UNITED STATES
DEPARTMENT OF AGRICULTURE

In the matter of:

MEXICAN HASS AVOCADO IMPORT PROGRAM
PROPOSED RULE

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BEFORE THE

UNITED STATES DEPARTMENT OF AGRICULTURE

ANIMAL AND PLANT HEALTH INSPECTION SERVICE

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In the matter of:

MEXICAN HASS AVOCADO IMPORT PROGRAM
PROPOSED RULE

Room 118
Stephen F. Austin Bldg.
1700 N. Congress
Austin, Texas

Thursday,
August 23, 2001

The public meeting reconvened at 9:02 a.m.

PRESIDING: MEREDITH JONES

PARTICIPANTS:

WAYNE BURNETT
EDWARD PODLECKIS
JEFFREY GRODE

I N D E X

P R O C E E D I N G S

MS. JONES: Good morning, and welcome to the Animal and Plant Health Inspection Services public hearing on the proposed rule to amend the regulations that govern the importation of Hass Avocados from Mexico to expand both the current shipping season and the number of states into which Hass Avocados may be distributed.

My name is Meredith Jones; I am a regulatory coordination specialist for plant protection and quarantine of the Animal and Plant Health Inspection Service -- that is APHIS -- of the USDA. I will be the moderator and presiding officer for today's hearing.

Today's hearing in Austin is the last of four public hearings that are being held to accept comments on the proposed rule. The first hearing was held in Denver, Colorado last week on August 14; the second was in Escondido, California on August 16; the third was held earlier this week in Homestead, Florida on August 21.

Notice of the public hearings was published twice in the Federal Register: the first time was on July 13 with the proposed rule itself in Volume 66, pages 36892 to 36905; and then a second time in a separate notice published in the Federal Register on July 27 in Volume 66 on page 39121.

Copies of both of these documents are available

on the registration table in the back of the room, along with a single-page document summary sheet which is a printout from the APHIS website. The document summary sheet lists the supporting documents on which the proposed rule is based. These documents are also available on our website and may be downloaded using a PDF file reader.

The purpose of today's hearing is to give interested persons an opportunity to present information, data, views, or comments concerning the July 13 proposed rule. Those persons that testify today will have the opportunity to ask clarifying questions about the provisions listed in the proposed rule.

Agency representatives will be limited to explaining provisions of the proposed rule and the documents upon which it is based. Agency representatives will refrain from answering questions of a speculative nature that address future regulatory actions that the Agency may take in the course of this rule-making proceeding.

APHIS views this hearing as an opportunity to receive public comments and to answer clarifying questions and not as an opportunity for a debate on the issues or for speculation about future action that APHIS may take.

At these hearings any interested party may appear and be heard in person or through an attorney or

other representative. Those who have registered in advance of the hearing or who have registered this morning in person will be given an opportunity to speak before unregistered persons. If time permits, those who have not registered and who wish to speak will be given an opportunity then.

If an individual's comments do not relate to the stated purpose of this hearing -- which, again, is to present comments or questions on aspects of the proposed rule -- it may be necessary for me to ask the speaker to focus his or her comments on the issue.

Today's hearing is scheduled to conclude at 5:00 p.m. I will announce any other procedural rules for the conduct of today's hearing as may be necessary.

All comments made here today are being recorded and will be transcribed. The court reporter for today's hearing is Ms. Penny Bynum of On the Record Court Reporting. A copy of this transcript 2will be placed on the APHIS website at www.aphis.usda.gov about two weeks from today. A copy also will be available for public inspection at the APHIS reading room which is located in Room 1141 of the USDA's south building in Washington, D.C. The room is open to the public from 8:00 a.m. to 4:30 p.m.

As presiding officer, I will announce each speaker who has registered to make a prepared statement.

Before beginning your remarks, please state and then spell your last name for the benefit of the court reporter. Following the procedures listed in the July 13 proposed rule, I ask that anyone who reads a prepared statement please provide me with two copies of your statement at the conclusion of your remarks. All written and oral comments and statements submitted or presented at today's hearing will become part of the public record.

I'd like to remind everyone that the close of the comment period for submitting comments on the proposed rule is September 11, 2001. Comments made after today's hearing can be submitted to the following address -- this address is listed in the proposed rule itself: Docket Number 00-003-2, Regulatory Analysis and Development, PPD, APHIS, Suite 3C03, 4700 River Road, Unit 118, Riverdale, Maryland, and the zip is 20737-1238. When submitting written comments by mail, please send an original and three copies.

Now I'd like to introduce the Agency representatives seated at the panel. The first person I will introduce is Mr. Wayne Burnett, senior import specialist from the Phytosanitary Issues Management staff of PPQ. Mr. Burnett will provide an overview of the current avocado importation program as well as a summary of the proposed expansion.

Beside Mr. Burnett is Dr. Edward Podleckis, senior plant pathologist from the Permits and Risk Assessment Staff of PPQ. Dr. Podleckis is co-author of a memo that analyzed the previous risk assessment and its applicability to the proposed expansion. Dr. Podleckis will summarize his findings related to the risk assessment and its appropriateness for this proposed rule.

Beside Dr. Podleckis is Mr. Jeffrey Grode, national coordinator, Smuggling Interdiction and Trade Compliance. Mr. Grode will not be making formal comments and is here today to answer questions about compliance over the last four years in the present avocado import program.

After the presentations made by the APHIS personnel, I will call the first registered speaker and I will call speakers in order of registration.

And finally, I ask that before you leave today please take a moment or two to complete a brief survey questionnaire about the quality of today's hearing. We would like your feedback on the format of today's hearing, the accommodations, and whether you're satisfied about how this hearing has been conducted. Copies of the survey are available on the back registration table.

And with that, I give you Mr. Burnett.

MR. BURNETT: Thank you, Meredith, and good

morning. My name, again, is Wayne Burnett; I am the Agency contact that's listed on the proposed rule. My particulars are on the screen now; this is the same information that you can find in the proposed rule: Wayne Burnett, Senior Import Specialist, Phytosanitary Issues Management, USDA APHIS PPQ, 4700 River Road, Unit 140, Riverdale, Maryland; phone number 301-734-6799.

First I'd like to review the current pest-risk management measures that are used on the program and give a brief summary of any impact that may happen with the proposed rule: field surveys, trapping and field treatments, field sanitation, host resistance, post-harvest safeguards, limited shipping window, packinghouse inspection and fruit cutting, port-of-arrival inspection, limited U.S. distribution.

There are no proposed changes in the proposed rule for field surveys, the field surveys remain the same: they include surveys that are required to qualify orchards for the Mexican Export Certification Program including an intensive survey in the spring, orchard by orchard, followed by surveys that are joint USDA-Mexican two orchard-by-orchard surveys after July 1.

Trapping and field treatments remains the same: continue to have year-round trapping for fruit flies and any treatments that are triggered by detections.

Field sanitation remains the same: fallen fruit needs to be removed from all approved orchards and dead branches need to be pruned.

Host resistance remains the same: we still consider avocados a poor host for fruit flies.

Post-harvest safeguards will remain the same: tarping is still required of field trucks from orchards to the packing sheds; at the packing houses, screening and automatic closing doors is a requirement.

Limited shipping window, there is a proposed change to this management measure: the current shipping window is four months, the proposal is to add two months to that.

Packinghouse inspection and fruit cutting will remain the same: fruit still needs to be random-sampled at the packing houses and inspected for target pests.

Port-of-arrival inspection remains the same: fruit is still sampled at the port of entry into the U.S. and inspected for target pests.

Limited U.S. distribution, there is a proposed change to this: current regulations allow shipment to 19 northeastern states, including the District of Columbia; the proposal proposes to add 12 new states to this list.

Now to review some of the program history: four shipping seasons have been completed; two program

reviews have been completed; total cartons imported is 3,334,600; total fruit cut and inspected 5,464,173; no pests detected in inspected fruit; and we have good compliance to the limited distribution requirement.

To review in more detail the compliance record: of 3.3 million cartons that entered the U.S. -- this is a pie chart that explains where they were distributed -- the green you see is 99.89 percent remained within the approved states, .1 percent were detected outside the approved states -- very good compliance.

To review in more detail the figures year by year for cartons that went outside the approved states, you'll notice that the first two years there are more cartons detected outside than the last two. The drop can be attributed to two things: at the end of 1999, beginning of 2000 there was an extensive public affairs campaign put on by APHIS targeting distributors and trade within the U.S. to explain our regulations; and also, we promulgated an amendment to the rule which now requires that all distributors within the U.S. must enter into a compliance agreement.

Now to review, again, the proposed changes that are in the proposed rule: shipping window increased by two months to include March and April; approved area for distribution increased by 12 states. For a further

illustration of the proposed states, here is a map. The upper right blue states are what are now currently approved, the green states are what are proposed to be added.

With that, I'll turn it over to Dr. Podleckis for him to give his presentation.

DR. PODLECKIS: Good morning. As Meredith stated, my name is Ed Podleckis; I'm senior plant pathologist on the Commodities Risk Analysis Team of the Permits and Risk Assessments staff at APHIS.

Our staff, headed by Dr. Mike Firko, conducts plant pest-risk assessments on imported commodities and it was our staff that wrote the 1995 risk assessment for the importation of Mexican Hass avocados into the United States under a systems approach, so when the proposal was made to expand the current import program, we were asked to review the proposal and to make a recommendation as to whether the 1995 risk assessment was still valid.

That 1995 risk assessment used this model to estimate the likelihood of four pest groups being introduced into the United States via the importation of Mexican Hass avocados under a systems approach. The four pest groups are: Anastrepha fruit flies, two seed weevils, a stem weevil, and a seed moth.

The model lists the major steps that are all

necessary in order for a pest introduction to take place. We used a range of probabilities to estimate the chance of each of these steps -- or nodes, as we call them -- occurring. The estimates for each node were multiplied together to calculate the annual likelihood of introduction for each pest. Our job with respect to the proposed expansion was to determine which, if any, of these nodes was affected by the proposal and what that effect might be.

F-1 estimates the number of boxes of Mexican Hass avocados imported annually. The 1995 risk assessment estimated that between 1- and 2-million boxes would be imported annually; the actual number of boxes fell short of the minimum estimate in all but one of the four seasons since the Mexican Hass Avocado imports began. This means that it's likely that even with the addition of 12 states, the number of boxes imported annually would still fall within the range of the estimates in the 1995 risk assessment.

P-1 is the probability that avocados in export groves in Mexico would be infested with one of the four target pest groups. The addition of states to the approved list for U.S. distribution would have no impact on whether avocados from Mexican groves are infested. Winter shipping would have little impact on the level of

infestation by either the weevils or the seed moth, but it does reduce the probability that avocados would be infested by fruit flies. The majority of this reduction is due to the lower level of activity of adult fruit flies during the colder winter months in Mexico.

The question then becomes: Does extending the shipping season to include March and April mean that avocados would be shipped from orchards with high rates of fruit fly activity? Trapping data collected in Mexican orchards, as part of the current import program, indicates that this isn't the case. In four years of trapping, only five fruit flies have been trapped during the months of March and April; all of those captures occurred in a single Mexican municipality during a single shipping season.

Our inspection data also indicate that the estimates for P-1 in the 1995 assessment were sound. No target pest finds in nearly 3-1/2 million boxes shipped falls well within the range estimated for fruit flies and is actually better than the estimate that we had in the 1995 assessment for the weevils and the seed moth. Each of these nodes is a probability that is unaffected by either expanding the distribution area or extending the shipping season.

P-2 depends on the success rate of inspections

in the field and at the packinghouse which in turn depends on factors such as the skill of the inspectors and the level of scrutiny. While this node wouldn't be affected by the proposed expansion, it is worth noting that in over 5 million fruit cut there have been no target pest finds.

P-3 is the pest mortality rate during shipping which is a function of the pest biology and again would not be impacted by the proposed expansion.

P-4, like P-2, depends on such factors as the level of skill of the inspectors and the level of scrutiny of inspection. This time we're talking about inspections at the port of entry rather than in the field and at the packinghouse, and again it's worth noting that there have been no finds in over 65,000 fruit cut at the port of entry.

Finally, P-6 is the probability that a pest in an infested fruit that reaches a suitable habitat can cause an outbreak. P-6 is based on historical data that we have for the frequency of fruit fly outbreaks in the United States. It's a probability that's derived from characteristics of the pest and again would not be impacted by the proposed expansion.

P-5 perhaps had the greatest potential for being impacted by the proposed changes in the import program. This is the estimate for the chance that fruit

would be transported to a suitable habitat. Suitable habitat can be defined by two primary characteristics: available hosts and favorable climate. Avocado is essentially the only host for the weevils and the preferred host for the seed moth, and like in the currently approved states, neither avocado nor the alternate host for the seed moth are grown, so even in the unlikely event that those pests would find their way to the proposed states, they would not find suitable host material.

For fruit flies, we referred to a recent study done by a sub-group from the North American Plant Protection Organization, or NAPPO's pest risk analysis panel headed by Dr. Ronaldo Secada. This study predicted areas of the United States susceptible for the establishment of a Anastrepha fruit flies. Using climate and host availability data, as well as a knowledge of pest biology, the study focuses on the likelihood that these fruit flies could become established in the United States with particular reference to the importation of Mexican Hass avocados. The document is part of a broader joint study by Mexico, Canada, and the United States to assess the establishment likelihood of Anastrepha fruit flies in all of North America.

Data in the study indicate that in the proposed

states susceptible fruit fly host material would not be available for more than six months out of the year and that winter temperatures would be too cold for fruit fly establishment. As this map from the study summarizes, all of the states proposed for expanded distribution fall within the area at low risk for fruit fly establishment. The map is based on a combination of fruit fly temperature requirements, host availability, and generation potential.

Now, while the states that are proposed to be added to the approved list may not provide a suitable habitat for pest establishment, it is possible that fruit could be transported outside the approved area. This could be the result either of inadvertent movement or intentional smuggling. The 1995 risk assessment estimated that between one-half and 5 percent of the imported Mexican Hass avocados would be transported to a suitable habitat.

According to interception data, during the first two years of the import program, the percentage of fruit found outside the approved area was well below the minimum estimate of the 1995 risk assessment. In the second two years of the program, after a more strenuous compliance program was adopted, the percentages of fruit found outside the approved area dropped to levels between 100- and 1,000-fold less than the estimates of the 1995

risk assessment.

Even if one assumed that not all the diverted fruit was intercepted, the estimates in the 1995 risk assessment are at the very least reasonable, and more likely over-estimate the chance of fruit being transported to a suitable habitat. Also, I should mention that all of the fruit that was seized outside of the approved area and inspected was found free of quarantine pests.

I've tried to keep my comments brief so as not to take anything away from your opportunity to make comments -- that's why we're here. I understand risk and risk assessment are complex topics but I hope that I've given you at least some idea of our reasons for determining that the evidence, assumptions and conclusions of the 1995 plant pest risk assessment for the importation of Mexican Hass avocados into the United States remain valid and that a new risk assessment is not necessary even if the proposed changes are adopted.

Thank you for your attention.

MS. JONES: I have a list here of speakers who registered in order of coming in this morning, and I'll ask Mr. Carlos Illsley of the Mexican Association of Packers and Growers of Michoacan.

MR. ILLSLEY: Thank you and good morning. My name is Carlos Illsley, I-L-L-S-L-E-Y, and I represent

APEAM, which is the Mexican Avocado Growers and Exporters Association.

Comments of APEAM on the APHIS proposal to expand the market access for Hass Avocados produced in Michoacan. On July 13, 2001, the Animal and Plant Health Inspection Service, APHIS, published a proposed rule in the Federal Register proposing that the market access should be expanded for Mexican Avocados to 12 additional states: Minnesota, Iowa, Nebraska, Missouri, North Dakota, South Dakota, Kansas, Montana, Wyoming, Colorado, Idaho, and Utah; and two additional months: March and April.

Comments on this proposed rule are due by September 11, 2001. The docket number is 00-003-2. This document provides the comments for the Asociacion de Productores y Empacadores de Aguacate de Michoacan A.C., APEAM. APEAM is an association of all the Hass avocado producers and packers in Michoacan, Mexico who export avocados to the United States. APEAM fully supports expansion of the market access for the proposed 12 additional states of the United States and for the two additional months and asks APHIS to complete the current rule in order for the exporters and importers to take advantage of this expanded market access during the upcoming shipping season.

In support of the finalization of the proposed rule, APEAM offers the following comments. Mexico is the largest producer and exporter of Hass avocados in the world. The principal markets for exports currently are Japan, Central American, United States, Canada, and the European Union. The Foreign Agricultural Service, FAS, of USDA has estimated that production and exports in metric tons of Mexican avocados have been as follows: production for 1998, 762,000 tons, exports 38,571; for 1999, 876,623 for total production and exports 22,415; for the year 2000 production was 650,000 and exports were 35,000.

From 1914 to 1997, Mexican avocados were prohibited from entering the United States by the United States Department of Agriculture due to concerns about host-specific avocado pests not known to occur in the United States and the view that the commercially-produced Mexican Hass avocado was an Anastrepha fruit fly host. Since 1997 imports of Mexican avocados have been permitted into Alaska during the 12 months of the year and to the 19 northeastern states: Connecticut, Delaware, Illinois, Indiana, Kentucky, Maine, Maryland, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, Vermont, Virginia, West Virginia and Wisconsin; and the District of Columbia during the four months of winter, November through

February.

These imports have been allowed under a systems approach that incorporates a significant number of safeguards in the orchards and packing houses in Mexico. Field surveys for stem and seed weevils and fruit flies have been performed by APHIS officials in Mexico, including visual inspection, fruit cutting, and branch shaking at the appropriate times during the growing season to determine the presence or absence of pests.

Orchards are pre-certified by SAGARPA, the Government of Mexico's Department of Agriculture, and Sanidad Vegetal, Mexico's National Plant Protection Organization, and then registered and certified by APHIS as free from quarantine pests.

APHIS also performs trapping and field bait treatments for fruit flies in the Mexican avocado orchards and surrounding communities. Anastrepha ludens, striata and serpentina fruit flies have been captured in very small quantities in orchards in field trappings using McPhail traps which prove the very low incidence of fruit flies in growing areas in Michoacan.

For instance, in Uruapan, the capital of the Mexican avocado industry, the trapping data indicates that in 1999-2000 only 21 fruit flies were captured in servicing 14,352 traps for a minuscule rate of 0.00002

flies per trap per day. No fruit flies were captured in Uruapan in 1998-99. This very small risk of the possible transmission of fruit flies is overcome by other aspects of the systems approach undertaken in Mexico.

Mexico has exported 2,152 shipments to the United States totaling almost 38 million kilos. Upon arrival at the border, an additional 64,560 avocados have been cut open and examined by APHIS inspectors and no targeted quarantine pests have been identified in any of these shipments. APHIS regulations require that second and third-party handlers of imported Mexican avocados sign a compliance agreement in order to legally purchase and distribute the fruit.

Prior to allowing the importation of Mexican avocados in 1997, APHIS developed a risk assessment that examined the plant pest risk associated with this action. Among the other data, the overall risk analysis focused on an analysis of proposed risk mitigation program as reported in Risk Management Analysis: A Systems Approach for Mexican Avocados (APHIS, 1995).

When this risk management analysis and subsequent risk assessments were developed, there were a number of unknowns regarding the phytosanitary risks posed by the proposed imports. The importation of avocado fruit from Mexico was seen as a potential pathway for the

introduction of plant pests. This unknown risk and the fear of potential negative economic to the U.S. growers by the importation of exotic pests associated with the avocado imports from Mexico resulted in the development of one of the most restrictive phytosanitary regulations APHIS has ever published. Thus, the temporal and geographic restrictions were not shown to be strictly necessary by scientific evidence but were more a reflection of the fear of the unknown.

The systems approach outlined in 7 CFR 319.56-2(ff) is a complicated series of risk mitigation measures that when linked together forms what APHIS views as an effective barrier against the importation of quarantine pests. In order to attain market access, the Mexican growers and packers have accepted this overly-restrictive regulation. However, as more data becomes apparent and delays to expansion continue, scientists and government officials from around the world are beginning to view these import requirements as protectionist trade barriers designed to mitigate an exaggerated risk.

The most contentious components of the system are the limited season and distribution restrictions. The Mexican Has avocado is considered by APHIS to be a possible non-host (Miller, et al., 1995, page 11) for the Anastrepha fruit flies that occur in the growing areas of

Michoacan. However, Mexican avocados can only be shipped to the U.S. during the time when the fruit fly population levels are almost non-existent in the growing areas and only to an area of the United States where fruit flies cannot become established.

The geographic distribution and the limited season components of the system is based mainly on the perception that if fruit flies of the genus Anastrepha accompany shipments of the Hass avocados into the Unites States, they will not be able to survive the colder climates of the northeast (Miller , et al., 1995, page 13 and 15).

As an additional mitigation, fruit fly trapping in the growing areas is also required to ensure fruit fly population densities remain low. If two or more flies are discovered within a 30-day time frame, Malathion bait treatments must be applied in the affected orchard in order to remain eligible to ship. Other mitigations for fruit flies include field sanitation, safeguarding fruit after harvest, and most importantly, host resistance.

However, fruit fly infestation of the Hass avocado is not known to occur under normal growing conditions and no historical evidence exists that these pests attach Hass avocado in nature (Miller, et al., 1995, page 12). APHIS has not only accepted that the Hass

avocado is a poor host for this genus, but also acknowledges the possibility that this fruit is not a host to these pests (Miller, et al., 1995, page 11). There is also no precise scientific evidence that the status of Anastrepha as a pest of Persea americana cultivar Hass -- the Hass avocado. The evidence is mainly anecdotal and the exact species and variety of Persea were not specified in many past arguments of the subject (Aluja, 1999).

Moreover, the high altitudes, cooler climates, and lack of suitable host material in Michoacan is not favorable for Anastrepha fruit flies. A combination of poor to inadequate hosts with marginal development conditions leads to low field densities, especially when associated with the much less preferred avocado crop, Hass cultivar (Sequeira, et al., 2001).

APHIS continues to question the fruit fly host status of the commercially produced Mexican Hass avocado to the fruit flies that occur in the growing areas of Michoacan. In 1995 APHIS justified the season and distribution limitations based on a perceived fruit fly risk; however, four years of import data show that there's demonstrable risk of transmitting fruit flies and strongly suggest that expansion of this season and distribution area should be implemented.

As part of the export program, APHIS, SAGARPA

and the Comte Estatal have cut and inspected over 6 million fruit in the orchards and packing houses without finding any of the quarantine pests listed in the APHIS risk analysis. Prior to the exportation of avocados to the United States, SAGARPA and APHIS inspectors examined 2,152 shipments totaling almost 38 million kilos without finding any quarantine pests.

Upon arrival at the border, every shipment was inspected again by APHIS and an additional 30 fruit per shipment are cut open and inspected. Np quarantine pests have been identified in any of these border inspections. The evidence is overwhelming that the Hass avocados imported from Mexico pose no risk of transmitting fruit flies and an extremely low risk of harboring any other quarantine pests.

The California Avocado Commission has said that there should be a peer review of APHIS decisions on phytosanitary issues. In fact, APHIS has conducted end-of-the-year program reviews with the participation of the California Avocado Commission and APHIS and has incorporated the California Avocado Commission recommendations into the phytosanitary work plan for the systems approach. Prior to the initiation of the Hass avocado program, the California Avocado Commission conducted a review and concluded: "the export program is

operating well, with involvement by individuals who are both professional and dedicated." (D. Scott Campbell, 1997)

The study concluded as follows:

"APHIS has sufficient staff to complete the survey, the supervise activity at the packing sheds, and to conduct spot checks of orchard conditions during the harvest. They are well trained and demonstrate a good knowledge of their work area and the work plan.

"SAGAR has provided sufficient qualified personnel to conduct surveys, to maintain trap lines, and to oversee the harvest and transportation of avocados from the field to the packing shed.

"There is a serious enforcement effort taking place to make certain that the requirements of the regulations and the work plan are met. This includes activities by producers, the SAGAR representatives, and APHIS officials.

"There is evidence that surveys are being conducted in both commercial (approved) groves as well as in surrounding areas. Evidence of fruit cutting was noted in the areas which had already been completed by the survey teams (brigades). This was true in both enrolled orchards and adjacent areas.

"While some groves will need some serious

attention by the producers in terms of cleanup, for the most part they are well maintained. Any problem areas noted during the review were discussed between SAGAR and producers or producers' representatives who accompanied us through the orchards. In more than one instance, SAGAR reminded the producer that branches and fallen fruit would have the same effect as an insect being found -- for example, the orchard would be rejected.

"Field observations and the attitudes of the people involved in the program in Mexico confirm that there is little risk of insect infestations from the groves involved in this program."

Experience has shown that the California Avocado Commission assessment in 1997 was correct. The California Avocado Commission has offered nothing to undermine the findings its expert analyst made at the beginning of the program.

Regarding safeguarding and distribution of the fruit after arrival, Mexican avocados are treated like no other commodity listed in APHIS fruit and vegetable regulation. There are a number of commodities listed in 7 CFR 319.56 that are enterable for distribution into only certain areas of the United States due to phytosanitary concerns, however, the Administrative Instructions governing the entry of Mexican Hass avocados is the only

APHIS regulation that requires that second- and third-party handlers receive a compliance agreement in order to legally purchase and distribute the fruit.

Also, this aspect of the regulation is not considered in this rule-making and need not be addressed at this time. There should be no need to delay this rule-making process any further in order to ramp up for additional imports of a singular commodity with a limited shipping season. However, this process could be aided by adjusting the marking requirements for shipment to the United States to require listing the states that are prohibited rather than the permitted states.

Additionally, APHIS Smuggling Interdiction and Compliance unit has developed a nationwide infrastructure of plant protection and quarantine compliance officers who spend the majority of their time ensuring that these compliance requirements are adhered to and inspecting markets outside the approved distribution area to ensure that the program fruit is not leaking into other markets within the United States. Increasing the geographic distribution area within the United States will allow these inspectors to concentrate their efforts on a much smaller portion of the country, making their inspection process much more efficient.

Free trade between Mexico and the United States

is good for the U.S. economy, yet special interest groups with protectionist views continue to blame the North American Free Trade Agreement for loss of American jobs. However, the Christian Science Monitor reports that the U.S. economy has boomed since January 1994 when NAFTA went into effect. Exports to Mexico are up 170 percent, three times the overall export increase, and the U.S. unemployment rate remains down by a third even as the economy slows.

The Monitor goes on to explain that even though some jobs have moved south of the border, analysts estimate that at least 100,000, on net, have been created. Moreover, even when companies have moved, they have remained closely tied to U.S. suppliers and this increase in jobs and higher wages will reduce the pressure for illegal immigration to the United States.

Some Americans forget that trade is a two-way street but the evidence is clear that NAFTA generally lowered trade barriers both ways. Protectionism, however, drives up consumer costs and stifles innovation.

The past seven years of economic prosperity in both Mexico and the United States proves that the fee market economic concept of the NAFTA has been a success.

California avocado growers have also benefitted from the NAFTA. According to Charley Wolk, chairman of

the California Avocado Commission: "California's 1999-2000 avocado crop returned a record $339 million to the state's 5,500 growers, the highest farmgate value ever. The ten-year industry value from 1991 to 2000 increased $1 billion over the 1981-1990 total."

And Lecil E. Cole, chairman, president and CEO of Calavo Growers of California has said, "We are pleased to report Calavo's most profitable year in our 77-year history. Our outstanding achievement is attributable to Calavo's increase in share-of-market of both domestic and imported avocados and a highly successful year in our processed division." In addition, roughly 80 percent of Mexican avocados are imported by California packers.

In conclusion, although we believe there is scientific justification to support a much broader expansion of market access, we commend APHIS for taking this step forward and support finalizing the regulation as it is written. The scientific principles used to support the market limitations in 1997 also support this limited expansion effort.

Thank you very much.

MS. JONES: Next -- and this is a change in the order -- Dr. Martin Aluja from the Instituto de Ecologia.

DR. ALUJA: Good morning, everybody. My name is Martin Aluja, A-L-U-J-A, and I'm not going to read the

excerpt of my CV which is in my written statement, if that's okay.

My goal here today, as was the case during the public hearings held in Washington in 1995, is to try to clarify a series of misconceptions about Anastrepha biology, ecology and behavior. Further, I would like to attempt to straighten the record with respect to many unsubstantiated claims related to the status of Persea americana cultivar Hass -- and I underline cultivar Hass -- as a host of fruit flies in the genus Anastrepha.

I would like to underline the fact that I speak as an independent scientist, that I'm not being paid to be here -- my travel costs have been paid by the Mexican Ministry of Agriculture -- and that I do not represent any interest group. I'm here to try to contribute to the process of steering arguments on allowing Mexican Hass avocados to enter the United States away from the political arena. I strongly believe that discussions have to be based only on solid scientific and technical criteria.

As I view the problem, there are valid economic concerns by the U.S. California avocado growers who are trying to defend their industry from foreign competitors. That is their right. But in doing so, economic arguments are being mixed with unsubstantiated, in many cases

irresponsible, accusations related to the hypothetical scenario of Mexican Hass avocados, Persea americana cultivar Hass, possibly being infested with larvae of several species of Anastrepha fruit flies, and therefore, representing a threat to California agriculture.

As a scientist, I have the duty to contribute all the available facts so that at the end a decision, backed by solid scientific evidence, can be reached. I thus make a plea to separate out economic and political arguments from technical ones. Each one has their arena and their rules. For the record, I assume to be stepping into a scientific arena and the rules by which I have to abide are very simple: honor the strict code of ethics that governs any scientific endeavor. So I will do today.

I note that I will read only parts of my written statement, and a complete copy of which I will submit at the end of my presentation.

General framework. The status of avocados as a potential host plant of Anastrepha fruit flies has been repeatedly raised during this hearing and elsewhere. Before dwelling on this core issue, let me address three aspects which will play a critical role in my overall argumentation.

First I would like to set the record straight with respect to what we understand as "avocados." Second,

and most importantly, I believe that the only acceptable ground rule for the type of discussion that brings us all together here is to strictly circumscribe that Persea americana cultivar Hass. Nothing else is, in my opinion, relevant to the issue we are trying to solve. Third, and related to the latter, we need to consider the following: when did the first Hass avocado grafts arrive in Michoacan, Mexico and when did the grafted trees start to bear fruit?

There are many wild and cultivated plants called "avocados" and a number of quote-unquote cultivars. The genus Persea, family Lauraceae, is divided into two subgenera: Persea and Eriodaphne. It is currently believed that the subgenus Persea originated in southern Mexico and Central America. Within Persea americana, three horticultural varieties, cultivars, have been identified: West Indian, Guatemalan, and Mexican.

Literature records indicate that there are more than 50 species of Persea. To complicate matters, according to Lahav and Gazit, there are around 500 Persea americana cultivars. I believe my point is clear, when dealing with "avocados" it is of utmost importance to always specify exactly which of the many species and cultivars we are referring to. For the record, I thus respectfully ask that when mentioning "avocados" as

potential Anastrepha hosts, it always be clearly stated what the avocado species and cultivar are, and most importantly, what the published, independently refereed evidence for this claim is.

As stated before, the only species and cultivar that pertains to the arguments here today is Persea americana cultivar Hass because this is the cultivar that Mexico is trying to export to the U.S.

When did the first Persea americana cultivar Hass grafts arrive in Michoacan, Mexico and when did the grafted trees start to bear fruit? According to Gallardo, (1987), the first attempts to graft Persea americana trees with a Hass cultivar were made sometime between 1953 and 1957. Based on this, it could have not been until 1960 to '65 that the first Hass avocados were harvested in Michoacan.

Second, status of Persea americana cultivar Hass as a potential host plant of Anastrepha fruit flies. There are a series of published reports on flies in the genus Anastrepha supposedly infesting "avocados". While a few are formal, independently refereed publications, most are internal reports, book chapters in published meeting proceedings, or very old informal reports, miscellaneous publications, leafletters, or internal documents. All of them are listed in Norrbom (2000) which I cite in this

document.

For the record, none -- and I underline none -- of these reports mention Persea americana cultivar Hass, and with two notable exceptions, Bush (1957) and Uchoa & Zucchi (2000), the firsthand "information" provided on "avocado" infestations is, in my opinion, anecdotal or questionable from a scientific point of view. And I provide further details on these statements here.

All the other publications citing "avocados" as hosts of the Anastrepha fruit flies do not provide empirical evidence, but rather rely on highly questionable reports or anecdotal assertions that are used as sole evidence for their claim. And for the record, I cite every single publication that mentions infestations of fruit flies in "avocados" in this statement that I submit to you.

In my opinion, it is irresponsible to perpetuate such unsubstantiated claims and anecdotes by constantly referring to them as evidence for the status of "avocados" as Anastrepha host plants. For example, Baker (1944) states on page 16 of their publication: "There remains the possibility of existence of other native hosts and every effort is being made to discover any" ... "It should be mentioned also that infested avocados have been found by United States border inspectors." I ask if this

is scientific evidence.

In addition, da Costa Lima (1934, pp. 547-548) and Blanchard in Argentina (1961, p. 318) say, respectively -- and I translate: According to published observations, Anastrepha fraterculus breeds in the following fruits: avocado (Persea americana) and other plants they cite there. The complete citation is here. Blanchard says: "According to published observations, the larvae live inside the fruit of the following plants: Achras zapota...Persea americana..." and many other plants which I cite here.

None of these authors cite the source of published "observations" they refer to and none provide the name of the expert plant taxonomist who identified Persea americana listed in their publication. I am deeply troubled by the fact that all these anecdotes have been widely used as "evidence" of infestations in "avocados". As a result, a myth was slowly created that has been very difficult to dispel.

In what follows I will first review what I consider the only substantiated field records of Anastrepha infestation in Persea americana. I will then review work carried out under highly artificial conditions also showing larval development in this fruit.

Purported field records of Anastrepha

infestation in Persea americana. During 1956, Guy L. Bush, a renowned U.S. scholar, sampled native avocados in 15 Mexican states with the goal of ascertaining the susceptibility of "avocados" to the Mexican fruit fly Anastrepha ludens. It is not clear from Bush's work (1957) exactly what species or cultivar of Persea was sampled and if flies that emerged from "avocados" were properly identified.

Since as noted before, up to 20 species of Persea have been identified in Mexico, and Bush (1957) does not use the words "Persea americana" one single time in the entire paper, what he describes as "avocado" could be any of the 20 species reported for the country. Importantly, based on the fact that grafts of Persea americana cultivar Hass were first introduced to Mexico between the mid '50s and early '60s, during the last century, none of the "avocados" sampled by Bush (1957) could have stemmed from either Hass avocado trees or Hass avocado commercial orchards. And I cite further details about Bush citing exactly page by page what he provides as supposed evidence.

The only other publication I can find with a formal determination of Anastrepha field infestation in Persea americana is Uchoa & Zucchi (2000). These authors, working in Mato Grosso, Brazil, report that out of 50

Persea americana fruit sampled -- no cultivar mentioned -- weighing each on average 17 grams, they recovered 120 adult flies. Of these, 82.5 were Otitids, 16.7 belonging to the genus Neosilba and .8 percent -- that is one specimen -- was Anastrepha striata.

From the latter, the following can be inferred: 1) fruits were very small and therefore most likely stemmed from wild Persea trees growing in native forests; 2) given the fact that Brazil harbors the second largest numbers of Persea species in the American Continent and that Uchoa and Zucchi do not acknowledge the expert plant taxonomist that identified the plant they reported as Persea americana, one can speculate that the host they are reporting could have been any of the 18 Persea species reported for the country and not necessarily Persea americana; 3) given that the infestation of Anastrepha striata was virtually nil -- only one of all recovered -- it can be argued that fruit in the genus Persea are resistant to attach by flies of the genus Anastrepha. And I will elaborate on that argument later.

Other refereed publications mentioning Anastrepha field infestations in "avocados" are, in my opinion, marred with flaws and should, therefore, not be used as evidence of the host status of Persea americana cultivar Hass to flies of the genus Anastrepha. Only one

mentions the name of an affiliation of an expert plant taxonomist identifying the Persea species (Eskafi & Cunningham); none mention the cultivar -- assuming that some authors were dealing with a commercial tree; only one (Jiron & Hedstrom) indicates if trees were growing in wild forests, backyards or commercial orchards; and the oldest one, Rust (1918), is so anecdotal that it cannot be considered a serious source of information.

For example, this author, the "evidence" he cites on the status of Persea americana as a host of Anastrepha fraterculus is -- and I quote from page 462, Host Fruits of Anastrepha fraterculus: "To the foregoing (he previously lists 14 fruit species) an be added the following fruits which the writer knows to be infested in northern Argentina: strawberry, guava, avocado (Persea americana) ..." I don't believe this is scientific evidence.

Malavasi and Eskafi & Cunningham mention infestations by Anastrepha in Persea americana but both fall short of identifying the species involved. Jiron & Hedstrom, even though mentioning infestations of Anastrepha striata in Persea americana, do so in an anecdotal fashion. Their formal list of sample plants that prove to be infested (Table 1, p. 66-67) does not include Persea americana. These authors say, and I quote:

"A. striata infests P. guajava year round, however, population dynamics depend on the geographic area. Recently we found in Guapiles, Province of Limon (tropical wet forest) A. striata survives year round in secondary hosts, among them Persea americana."

I believe that certainly this anecdote, unaccompanied by hard facts -- for example, number of larvae per fruit, no reference to the expert plant taxonomist who identified the purported Persea americana tree -- cannot be used as serious evidence in a matter as complicated as the one that brings us all together. I go on reviewing all the other records which I submit in writing to you.

In summary, and based on all the above, I can categorically state that there is no refereed scientific publication or any other type of publication that describes infestations under natural conditions by any Anastrepha species in Persea americana cultivar Hass. Further, most (only two exceptions) publications listing or mentioning Persea americana, independent of cultivar, as a host of flies in the genus Anastrepha, are anecdotal, marred with technical flaws, or simply not credible.

Laboratory records of Anastrepha infestation in Persea americana. Another early reference by two honorable U.S. scientists, Messenger & Flitters, also

deals with potential infestations by A. ludens to "avocados". These authors, citing work by Harper (1955), indicate that in laboratory tests aimed at ascertaining the susceptibility of several avocado varieties grown in California to infestation by the Mexican fruit fly, cultivars Anaheim and Hass proved uninfested while Nabal, Ryan, Fuerte, Zutano, Puebla and several other unnamed ones, ended up being infested under the highly artificial conditions under which the study was carried out.

A more recent publication, Hennessey (1966), describes work aimed at ascertaining the relative resistance of 29 Persea americana cultivars to the Carribean fruit fly, Anastrepha suspensa. Given that the cultivar Hass was not included in the study, this paper also fails to shed light into the critical question being asked here: Do fruit flies of the genus Anastrepha use Persea americana cultivar Hass as hosts in nature?

The only serious effort at determining the status of Hass avocados to Anastrepha fruit flies was published by Enkerlin, et al. (1993) in a Mexican scientific refereed journal. Under semi-natural conditions -- that is bagged branches bearing fruit hanging naturally from twigs -- this study demonstrated that Anastrepha ludens, Anastrepha serpentina and Anastrepha striata were unable to infest fruit of Persea

americana cultivar Hass.

However, the same study also documented that very ripe of Hass cultivar could be artificially infested if the fruits were exposed to high density laboratory-reared populations in small cages, 3, 24, 48, 72, 965 and 120 hours after the fruit was picked, only if the percentage of dry matter in the fruit was 20 percent. However, this report cannot, in my opinion, be used as evidence that Persea americana cultivar Hass is a natural host plant of these three Anastrepha species. It only demonstrates that pulp from mature Hass avocados allowed larvae of certain species of Anastrepha to develop, a result that is not surprising considering the great nutritional value of this pulp.

Based on all the above, two qu3estionst hat continue to linger in the air are: 1) Do wild females of the genus Anastrepha oviposit in "commercially mature" fruits of Persea americana cultivar Hass under completely natural conditions -- that is wild gravid females lingering in a Hass avocado commercial orchard? and 2) Are commercially mature fruits of Persea americana cultivar Hass attractive to wild females of the genus Anastrepha that fly into commercial orchards of Persea americana cultivar Hass -- that is, dot he volatile chemicals and color attributes (hue, saturation, or intensity) of these

fruits generate a positive olfactory or visual response among gravid females?

Based on the fact that historically there is not a single scientific or anecdotal record of a fruit of Persea americana cultivar Hass being infested with Anastrepha larvae under field conditions, the answer question 1 is that either females lay their eggs into fruit and these are unable to develop (see below), or that they do not lay any eggs into fruit of Persea americana cultivar Hass under field conditions. As mentioned before, they can do so under forced laboratory conditions. The answer to question 2 is that we simply cannot answer it because, as will be discussed later, no studies have been performed along these lines.

Now, are fruits in the genus Persea resistant to the attack by fruit flies? Based on the fact that records of field infestations of fruit in the genus Persea are so rare (reviewed above) and also based on the fact that flies in the genus Anastrepha have had the opportunity to co-evolve for millions of years with ancestors of currently found avocados, I ask why is it even that wild avocados are not commonly infested by this group of fruit flies.

The answer to this question is, at least from my perspective, that fruits in the genus Persea are

totally or partially resistant to fruit fly attack. In the past, I believed that a probable mechanism for this resistance was mechanical -- that is, females were unable to insert their aculeus through the tough skin of certain avocado cultivars. However, I now know that the latter is not true. Based on Enkerlin, et al. (1993) and personal observations by Francisco Diaz-Fleischer, a graduate student of mine, Anastrepha ludens females can indeed pierce through the skin of fruit and deposit their eggs in the pulp.

So if female flies in the genus Anastrepha are indeed able to pierce through the epicarp of thick-skilled Persea americana cultivars, and if under certain artificial conditions (Enkerlin 1993) eggs are able to eclose and larvae to develop in the pulp, why are infestations so rare in nature? Surely there must be some other kind of resistance.

Studies with other fruit fly genera, Bactrocera and Ceratitis, clearly show that if eggs are laid into unripe Persea americana fruit, a hard callus of tissue forms around the eggs that inhibits further development. For example, in the case of the Queensland fruit fly, Bactrocera tryoni, infesting Persea americana cultivar Fuerte, Smith (1973, pp. 648-649) reports: "The intrusion of the egg mass combined with the continuing growth of the

tissue results in a star or T-shaped split 3 to 7 mm across, often with raised edges. Sectioning of the fruit reveals a discolored pocket of tissue formerly containing the egg mass surrounded by a brown corky layer."

Exactly the same phenomenon was described by Armstrong (1993) working with Bactrocera dorsalis, Bactrocera cucurbitaie and Ceratitis capitata, artificially infesting Persea americana cultivar Sharwil, and by Enkerlin, working with Anastrepha ludens, Anastrepha serpentina and Anastrepha striata, artificially infesting Persea americana cultivar Hass.

Based on the above, and on Willard (1929) working with Ceratitis Capitata and 23 Persea americana cultivars in Hawaii, reported that females can routinely penetrate the epicarp (skin) of fruit, several conclusions can be reached:

First, that the tough skin of many unripe Persea americana cultivars represents no insurmountable barrier in the genera Anastrepha, Ceratitis and Bactrocera. Females can in all cases penetrate the epicarp with their aculeii.

Second, once the eggs are placed inside the fruit, a callus of hardened tissue is formed that either kills the eggs or first instar larvae.

Third, the latter defensive mechanism breaks

down if fruit are removed from the tree. The longer the period after harvesting, the more likely egg eclosion and larval development will occur.

And I provide further details which I won't read.

The aspects of Anastrepha biology, ecology and behavior relevant to the issue of the potential host status of fruit flies in the genus Persea and particularly commercially grown Persea americana cultivar Hass.

3.1 Why are adults of certain species of Anastrepha captured in commercial orchards of Persea americana cultivar Hass in Michoacan? I will first refer to monocultures, that is, an orchard with 100 percent Persea americana trees, and then to polycultures.

In my opinion, the presence of these flies in Persea americana cultivar Hass orchards can be explained as follows. Adult flies are: seeking refuge from the elements -- a well-managed avocado orchards generates a benevolent microclimate for insects; searching for food, for example, bird excrement; or being transported into the orchard by wind. Notwithstanding, the reason for their presence would certainly be other than the search for an oviposition substrate. For this to be the case, one would need to prove that Anastrepha adults recognize and are attracted to the volatiles emanating from ripening Hass

avocados. Such evidence is nowhere to be found.

Furthermore, based on Aluja, et al. (1996) and recent personal observations by myself, Diaz-Fleischer, Arredondo and Bernabe, that aren't published yet, trap capture collected in Persea americana orchards in Tancitaro, Uruapan and Ziracuaeretiro, Michoacan, Mexico from June 2001 to date, flies that are captured in commercial Hass avocado orchards either enter these orchards from the periphery, almost all flies are captured in traps placed in orchard borders, or stem from host fruit, for example, Citrus sinensis, Mangifera indica, Psidium guajava growing inside the orchard, and I will elaborate on that further.

Such a phenomenon has been clearly documented in the case of the papaya fruit fly by myself and my colleagues. For example, an on-site inspection of Huerto "El Nurite" in Tancitaro, 2000 meters above sea level, and Huerto "San Rafael", 1320 meters above sea level, revealed abundant patches of Crataegus bushes and citrus trees in "El Nurite" and Spondias mombin, Psidium guajava and Passiflora would be in backyard gardens or areas with perturbed and unperturbed native vegetation adjacent to the orchards. These patches are the most likely source of adults captured in border rows and internal parts of the above-mentioned Hass avocado orchards.

Based on the above, I can state that Anastrepha, Rhagoletis or Toxotrypana adults found in monocrop commercial Hass avocado orchards do not breed there.

Polycultures, that is an orchard with Persea americana trees interplanted with Anastrepha, Rhagoletis or Toxotrypana hosts such as Citrus Sinensis, mango, guava, and other host plants. As stated above, if a Persea americana cultivar Hass contains Anastrepha, Rhagoletis, or Toxotrypana host plants, it is very likely that adults stemming from larvae developing in such hosts will be captures in McPhail traps placed inside Hass avocado trees. Further, adult flies will likely remain in the orchards and feed or seek refuge from the elements in Hass avocado trees, but such presence has absolutely nothing to do with a direct host-use relationship between the adult female and the massive numbers of Hass avocado fruit hanging from the trees.

So to jump to the conclusion, as people such as Dr. Joseph Morse, Center of Exotic Pest Research, and others have repeatedly done that this means that Anastrepha flies found in commercial Hass avocado orchards pose a threat to the Hass avocados being produced and harvested there is simply irresponsible. As I have done before, I ask where is the hard, irrefutable evidence for

such claims?

3.2 A brief note on Anastrepha oogenesis and oviposition behavior. There are two aspects of Anastrepha oviposition behavior and oogenesis critical to the argument against Persea americana cultivar Hass being considered a host of this group of tephritid flies. One has to do with the recognition of the fruit as a viable host; the other one has to do with a declining selectivity associated with egg load.

As described by Dias-Fleischer (2000) after arrival at a prospective oviposition site, fruit flies use a variety of cues to determine whether the site is acceptable for oviposition. Stimuli include chemicals in surface waxes, various exterior physical characteristics such as shape, size and color, and the chemical composition and physical structure of the interior.

Based on this, would a gravid Anastrepha female, landing by chance in a Persea americana cultivar Hass tree bearing ripening or ripe fruit, recognize the fruit as an acceptable host, I ask. Considering the likely difference in surface chemistry of, for example, Sargentia Greggii or Casimiroa edulis, two native hosts of Anastrepha ludens, or Citrus sinensis, an introduced host of the same fly species, the latter is highly unlikely. But if this is the case, why then did Enkerlin, et al.

find that Anastrepha ludens -- to mention one species they studied -- did indeed lay eggs into commercially ripe Hass avocados? The answer is, at least in my opinion, egg load.

As shown by Minkenberg (1992) egg load is a major source of variability in insect foraging in oviposition behavior. Further, as recently shown by Aluja (2001), Anastrepha ludens females accumulate eggs in their ovaries once oogenesis has begun and if deprived of hosts will not reabsorb them. That is, eggs will accumulate as time goes on. In this respect, Fitt (1986) clearly showed that in generalist fruit fly species, egg accumulation is accompanied by a decline in host selectivity. In the end, a female fruit fly will accept almost any substrate to lay her eggs

Those of us who have worked with flies for many years can attest to the fact that a host-deprived female fruit fly will end up laying eggs into the wooden frames of cages, plastic wrap, or any other hard surfaces, but these are extreme conditions. In nature, what typically occurs is that a sexually mature female that does not find a suitable oviposition substrate moves away from an unsuitable patch and flies to another patch, and I cite Aluja & Prokopy 1992. This is what I predict would happen if an Anastrepha ludens female ends up landing in a Hass

avocado orchards and does not find any suitable host fruit; it would eventually move out of the orchard.

Furthermore, anybody arguing that, for example, Anastrepha ludens has expanded its host range and not attacks Persea americana cultivar Hass, she or he would have to prove, among many other things, that he physical and chemical cues of Hass avocados resemble the cues of native hosts. As noted before, first, there is absolutely no evidence in the literature that natural infestations of Anastrepha ludens in Persea americana cultivar Hass have occurred. Secondly, nobody, as far as I know, has studied the chemical composition of native Anastrepha ludens hosts with respect to oviposition stimulus and compared them to Persea americana cultivar Hass.

To finish, I will review briefly the pest status of flies in the genus Anastrepha. Based on my personal experience, and also based on a thorough revision of most published studies on Anastrepha since 1900, I contend that there is no scientific basis to the claim that Anastrepha is a pest -- and I underline the word pest -- of commercially grown Persea americana cultivar Hass or any other Persea americana cultivar.

Recently I have called this notion a myth, and as stated at the beginning of my testimony, sincerely hope that we will reach an agreement not based on mythology but

rather on hard scientific facts. For the record, the American Heritage Dictionary of the English Language defines myth as a notion based more on tradition or convenience than on fact, a received idea.

At this stage, and also for the record, I would like to clarify what I understand is a pest. To me, a pest is an organism that causes economic damage to a crop. This is simply not the case with Anastrepha in commercially grown Persea americana of any cultivar.

In my annual review on entomology articles on Anastrepha bionomics and management (1994), I identified the following seven species of Anastrepha as being of economic importance: Anastrepha fraterculus, Anastrepha grandis, Anastrepha ludens, Anastrepha obliqua, Anastrepha serpentina, Anastrepha striata, and Anastrepha suspensa, the latter, from a list of over 127 Anastrepha species identified so far (Norrbom 2000). Of these seven species, none has ever been reported as pests of commercially grown Persea americana, and based on what I discussed earlier, cannot even be considered a potential threat to Persea americana growers.

I would like to point out the cases of Israel, Florida and California. Israel has a large population of Medflies and at the same time grows avocados for export. Among the varieties planted, there are Hass avocados.

Florida has a large population of Anastrepha suspensa and also and also grows several tropical cultivars of Persea americana. Finally, and most importantly, California also grows Hass avocados and has to occasionally or permanently cope with populations of Medflies, Oriental fruit flies (Bactrocera dorsalis), Olive flies (Bactrocera oleae), and Mexican fruit flies (Anastrepha ludens).

To my knowledge, there is not a single record of field infestations by these fruit fly species on Persea americana cultivar Hass grown in these three regions of the world. Why should the story be different in Mexico? Even if Anastrepha were a pest of avocados, it would be a great pressure by growers to plant protection officials to control this pest, but this has simply never happened.

Finally, I would like to put forth the idea that the risk of California or Florida being subject to introductions of Anastrepha fruit flies is by far much greater from contraband fruit or from populations in neighboring countries.

As a closing statement, and like I did during the 1995 public hearings, I want to respectfully ask all people involved in this difficult issue that before succumbing to apocalyptic views of catastrophe, let us remember that we are not dealing with demonic monsters but rather with living organisms with sophisticated behaviors

and complex biology. Let us concentrate on the critical questions: are there still important gaps in knowledge that hinder us from making a sound decision based on solid scientific criteria?

If the answer is no, let us fine tune our strategies -- that is, the expert protocols -- to ensure that no costly mistake will be made. If the answer is yes, let us all work together to quickly and efficiently gather the information required to support this effort that will no doubt benefit both the United States and Mexico.

Thank you very much.

MS. JONES: Thank you, Dr. Aluja.

Next we have Juan Elvira, mayor of Uruapan, Mexico.

MR. ELVIRA: Thank you. Ladies and gentlemen, members of the Department of Agriculture, I thank you for the opportunity you have given me to get across our strongly felt views on the freedom to import our avocados into the United States.

I am the mayor or Uruapan; my name is Juan E-L-V-I-R-A, Juan Elvira. I am the mayor of Uruapan which is in the state of Michoacan, Mexico on the Pacific side. We call our municipality the World Avocado Capital because Uruapan is the center of the biggest avocado growing part

of our country, the birthplace of the avocado, or aguacate, as it was known long before the Spanish.

But I am not just concerned with avocados As mayor, what I am worried about is the well-being of the people of Uruapan. I am concerned with providing drinking water to more homes, making sure the drainage system works right, making sure that all the people of Uruapan get a good basic education, and now that they get a good higher education too because we have built and set up a new public university with six different majors.

What does all this amount to? What is the end result of our teamwork? What does this mean? It means this.

Over the last three years 5,000 new real jobs have been created in the municipality, in the town and in the countryside, and this is a point I want to discuss a little more. Those 5,000 jobs have given opportunities to 5,000 people and their families to stay in Uruapan and make a valuable contribution to their home. They haven't had to risk their lives immigrating to the United States of North America in search of a brighter future. Our team efforts have given them that brighter permanent future in Uruapan where they belong and not over here. That's the image we like, the image that fits, that's the image we want you to have, that of a dynamic, a safe place with a

promising future, a great future.

So what do we need for this to be so, for this future to come alive? We just need a level playing field, we need the opportunity to sell our products to this great rich nation and compete, to make sure Americans get the chance to eat the best avocados we can produce, using the best, most assured methods, avocados that can pass rigorous tests and that are free, of course, of any blemish.

The Mexican Avocado Association and the Mexican government have set up both state and local sanitary inspection facilities to make sure that there is nothing wrong with our avocados and to make sure that if we do find something, the problem is solved as soon as possible. We guarantee quality, safety for the consumer because we have a great product and we believe that if the American consumer is free to choose, is given the chance to choose, then he will choose our avocados and that's going to help us in Uruapan to grow and prosper.

And when, not if, this happens, you as a nation have dealt fairly with us and we as a nation will be able to keep our own people at home in gainful permanent employment worth of their industriousness and abilities. They will not swell your unemployment lines or burden your taxpayers. In the long run, narrow-mindedness and short-

term interests are going to have some serious consequences indeed if we don't start acting like good and civilized neighbors, neighbors that always have and always will have to get along, helping each other out, sharing responsibilities, and looking out for each other's interests.

When you let our avocados compete fairly in the U.S. and give your consumers the privilege of eating them, I guarantee you that you will be creating new jobs in our town and you will be helping my municipality grow healthily without us having to lose our people to your large northern cities.

As mayor I am ready to keep up my rhythm of work, to keep on working hard to achieve this, and I know that if we all cooperate then we are going to achieve a lot more together and a lot sooner.

Once again, thank you for the privilege of letting me put my views across to you. Thank you very much.

MS. JONES: Thank you, Mr. Elvira.

Our last registered speaker is Jorge Hernandez from Plant Protection, Mexican Department of Agriculture, SAGARPA.

MR. HERNANDEZ: Thank you. My name is Jorge Hernandez, H-E-R-N-A-N-D-E-Z. I am the director of Plant

Health for the Mexican government.

My comments here today are not scientific, they are not economical, and they are not political either. They are based on facts that are undeniable as the history, the present of the program has shown us.

The Hass avocado export program in Michoacan, Mexico is already five years old, however, the phytosanitary program for this state has been taking place for more than 15 years. At the present time, this area is producing more than 2 million pounds of Hass avocados yearly. Only 200,000 pounds are being exported to different countries, mainly Japan and Central America. As many of you know, the phytosanitary regulations in these countries are as severe as anybody could ask. As a matter of fact, they are more tight than the export requirements into the United States.

Exports to the United States for the previous four seasons account for about 100,000 pounds. Very close to 6 million fruits have been cut with not one single detection of any insect pest. As stated by Dr. Aluja, Hass avocados are not a host for the fruit flies.

Avocado stem borer is another insect pest of concern. Any orchard, any county in Michoacan, in order to be included in the export program has to show records that prove that for at least one year they have been

absolutely clean of these pests. On the other hand, a stem borer does not attack fruit, and for the same reason cannot be carried or transported in the fruit.

During all these years, the Plant Health direction, together with the USDA APHIS officials in Mexico, have been working together on this and other certification programs. The Plant Health direction of the Mexican federal government will not issue a single phytosanitary permit if it is not absolutely sure that the fruit of any other vegetable is not absolutely free of any pest.

Based on all this analysis and all the different data that has been submitted to the proposed expansion, we are, at the direction of Plant Health for the Mexican government, very confident that the final conclusion is going to be positive and that this will allow to continue with the honest free trade that we are all seeking. Thank you.

MS. JONES: Thank you, Mr. Hernandez.

Apparently there may be one other speaker from the Texas Department of Agriculture of the state. If you wouldn't mind, just hang on for a few minutes and we'll see if he can get here.

Is there anybody else who is interested in making a comment or presenting views?

Let's see, we ought to give them about 10 minutes, 15 minutes?

(Whereupon, a short recess was taken.)

MS. JONES: We'll go on the record just long enough to close the hearing. The comments are not ready for oral at this point but they'll submit them written.

Thank you very much for your consideration and appearing today and making comments. That's it.

(Whereupon, at 10:48 a.m., the meeting was concluded.)

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C E R T I F I C A T E

IN RE: Public Hearing on Mexican Hass Avocado Import Program

LOCATION: Austin, Texas

DATE: August 23, 2001

I hereby certify that the proceedings and evidence are contained fully and accurately on the tapes and notes reported by me at the hearing in the above case before the United States Department of Agriculture.

Date: 8/28/2001

Penny Bynum

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