker is a problem. It's trade agreements that say canker is a problem. It's

growers who agree with that, but first it needs to be realized that these are laws, these are international agreements, these are international plant protection conventions that are really dictating what Department of Ag is doing here. It's not just a notion someone dreamt up.

And then lastly, that UF, that is the University of Florida, food and natural resources, their Department, the economics Department there says that this is a \$9.1 billion industry. That's not a number that's been dreamt up by any lobbying or trade association.

Thank you.

MR. GASKALLA: Okay. Well, we're 50 minutes beyond our established ending time, but I'll ask if there is anybody that would like to bring us home.

MR. KLINOW: I'd like to speak.

MR. GASKALLA: All right. Anyone else? If not, this will be our last speaker. If you will state your name for the record, please.

MR. KLINOW: My name is Sol Klinow. I live in Boca Raton, Florida. I own 170 acres of orange grove in St. Lucie County. I would like to bring a few things to your attention.

My daughter lives in Miami-Dade County. She was subject to some abuse by some workers who came in, cut down three of her trees. She was very very upset. Still is upset about the abuses, and no doubt there have been.

But she and I have had a dialogue about this problem. She lost three trees. I'm concerned about 90,000 people who could lose their livelihood as a result of the threat of canker. Canker comes into my grove, my family has lost 35 years of trying to maintain a grove operation living under very difficult conditions. We haven't made any money in years and years, but we're trying to survive.

I believe in this 1900-foot rule. This is the only thing we have. The statistical evidence that was given this morning took years and years to develop. It's the only thing we have to rely on.

I'm for this rule and I hope my family is too.

MR. GASKALLA: Thank you.

We have another workshop this evening, as I mentioned, at 6:00 in Miami. We will have a transcript of that recorded as well and we will post both of these transcripts on our citrus canker Web site once we receive them, as we have done with the September 13th transcript.

If there are any questions or comments at this point before we adjourn, I'll hear them.

Yes, sir?

MR. MANEVITCH: This may sound like a simplistic question. This is the first hearing I've attended. I'm a homeowner in Boca Raton. I have a back yard citrus grove.

I guess I asked the question of the young man before, but I'm not sure that I really understood that answer that he gave me.

If we really believe this 1900-foot figure, why don't we just cut a swath across the state at some point and say this is the no-citrus zone and contain the problem here in the lower counties?

MR. GASKALLA: Well, that argument has been brought forth many times before, and it's a logical thing to

assume that you can do if you don't know about how the disease works, but 1900 feet gets most of the disease most of the time, but not all the time.

So if you have a lot of disease that builds up on one side of a 1900-foot buffer and then you have a significant weather event, it will breach that boundary, plus if you have a lot of disease likely in a boundary, somebody is going to move that across the boundary.

So the 1900-foot radius, you have to apply at multiple times, but eventually you eradicate the disease. Then you don't have any disease left to move anywhere. Does that make sense?

MR. MANEVITCH: No. I'm sorry, it doesn't make sense.

MR. GASKALLA: Why not?

MR. MANEVITCH: If you use that rule, if you use that hypothesis, then what is cutting down every tree within a 1900-foot radius going to do? It's not going to contain the disease for the same reason you just stated.

MR. GASKALLA: Well, but it has in other areas of the state. For instance, in Golden Gate over in Ft. Myers, we had some infected trees. We applied 1900 feet, then you keep the outer areas in tight survey.

Well, a couple months later we found another tree just outside 1900 feet. We drew another circle. We took those trees out. We haven't found any more disease.

MR. MANEVITCH: Fine. Then that just reinforces what I'm saying. If we cut the swath 1900 feet across the state and just kept track of that zone and just beyond it, we could contain it.

MR. GASKALLA: But you've got a lot of disease –

UNKNOWN SPEAKER: 1900 foot only can contain 95 percent. There is still a factor of five percent that's in question.

MR. MANEVITCH: But you just keep monitoring that area just beyond it to make sure and just keep cutting back the –

MR. GASKALLA: But the real problem is beyond where you have got this boundary, you have got the disease building up, building up, and you have got a lot of disease, and the amount of spread is directly proportional to the amount of disease that you have.

So it's like a forest fire. You might cut a fire line, but that fire burns up to it and it's a raging fire, it will jump it.

So if you have a boundary like that, you have got to fight the main fire at the same time, so you can't just rely on a buffer.

MR. MANEVITCH: Maybe we should be doing both.

UNKNOWN SPEAKER: May I respond?

MR. GASKALLA: Wait a minute, before you do, let's end the formal workshop and give our court reporter a break. If we want to continue to have some dialogue, those that want to stay, that's fine.

So we are officially, the workshop is officially ended.- - -

(Thereupon, the proceedings were concluded at 2:00 p.m.)- - -

CERTIFICATE
THE STATE OF FLORIDA
COUNTY OF PALM BEACH

I, Rachel W. Bridge, Registered Professional Reporter, State of Florida at large, certify that I was authorized to and did stenographically report the foregoing proceedings and that the transcript is a true and complete record of my stenographic notes. Dated this 19th day of October, 2001. _____ RACHEL W. BRIDGE, RPR