

DEPARTMENT OF AGRICULTURE

Animal and Plant Health Inspection Service

7 CFR Part 319

[Docket No. 03-022-5]

RIN 0579-AB81

Mexican Avocado Import Program

AGENCY: Animal and Plant Health Inspection Service, USDA.

ACTION: Final rule.

SUMMARY: We are amending the regulations governing the importation of fruits and vegetables to expand the number of States in which fresh Hass avocado fruit grown in approved orchards in approved municipalities in Michoacan, Mexico, may be distributed. We are also allowing the distribution of the avocados during all months of the year. For the first 2 years following the effective date of this rule, those avocados may be distributed in all States except California, Florida, and Hawaii; after 2 years, the avocados may be distributed in all States. We are taking this action in response to a request from the Government of Mexico and based on our finding that the phytosanitary measures described in this final rule will reduce the risk of introducing plant pests associated with Mexican Hass avocados into the United States.

DATES: *Effective Date:* January 31, 2005.

FOR FURTHER INFORMATION CONTACT: Ms. Karen Bedigian, Import Specialist, Phytosanitary Issues Management Team, PPQ, APHIS, 4700 River Road Unit 140, Riverdale, MD 20737-1236; (301) 734-6799.

SUPPLEMENTARY INFORMATION:

Background

The regulations in "Subpart—Fruits and Vegetables" (7 CFR 319.56 through 319.56-8) prohibit or restrict the importation of fruits and vegetables into the United States from certain parts of the world to prevent the introduction and dissemination of plant pests, including fruit flies, that are new to or not widely distributed within the United States.

The regulations in 7 CFR 319.56-2ff (referred to below as the regulations) have provided for the importation of fresh Hass avocado fruit grown in approved orchards in approved municipalities in Michoacan, Mexico, into specified areas of the United States, subject to certain conditions. Those conditions, which include pest surveys and pest risk-reducing cultural

practices, packinghouse procedures, inspection and shipping procedures, and restrictions on the time of year (October 15 through April 15) that shipments may enter the United States, are designed to reduce the risk of pest introduction. Further, the regulations have limited the distribution of the avocados to 31 northeastern and north central States (Colorado, Connecticut, Delaware, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New York, North Dakota, Ohio, Pennsylvania, Rhode Island, South Dakota, Utah, Vermont, Virginia, West Virginia, Wisconsin, and Wyoming) and the District of Columbia.

In November 2000, the Government of Mexico requested that the Animal and Plant Health Inspection Service (APHIS) amend the regulations to allow Hass avocados to be imported year round into all 50 States. We did not act on Mexico's request at the time because we did not have documentation available to support Mexico's position that such importations would not present a risk of introducing plant pests into certain States.

As part of our evaluation of Mexico's request, we prepared a draft pest risk assessment (PRA), titled "Importation of 'Hass' Avocado Fruit (*Persea americana*) from Mexico" (June 2003), to evaluate the importation of fruit to the entire United States throughout the year. The draft PRA contained two components: (1) A risk assessment component that identifies quarantine pests that are likely to follow the Mexican Hass avocado import pathway, and (2) a risk management component that evaluates the ability of the selected phytosanitary measures to mitigate the risk posed by those quarantine pests.

The first component revealed that the quarantine pests of concern remained the same as those identified in previous risk assessments. After eliminating non-quarantine and non-pathway pests from the list, eight pests of quarantine significance that follow the pathway remain: Three fruit flies (*Ceratitis capitata*, *Anastrepha ludens*, *A. striata*), three seed weevils (*Conotrachelus aguacatae*, *C. perseae*, and *Heilipus lauri*), one stem weevil (*Copturus aguacatae*), and one seed moth (*Stenomoma catenifer*).

The second component of the draft PRA evaluated the selected phytosanitary measures to mitigate the risk posed by the eight identified pests. This component concluded that imports of Mexican avocados subject to those

phytosanitary requirements will result in the following:

- Fewer than 387 infested avocados will enter the United States each year, estimated with 95 percent confidence.
- Fewer than 49 avocados infested with stem weevil, seed weevils, and seed moth will enter avocado producing areas each year, estimated with 95 percent confidence.
- Fewer than 208 avocados infested with fruit flies will enter fruit fly susceptible areas each year, estimated with 95 percent confidence.
- Fewer than 3 avocados infested with stem weevil, seed weevils and seed moth will be discarded in avocado producing areas each year, estimated with 95 percent confidence.
- Fewer than 11 avocados infested with fruit flies will be discarded in fruit fly susceptible areas each year, estimated with 95 percent confidence.
- There is an overall low likelihood of pest introduction.
- Based on the statistical models we have used to estimate sampling efficacy, it is slightly more likely that zero infested avocados will enter the United States than one infested avocado; however, we cannot rule out the possibility that some may enter the country.

Only those avocados discarded in susceptible areas pose a risk of establishment of the pests in the United States. In the PRA, the risk associated with the importation of commercial shipments of avocados is compared to the risks associated with infested avocados smuggled into the United States. During the 17-year period from 1985 to 2002, an average of 30 avocados each year (specific variety or cultivar not recorded) infested with pathway pests were intercepted in baggage and cargo and denied entry into the United States. Studies of port efficiency, when searching for prohibited materials, indicate that inspectors detect approximately 10 to 20 percent of what actually arrives. That suggests that the number of prohibited avocados (*i.e.*, smuggled or inadvertently imported non-program avocados) entering the United States would average 150 to 300 per year.

While we state above that fewer than 387 infested avocados will enter the United States each year, estimated with 95 percent confidence, this number is based on statistical models. An examination of over 10 million program fruit has not revealed any pests in 6 years of fruit cutting and inspection and, also based on statistical models, we determined that it is slightly more likely that zero infested avocados will enter the United States than one infested

avocado. Prohibited transport of avocados in baggage and cargo poses a substantially greater risk of introducing the above pests into the United States than commercial imports of Hass avocados from Mexico.

Additionally, the 6 years' worth of data from the avocado import program gives us confidence that the systems approach currently in place provides adequate safeguards against avocado pests. The systems approach mitigations include annual pest field surveys; orchard certification; and packinghouse, packaging, and shipping requirements. The efficacy of the systems approach depends on multiple measures. Those measures are backed up by an inspection system that, when a pest is detected, shuts down the imports from an affected area, depending on the pest, until corrective actions are taken. An examination of over 10 million fruit has not revealed any pests in 6 years of fruit cutting and inspection.

On May 24, 2004, we published in the **Federal Register** (69 FR 29466–29477, Docket No. 03–022–3) a proposal to expand the number of States in which fresh Hass avocado fruit grown in approved orchards in approved municipalities in Michoacan, Mexico, may be distributed. We also proposed to allow the distribution of the avocados during all months of the year and to make other changes in the regulations, such as removing restrictions on the ports through which the avocados may enter the United States and the corridor through which the avocados must transit the United States. We proposed this action in response to a request from the Government of Mexico and based on our finding that the phytosanitary measures described in this final rule will reduce the risk of introducing plant pests associated with Mexican Hass avocados into the United States.

We solicited comments concerning our proposal for 60 days ending July 23, 2004. We received 17,022 comments by that date (including 11,000 form letters, both for and against the proposed rule). They were from producers, exporters, researchers, members of Congress, and representatives of State and foreign governments. They are discussed below by topic.

After the comment period for the proposed rule closed on July 23, 2004, we updated the risk assessment¹ based on comments that we received. The updated risk assessment incorporates suggested changes to the May 2004

version of the risk assessment that accompanied the proposed rule and reflects new information received in public comments. These changes include the following:

- A 47-State scenario was added in which the risk is calculated for all States excluding California, Florida, and Hawaii.

- Uncertainty was added to the estimate for sensitivity of inspection in the model. The estimate of 50 percent was replaced with a uniform distribution from 17.9 percent to 83.5 percent.

- The estimate for the number of avocados imported was changed for consistency with the economic analysis prepared for the proposed rule.

- Statistics including mean, mode, and standard deviation were reported for all model output distributions.

Our new conclusions, based on the recalculations discussed above in the second bullet, are as follows:

In the 50-State scenario, the risk assessment model results present, with 95 percent confidence, the following estimates:

- Fewer than 442 infested avocados will enter the entire United States each year;

- Fewer than 54 avocados infested with stem weevil, seed weevils, and seed moth will enter avocado producing areas each year;

- Fewer than 238 avocados infested with fruit flies will enter fruit fly susceptible areas each year;

- Fewer than three avocados infested with stem weevil, seed weevils, and seed moth will be discarded in avocado producing areas each year;

- Fewer than 12 avocados infested with fruit flies will be discarded in fruit fly susceptible areas each year.

Under the 50-State scenario, there is an overall low likelihood of pest introduction.

In the 47-State scenario (excluding California, Florida, and Hawaii), the risk assessment model results present, with 95 percent confidence, the following estimates:

- Fewer than 393 infested avocados will enter the 47 States each year;

- Fewer than seven avocados infested with stem weevil, seed weevils, and seed moth will enter avocado producing areas outside of California, Florida, and Hawaii each year;

- Fewer than 98 avocados infested with fruit flies will enter fruit fly susceptible areas outside of California, Florida, and Hawaii each year;

- Fewer than one avocado infested with stem weevil, seed weevils, and seed moth will be discarded in avocado producing areas outside of California, Florida, and Hawaii each year;

- Fewer than five avocados infested with fruit flies will be discarded in fruit fly susceptible areas outside of California, Florida, and Hawaii each year; and

Under the 47-State scenario, there is an overall low likelihood of pest introduction.

Even if some infested avocados entered the country, the likelihood of pest establishment and spread would require that: (1) The infested avocados must be in close proximity to host material; (2) the pests must find mates; (3) the pests must successfully avoid predation; (4) the adult pests must find host material; and (5) the climatological and microenvironmental conditions must be suitable. These factors substantially reduce the likelihood of establishment. The degree of pest risk reduction attributable to each of the factors has not been quantified. People generally consume the fruit they purchase and dispose of the waste material in a manner (such as in plastic bags that are landfilled or incinerated) that precludes the release of pests into the environment.

In the preceding bullet points, the reader may note that the estimated numbers of potentially infested fruit are in some cases different than the similar bullet points presented in the proposed rule. These differences are attributable to adjustments made in the updated risk assessment to the 95th percentile estimates for “N” (number of Hass avocados imported from Mexico per year) and “P1” (proportion of avocados infested). P1 was revised upwards because the detection sensitivity range 17.9 to 83.5 was used. P1 is the same for the 47 and 50 State scenarios. N was revised downward based on the revised economic analysis.

Based on comments that we received on the proposed rule, and taking into account the findings of the updated risk assessment, this final rule includes several provisions that differ from the proposed rule. Specifically:

- We proposed to allow the avocados to be distributed in all 50 States, but solicited comments on the possibility of delaying the distribution of the avocados in California, Florida, and Hawaii for 1 year. In this final rule, we have adopted a delay in the distribution of the avocados in California, Florida, and Hawaii for a period of 2 years based on the comments that we received. After that 2-year period, the avocados may be distributed in all 50 States. The effective dates for importing fruit into all 50 States are built into the final rule, which precludes the need for APHIS to initiate further rulemaking in order to expand the area into which the fruit may be

¹ The updated risk assessment may be viewed on the Internet at <http://www.aphis.usda.gov/ppq/avocados> and may be obtained from the person listed under FOR FURTHER INFORMATION CONTACT.

imported. If it is determined that the requirements of the export program are not being observed routinely or uniformly, APHIS will be able to act quickly to suspend the effective dates or even the entire program, if warranted. The export program provides for the detection of infested fruit at any point in the pathway, with that detection leading to the rejection of the shipment containing the infested fruit and the removal of the grove or municipality that produced the fruit from the export program until it is determined by APHIS and the Mexican NPPO that the grove or municipality may be readmitted to the program. Thus, the detection of infested fruit will not, by itself, result in the suspension of all or part of the export program. To determine whether the requirements of the export program are being observed routinely or uniformly and to ensure that the distribution restrictions of this rule are being observed, APHIS personnel will be involved in monitoring activities in both the United States and Mexico.

- To reflect our proposal to allow the avocados to be distributed in all 50 States, we proposed to remove the requirement in § 319.56–2ff(c)(3)(vii) that all boxes or crates of avocados be clearly marked with, among other things, the statement “Not for distribution in AL, AK, AZ, AR, CA, FL, GA, HI, LA, MS, NV, NM, NC, OK, OR, SC, TN, TX, WA, Puerto Rico, and all other U.S. Territories.” In this final rule, we have retained that marking requirement, specific to California, Florida, and Hawaii, for the term of the 2-year delay in distribution to those States.

- To reflect our proposal to allow the avocados to be distributed in all 50 States, we proposed to remove the provisions in § 319.56–2ff(f), which limited the ports of entry through which the avocados may be imported, and § 319.56–2ff(g), which described the areas of the United States that avocados moving by truck or rail car may transit while en route to approved States. In this final rule, we continue to prohibit the movement of the avocados into or through California, Florida, and Hawaii for the term of the 2-year delay in distribution to those States.

- To reflect our proposal to allow the avocados to be distributed in all 50 States, we proposed to remove the provisions in § 319.56–2ff(j) that required any boxes used to repack the avocados in the United States to bear the same information that is required to be displayed on the original boxes in which the fruit was packed in Mexico. In this final rule, we have retained those repackaging requirements

due to the 2-year delay in distribution to California, Florida, and Hawaii.

- We proposed to add a requirement for the avocados to be packed in insect-proof cartons, loaded in insect-proof containers, or covered with insect-proof mesh or plastic tarpaulin prior to leaving the packinghouse. This proposed requirement was intended to replace the requirement in § 319.56–2ff(c)(3)(viii) that, prior to leaving the packinghouse, the truck or container transporting the avocados must be secured by Sanidad Vegetal with a seal that will be broken when the truck or container is opened. In this final rule, we retain the requirement for seals and will not require the insect-proofing measures we had proposed.

Although our adoption of a 2-year delay in distribution to California, Florida, and Hawaii has led us to retain, at least in part, the box marking, port of entry, and repackaging provisions discussed above that we had proposed to remove, we have decided to follow through with the removal of another measure related to limited distribution, *i.e.*, compliance agreements. The compliance agreement provisions that were located in § 319.56–2ff(k) were intended to ensure that distributors and handlers of the avocados were familiar with the distribution restrictions and other requirements of the regulations. Given that the distribution restrictions established in this final rule cover only three States, and only for a limited time, we believe that the time, costs, and logistical difficulties involved in initiating compliance agreements with all distributors and handlers of imported Mexican Hass avocados in 47 States would outweigh the benefits that may be gained by retaining the compliance agreement requirement. The fruit stickering, box marking, and repackaging requirements of the regulations will serve to ensure that the avocado's origin can be determined, and the latter two requirements will ensure that the limited distribution statement is present on all boxes of fruit. During the 2-year delay, we will focus our efforts on education and outreach so that distributors and handlers will be made aware of product origin indicators and penalties for violation of regulations. We will be able to concentrate our enforcement efforts more readily since the avocados will be prohibited in only three States during the 2-year delay, and will continue to take action and seek penalties for violations of the regulations under the Plant Protection Act.

Determination by the Secretary

Under section 412(a) of the Plant Protection Act, the Secretary of Agriculture may prohibit or restrict the importation and entry of any plant or plant product if the Secretary determines that the prohibition or restriction is necessary to prevent the introduction into the United States or the dissemination within the United States of a plant pest or noxious weed.

The Secretary has determined that it is not necessary to prohibit the importation of Hass avocados from Mexico subject to the phytosanitary requirements described in this final rule in order to prevent the introduction into the United States or the dissemination within the United States of a plant pest or noxious weed. This determination is based on the findings of the risk assessment referred to earlier in this document, and the Secretary's judgment that the application of the measures required under § 319.56–2ff would prevent the introduction or dissemination of plant pests into the United States.

Based on the Secretary's determination, and in response to the Mexican Government's request, we are amending the regulations to expand the number of States (plus the District of Columbia) in which fresh Hass avocado fruit grown in approved orchards in approved municipalities in Michoacan, Mexico, may be distributed and to allow the distribution of the Hass avocados during all months of the year.

Comments

Comment: The U.S. Department of Agriculture's (USDA's) Mexican avocado import program has never before operated during warm summer months when pest population levels in Mexico are at their peak and susceptible crops are in full production in the United States. The proposed rule would allow avocados from Mexico to be imported during all months of the year, across all States, including those currently excluded under the existing rule. By increasing the timeframe to all months, the proposed rule includes the time period when pest insects are most active and sexually mature, in highly favorable environments for infestation on avocados and other host plants.

Response: The goal of the program continues to be the exclusion of any quarantine pests that could become established in the United States. Under the modified systems approach semiannual surveys, rather than annual, will be conducted at the municipality and orchard level. Municipalities must be free of *Ceratitis capitata*,

Conotrachelus aguacatae, *C. perseae*, *Heilipus lauri*, and *Stenomoma catenifer* before they can be certified to export avocados to the United States. In addition, orchards must be certified free of *Copturus aguacatae*. Trapping is conducted in orchards for *Anastrepha* spp. fruit flies. Both the regulations and the workplan specify what mitigation measures must be taken when a pathway pest is detected in a certified orchard or municipality. The time periods selected for the surveys were based on the biology of the pests. Additionally, fruit cutting will be conducted in the orchard, packinghouses, and at the port of entry. Since the expansion of Mexican avocado imports in 1997, none of these pests have been intercepted during inspections of fruit at packinghouses or upon inspection at the U.S. border ports. Further, the limited distribution plan that we will implement would delay the importation of Hass avocados from the Mexico State of Michoacan into the commercial avocado producing States of California, Florida, and Hawaii for 2 years from the effective date of this final rule. This restriction will provide APHIS an opportunity to further substantiate the effectiveness of the mitigation measures under the expanded program.

Comment: USDA has ignored the fact that stem weevils continue to be found in alarming numbers in the Mexican production areas and that these insects can easily migrate from backyard orchards to commercial groves.

Response: Registered orchards and all contiguous orchards and property are surveyed for the stem weevil, *Copturus aguacatae* and must be found free of the pest. If *Copturus aguacatae* is detected in an orchard requesting certification, eradication must be completed prior to the orchard receiving certification to export avocados to the United States. If the stem weevil is found in an orchard or property contiguous to a certified orchard, eradication measures will be ordered for that orchard or property. Surveys for the stem weevil will commence in the registered orchard contiguous to the area where the detection was found on a weekly basis until eradication of the stem weevil in the contiguous orchard has been completed. Since 1997, the stem weevil has been detected in 7 orchards that applied for certification. Certification was denied due to the presence of the stem weevil. Since the expansion of Mexican avocado imports in 1997, no stem weevils have been intercepted during inspections of fruit at packinghouses or upon inspection at the U.S. border ports.

Comment: USDA has mistakenly decided that other thrips-related insects pose no threat because they are not associated with avocado fruit; this is demonstrably false and inconsistent with research done by prominent entomologists. Every year a significant percentage of the California avocado crop is either downgraded to Grade 2 fruit, for which growers receive a lot less money, or is culled or thrown out due to thrips damage. Thrips-damaged fruit is unattractive and cannot be sold in grocery stores. Why would the USDA allow Mexican fruit known to be infested with thrips to be imported into avocado producing areas?

Response: The risk analysis does not list any thrips as pests that would follow the pathway. There are 16 thrips listed in the Appendix A pest list. Of the 16 which occur in Mexico, 5 occur in the United States. All 16 pests are associated with a plant part other than avocado fruit, or in rotting fruit on the ground. For example, research (e.g., Hoddle, 2002; Yee *et al.*, 2003, cited in the risk assessment) has demonstrated that *Scirtothrips perseae*, lays eggs in small, immature fruits and tender leaves, and does not feed on or lay eggs in mature fruit, and is, therefore, unlikely to be imported with the fruit. APHIS considers *Scirtothrips perseae* as probably representative of other pest thrips species. Mitigation of these pests in rotting fruit is addressed in the workplan and regulation. Avocado fruit that has fallen from the trees must be removed from the orchard within 7 days and may not be included in field boxes of fruit to be packed for export. In addition, damaged fruit must be culled at the packinghouse. Although *Frankliniella bruneri* is listed as having been intercepted in avocados at the U.S. border, the interception was made in fruit found in baggage, not in a commercial shipment imported under the program. Since the expansion of Mexican avocado imports in 1997, no thrips have been intercepted in program fruit during inspections at packinghouses or upon inspection at the U.S. border ports.

Comment: The USDA import program has grown exponentially since 1997, from approximately 3,700 to over 53,000 certified acres, stretching USDA resources and increasing the probability of human error. Believing a screening system can be set up to catch all infested fruit at the border is not realistic. Control at the source with identification and traceability through the entire chain is required.

Response: APHIS' role under the operational workplan provided by the regulations is to provide management

and monitoring of the activities specified in the workplan, e.g., trapping, surveying, and packinghouse inspections. While APHIS personnel do not necessarily conduct these activities themselves, they do monitor Mexican officials' compliance with workplan specifications. The staffing level of APHIS personnel is sufficient to ensure that APHIS meets its requirements under the workplan and that other signatories are in compliance with the regulations. The lack of pest detections in the orchard, packinghouse, and border inspection since the program began in 1997 is evidence that the regulations and workplan are being complied with.

In addition, as more orchards have applied for certification, it does take longer for inspectors to perform the initial inspection before the first shipping date of October 15. The inspectors have had to start inspections earlier before that date each year to finish inspecting all of the orchards. Nevertheless, all orchards must be inspected using the same workplan criteria, as the records show. APHIS keeps lists of all the orchards inspected by name.

Comment: USDA should test the proposed expansion regulations under actual production and distribution conditions over a 2-year period at a minimum before allowing shipments into California, Florida, and Hawaii.

Response: As noted previously, APHIS has decided, based on the comments we received on the issue, to implement a limited distribution plan that would delay the importation of Hass avocados from the Mexico State of Michoacan into the commercial avocado producing States of California, Florida, and Hawaii for 2 years from the effective date of this final rule. This restriction will provide APHIS an opportunity to further substantiate the effectiveness of the mitigation measures under the expanded program.

As stated in the economic analysis, the volume of Mexican Hass avocado exported to the United States is expected to substantially increase. In addition, some of the commenters stated that they believed the expansion of this program could not be effectively managed. The data collected during the first 2 years of the expanded program will provide confirmation of the effectiveness of the mitigation measures and management of the Mexican Hass avocado export program. Some of those data will cover production and distribution periods not previously covered by the current regulation.

Comment: USDA has never allowed untreated fruit to be imported from a

region where quarantine pests are present into a region of the United States where the same crop is produced.

Response: We disagree with the commenter's characterization of the proposed action and statement that USDA has never allowed untreated fruit to be imported from a region where quarantine pests are present into a region of the United States where the same crop is produced. In the case of tomatoes from France, for example, we allow the entry of tomatoes from France under certain conditions. The tomatoes must be produced under a systems approach to mitigate the pest risk of *Ceratitis capitata*, which is a quarantine pest for the United States. The systems approach includes trapping for Mediterranean fruit fly, the tomatoes must be greenhouse grown, and the tomatoes must be safeguarded from harvest to arrival in the United States. In addition, a phytosanitary certificate is required. While phytosanitary treatment is not an option to mitigate the fruit fly risk, the mitigation measures applied to this commodity are equivalent to a pesticide treatment. Similarly, under the Mexican avocado import program, Hass avocados are subject to a systems approach to mitigating pest risk that produces results similar to those achieved through treatment measures.

Comment: California growers have been unable to gain access to the avocado market in Mexico since 1998. Rather than assisting U.S. growers in dismantling false trade barriers erected by Mexico, USDA has diligently worked with Mexican officials to open up the U.S. avocado market to Mexican avocados.

Response: APHIS officials are aware that U.S. avocado producers would like further access to Mexican markets. Initially, APHIS officials requested market access for U.S. avocados only to Mexicali and Tijuana and successfully opened these markets. Thereafter, APHIS requested market access to the five northern Mexican States along the border with the United States and more recently informed Mexico that our avocado producers are interested in access to all of Mexico. In response to APHIS' request, Mexican plant health officials began a pest risk assessment for the importation of U.S. avocados to additional Mexican markets. This process is similar to the pest risk assessment process APHIS conducted prior to publishing the proposed rule to allow Mexican avocados further access to our markets. USDA has continually pursued the issue of expanded market access for U.S. avocados with Mexico, however the next stage of the process

cannot take place until Mexico completes its risk assessment.

Comment: Mexican avocado growers have the ability to use pesticides on their crops that American growers are prohibited from using. American growers are at a disadvantage if they were ever faced with a pest infestation, as USDA does not have a method of dealing with an infestation that has occurred other than imposing an economically devastating quarantine. Additionally, there are concerns about human health issues that might arise as a result of pesticide residues.

Response: Considering the conclusions of the risk assessment and given the fact that there have been no interceptions of pests in commercial shipments of Hass avocados from Mexico, we do not believe that a pest infestation will occur under the expanded program. USDA and its State counterparts, however, have a variety of options for dealing with pest outbreaks that may occur in this country. The response in any particular instance depends largely on the specific circumstances of the outbreak.

In addition, while the United States does not have direct control over pesticides that are used on food commodities such as avocados in other countries, there are regulations in the United States concerning the importation of food to ensure that commodities do not enter the United States containing illegal pesticide residues. Because DDT is a pesticide that is banned in the United States, even if it were used on food commodities in foreign countries, the current regulations concerning the importation of food into the United States prevent the entry of products treated with it.

Through section 408 of the Federal Food, Drug, and Cosmetic Act, the Environmental Protection Agency (EPA) has the authority to establish, change, or cancel tolerances for food commodities. These tolerances are the maximum levels of pesticide residues that have been determined, through comprehensive safety evaluations, to be safe for human consumption. Tolerances apply to both food commodities that are grown in the United States and food commodities that are grown and imported into the United States from foreign countries. While EPA has no authority in a foreign country, the tolerance levels are enforced once the commodity enters the United States. Chemicals such as DDT that are banned in the United States do not have tolerances on food commodities.

Federal government food inspectors are responsible for monitoring food

commodities that enter the United States to confirm that tolerance levels are not exceeded and that residues of pesticide chemicals that are banned in the United States are not present on the commodities. Tolerance levels for all chemicals that are acceptable for use on avocados may be found in EPA's regulations in 40 CFR 180.101 through 180.2020. Tolerance information can also be obtained at <http://www.epa.gov/pesticides/food/viewtols.htm>.

Comment: If USDA expands the Mexican Hass avocado import program as proposed, it should ensure that compensation is available for U.S. growers in avocado producing areas should a pest infestation occur.

Response: The Plant Protection Act provides that the Secretary may pay compensation to any person for economic losses incurred by the person as a result of action taken by the Secretary under the extraordinary emergency authority provided in section 415 of the Act (7 U.S.C. 7715). The determination of an extraordinary emergency would depend on the circumstances of an infestation on a case-by-case basis and APHIS cannot regulate on this issue at this time since infestation has not occurred. Any decision as to the need to declare an extraordinary emergency and, if declared, to pay compensation, rests with the Secretary.

Comment: USDA should set up an insurance or indemnification program to compensate domestic avocado growers for any damage incurred as a result of any pest infestation that may occur as a result of the proposed expansion.

Response: APHIS does not have the authority to establish such a program under the Plant Protection Act.

Comment: Growers in Mexico should have to pay for the quarantine insurance for the avocado growers in the United States. While it could be argued that all of the previous infestations were the result of illegal importation, it is inevitable that legal importation will eventually create a domestic quarantine. Requiring the Mexican producers to pay for the quarantine insurance would level the economic costs. Paying for insurance would also encourage Mexico to rid other areas of applicable pests.

Response: APHIS has no authority to require foreign producers to pay quarantine insurance for domestic producers.

Comment: Mexican avocados should not be imported into the United States because of the prevalence of stem weevils, seed weevils, fruit flies, thrips, and persea mites in Mexico.

Response: APHIS has assessed the risk and determined that there is low likelihood of introducing quarantine pests such as stem weevils, seed weevils, seed moth, and fruit flies. Nine mites are identified in the pest list in Appendix A of the risk assessment. Of the nine mites, eight are also present in the United States so those species are not considered to be quarantine pests. Only one mite, *Brevipalpus australis*, occurs in Mexico but not in the United States. All the identified mites are associated with a plant part other than the avocado fruit, or in rotting fruit on the ground and, therefore, are not likely to follow the pathway. Since the expansion of Mexican avocado imports in 1997, mites have not been intercepted during inspections at packinghouses or upon inspection at the U.S. border ports.

The risk analysis does not list any thrips as pests that would follow the pathway. There are 16 thrips listed in the Appendix A pest list. Of the 16 that occur in Mexico, 5 also occur in the United States. All 16 pests are associated with a plant part other than avocado fruit, or in rotting fruit on the ground. For example, research (e.g., Hoddle, 2002; Yee *et al.*, 2003, cited in the risk assessment) has demonstrated that *Scirtothrips perseae* lays eggs in small, immature fruits and tender leaves, and does not feed on or lay eggs in mature fruit, and is, therefore, unlikely to be imported with the fruit. APHIS considers *Scirtothrips perseae* as probably representative of other pest thrips species. Mitigation of these pests in rotting fruit is addressed in the workplan and the regulations. Avocado fruit that has fallen from the trees must be removed from the orchard within 7 days and may not be included in field boxes of fruit to be packed for export. In addition, damaged fruit must be culled at the packinghouse. Although *Frankliniella bruneri* is listed as having been intercepted in avocados at the U.S. border, the interception was made in fruit found in baggage, not in a commercial shipment imported under the program. Since the expansion of Mexican avocado imports in 1997, no thrips have been intercepted in program fruit during inspections at packinghouses or upon inspection at the U.S. border ports.

Comment: I am opposed to the expansion of the Mexican avocado program into avocado-producing States due to a pest infestation that resulted in a quarantine in San Diego County and other counties in California in 2002 and 2003 (the Valley Center infestation). The quarantine caused financial losses for which we were not compensated.

Response: The Valley Center infestation in California stemmed from unknown origins and not from commercially imported Hass avocados from Mexico which were prohibited from entering California at the time.

Comment: The avocado expansion will jeopardize not only domestic avocado production, but all U.S. agricultural products susceptible to pests found in Mexico.

Response: With the exception of fruit flies, the pathway pests identified in the risk assessment are avocado specific, thus we expect that the commenter is referring to fruit flies in speaking of "pests found in Mexico" that would affect other U.S. agricultural products. The risk assessment identified three fruit flies capable of following the pathway. *Ceratitis capitata* can infest avocado (Liquido *et al.*, 1998) and is a quarantine pathway pest. The species is under official control in Mexico and is found only on the Mexico-Guatemala border (APHIS, 1999). Municipalities participating in the program must be certified free from *Ceratitis capitata*.

Hass avocados are considered poor hosts for the other two fruit flies, *Anastrepha ludens* and *Anastrepha striata*, thus those pests are unlikely to follow the pathway. *Anastrepha ludens*, *Anastrepha striata*, and *Ceratitis capitata* have not been intercepted in any of the more than 10 million avocados cut during the course of the program.

The risk assessment further identifies the conditions that would be necessary for fruit flies to be introduced in the United States. Even if an infested avocado were to arrive at a region with host material, several additional conditions are required for pest establishment: (1) The pest must survive in the avocado during transportation and storage; (2) the infested avocado must be discarded in close proximity to host material; (3) the pest must find a mate; (4) the pest must successfully avoid predation and other threats; (5) the adult pest must find appropriate host material; (6) suitable climatological and microenvironmental conditions must exist; and (7) they must escape detection and subsequent eradication measures.

Comment: Mexican agricultural field workers are not reliable enough to consistently follow procedures necessary for pest-free exports from Mexico. In contrast, American avocado growers go through an abundance of measures to monitor for disease and to contain outbreaks from spreading to our neighbor growers.

Response: The commenter provided no information to support his

contention regarding the reliability of Mexican field workers. Avocados are a commercially important crop in Mexico, and Mexico's continued ability to export avocados to markets such as the United States and Japan is dependent on its ability to meet the phytosanitary standards of those importing nations. It has been our experience that avocado producers in Mexico are fully capable of meeting the requirement of the regulations and anticipate that they will continue to do so.

Comment: Eighty-five different *Thysanoptera* species of thrips have been found in Mexican avocados and 24 different mite pest species, pertaining to eight distinct families, have been found in Mexican avocado plantings. More research should be done into these pests and the damage they could incur should they reach an American avocado farm.

Response: In the latest risk assessment update, the list of quarantine pest thrips has been updated. Mites and thrips are not likely to be in the commercial import pathway because they are not generally associated with mature fruit or remain on mature, harvested fruit. None have been intercepted by APHIS with program Hass avocados from Mexico. The risk assessment does not list any thrips as pests that would follow the pathway. There are 16 thrips listed in the risk assessment's Appendix A pest list as occurring in Mexico; of those, 5 also occur in the United States. All 16 pests are associated with a plant part other than avocado fruit, or in rotting fruit on the ground. For example, research (e.g., Hoddle, 2002; Yee *et al.*, 2003, cited in the risk assessment) has demonstrated that *Scirtothrips perseae* lays eggs in small, immature fruits and tender leaves, and does not feed on or lay eggs in mature fruit, and is, therefore, unlikely to be imported with the fruit. APHIS considers *Scirtothrips perseae* as probably representative of other pest thrips species. Mitigation of these pests in rotting fruit is addressed in the workplan and the regulations. Avocado fruit that has fallen from the trees must be removed from the orchard within 7 days and may not be included in field boxes of fruit to be packed for export. In addition, damaged fruit must be culled at the packinghouse. Although *Frankliniella bruneri* is listed as having been intercepted in avocados at the U.S. border, the interception was made in fruit found in baggage, not a commercial shipment imported under the program. Since the expansion of Mexican avocado imports in 1997, no thrips have been intercepted during inspections at packinghouses or upon inspection at the U.S. border ports.

Nine mites are identified in the pest list in Appendix A of the risk assessment. Of the nine mites, eight are also present in the United States. Only one mite, *Brevipalpus australis*, occurs only in Mexico. All the identified mites are associated with a plant part other than avocado fruit, or in rotting fruit on the ground and, therefore, not likely to follow the pathway. Since the expansion of Mexican avocado imports in 1997, mites have not been intercepted in program fruit during inspections at packinghouses or upon inspection at the U.S. border ports.

Comment: The study that served as underlying research for the APHIS risk assessment did not test Hass susceptibility to Mexican fruit fly at all maturity levels during all-year weather conditions such as temperature and humidity. Mexican fruit fly does reproduce in Hass avocado, certainly so in harvested fruit. Fruit still on the tree but ready to drop is a very probable host. A study should be performed by APHIS experts, or by Agricultural Research Service (ARS) experts on subtropical fruit pests, and Hass avocado host susceptibility should be studied at all potential stages of the Hass avocado during its marketing season, i.e., from just barely mature to very mature on-tree Hass fruit, as well as fresh, naturally dropped from tree Hass fruit, since the fruit could be harvested just before they drop.

Response: The host studies conducted by Aluja *et al.* for *Anastrepha* species and Hass avocados in Mexico² did test Hass susceptibility to Mexican fruit fly at all maturity levels during all-year weather conditions such as the temperature and humidity that occurs during the summer months of June, August, and September. The study considered fruits of a range of sizes that were commercially mature, and mature fruit attached to the tree as well as off the tree. The study concluded that this fruit was not considered to be a host for Mexican fruit fly under any of these conditions.

The Aluja *et al.* study was subjected to rigorous peer review prior to its publication and was likewise reviewed by USDA fruit fly experts in ARS and APHIS. The input from ARS follows the tradition and guidelines of peer review. The ARS experts offered their own interpretation of the scope and applicability of the findings. This

information suggested that we should update our risk assessment, and we considered the ARS input in preparing our updates and changing our classification of the host status of Hass avocados. We fully intend to continue to seek and incorporate ARS expertise and guidance in our risk analysis products.

Comment: Paragraph (e)(1) of proposed § 319.56–2ff provides that if *Heilipus lauri*, *Conotrachelus aguacatae*, *C. perseae*, or *Stenoma catenifer* are detected during the semiannual pest surveys, orchard surveys, packinghouse inspections, or other monitoring or inspection activity in the municipality, the municipality where the pest is found will be suspended until APHIS and the Mexican NPPO agree that the eradication measures taken have been effective and the risk of the pest in the municipality has been eliminated. In order to harmonize phytosanitary measures between Mexico and the United States, and given that preclearance programs for exports from the United States to Mexico do not in any case suspend the export program for a whole country when there is a single detection of a quarantine pest, we request that the suspension provided for in paragraph (e)(1) be applied to only the grove involved, and not the entire municipality.

Response: Under the regulations, as well as in the proposed rule and its final rule, area freedom for *Heilipus lauri*, *Conotrachelus aguacatae*, *C. perseae*, and *Stenoma catenifer* is defined at the municipality level. Mexico has requested that we adjust this to the orchard level. Such an adjustment would require a change to the regulations, and we believe that the public should have the opportunity to comment on that change and its underlying basis. Therefore, APHIS will take this suggestion under advisement and review whether a pest risk analysis must be conducted to address the requested change, if the change would provide an equivalent measure of phytosanitary security, and whether or not to initiate the rulemaking that would be required to make the requested change.

Comment: Different sensitivities in inspection have not been taken into account in the risk assessment.

Response: The commenter is suggesting that the sensitivity of fruit cutting may be different for the eight pathway pests. The estimate for the sensitivity of fruit cutting used in the May 2004 risk assessment is 50 percent (i.e., an infested fruit would be identified 50 percent of the time). Our use of a point value (50 percent) in the

quantitative model did not include uncertainty about the estimate. APHIS had used the average sensitivity of starfruit and grapefruit [(35 percent + 80 percent) ÷ 2 = 57.5 percent] and rounded down to 50 percent. For simplicity we used a point value, confident that this number is a reasonable minimum and that the actual value is probably higher.

For our updated (August 2004) risk analysis, data were reanalyzed to determine the effect of variation in the sensitivity parameter on the model output. We replaced the 50 percent point estimate with a uniform distribution from 17.9 to 83.5 percent. When we used the entire range given in Gould (1995, table 3, as cited in the risk assessment) of 17.9 percent to 83.5 percent, there was very little change in the results. Gould (1995) reported that the sensitivity of detection by experienced inspectors of six types of fruit (not including avocado) infested with third instar Caribbean fruit fly (*Anastrepha suspensa*) larvae ranged from 17.9 percent for green guavas to 83.5 percent for carambolas. In order to account for uncertainty, a uniform distribution was used in the analysis presented in Appendix D of the updated risk assessment.

The sensitivity of detection could vary somewhat among pathway pests. All of them can damage the fruit pulp when present in the fruit; however, the stem weevil (*Copturus aguacatae*) produces tunnels that are usually restricted to a small portion of the fruit close to the peduncle. Stem weevil larvae rarely migrate into the fruit, but when they do, they are usually localized to the area of the fruit near the peduncle (APHIS, 1997; Gudino Juarez and Garcia Guzman, 1990, cited in the risk assessment). Inspectors are specifically instructed and trained to examine the peduncle end of the fruit for stem weevil larvae (APHIS, 1997, cited in the risk assessment). Because of this training and because the location of stem weevil larvae is highly predictable and usually quite localized, APHIS has determined that the sensitivity of detection for stem weevils and other internal avocado pests could reasonably be considered to be close to the 50 percent point in the 17.9 to 83.5 percent range.

Comment: In the proposed rule, USDA points to the fact that no pests of concern have been found in commercial shipments of Mexican avocados since the program began. This fact may be true, but the Department's reliance on it is misplaced; the dynamic nature of the program ensures that the systems approach will not operate in the same

² Aluja, M., Diaz-Fleisher, F., and J. Arredondo. 2004. Non-host status of *Persea americana* "Hass" to *Anastrepha ludens*, *Anastrepha obliqua*, *Anastrepha serpentina*, and *Anastrepha striata* (Diptera: Tephritidae) in Mexico. *Journal of Economic Entomology*, volume 97, issue 2, April 2004.

fashion from one year to the next, and possibility of human error increases as the program grows in size. The importance of analyzing human reliability factors in the estimation of risk is undisputed. Nonetheless, USDA's consideration of human error in the operation of its systems approach for Mexican avocados has, to date, been inconsequential. The omission of the characterization of failure modes and human reliability in the Department's risk assessment is a fatal flaw that U.S. avocado growers cannot accept.

Response: While there will be additional acres under certification in Michoacan as well as additional avocado imports, the systems approach can be adapted to deal with these increasing requirements. Additional staff or additional layers of mitigations may be added to deal with issues that arise. APHIS meets yearly to negotiate a work plan with Mexican plant health authorities and address issues that arose in the previous year's operation. We are confident that adequate resources will be available to ensure that the systems approach will continue to be effective.

While past experience is not a perfect guide to future performance, there is no reason to believe that we will not be able to rely on the effectiveness of the systems approach under conditions that may exist in the future. Additionally, there is also no reason to believe that the systems approach will remain the same while demand for program resources increases. The systems approach is a dynamic process that is, and will continue to be, modified to address changes and future needs.

Comment: Given the very high long-term costs to California avocado producers (and the State of California) of a pest introduction from Mexican imports, why are all of the pest risk assessments on page 4 of the analysis presented at a 95 rather than a 99 percent level of confidence? I am sure that producers want a high level of confidence that risks are very low or nonexistent.

Response: The risk assessment's Appendix D was modified to include graphic representations of all percentile results for all of the model outputs. Both the 95th percentile and the 99th percentile results are included in the table of results in the body of the document and in Appendix D. The 95th percentile results are as relevant as the 99th percentile.

Comment: I have a problem reconciling the first and last pest risk conclusions on page 4 of the proposed rule. The statement that "fewer than 387 infested avocados will enter the United States each year, estimated with 95

confidence" must be based on a different distribution than the statement that "it is slightly more likely that zero infested avocados will enter the United States than one infested avocado," or the distribution has to have a large standard error on the high side.

Response: The number of infested avocados entering the United States is not a point value but is represented by a probability distribution. A probability distribution presents the range of values a parameter can assume (x-axis), plotted against the relative likelihood of assuming those values (y-axis). The probability distribution for the number of infested avocados entering the United States is presented in Appendix D, page 104. The figure indicates that the value with the highest relative likelihood (the most likely value) is zero, and the mean of the distribution is 122.6.

A cumulative probability distribution presents the range of values a parameter can assume (x-axis), plotted against the likelihood of assuming those values or less (y-axis). The cumulative probability distribution for the number of infested avocados entering the United States is presented in Appendix D, page 104. The 95th percentile value for the number of infested avocados entering the United States is 387. The 95th percentile of a parameter is the value in the data set for which 95 percent of the values are below it and 5 percent are above. The distribution for the number of infested avocados entering the United States is skewed to the left, and has a tail to the right.

The most likely value or mode is the value that occurs most often in a set of values. In a histogram and a result distribution, it is the center value in the class or bar with the highest probability. In this case, the most likely value is zero.

Comment: The statement in the APHIS risk assessment comparing the probability of entry of zero versus one infested avocado is not at all useful. A more relevant comparison of probabilities is between zero and one or more infested avocados entering the United States. In addition, a description of the statistical distributions (i.e., mean and variance) that these statements are based on would help the reader to better understand the nature of the risks.

Response: Appendix D has been modified to include mean and standard deviations for all model output results. The mode of the distribution is zero; therefore, zero infested avocados entering the United States is more probable than one.

Comment: The consideration on behalf of the USDA to import foreign fruit motivates foreign growers to

purposely smuggle and introduce insects into U.S. growing areas so as to overcome the opposition to import, such as was suggested in the Valley Center Mexican fruit fly infestation which cost growers millions.

Response: While the origin of the Valley Center outbreak has not been determined, we have no information to suggest it was the result of an intentional introduction of pests as the commenter contends.

Comment: The public must be informed about where the transportation of avocados is prohibited and where it is not. The public must also be informed that they are prohibited from personally transporting avocados into the United States, even if commercial (inspected) avocados are permitted. Public education is even more critical within the avocado growing and producing States of Florida, California, and Hawaii. How does the USDA propose to educate the public about this proposal? If there is a trial period, how does the USDA plan to inform the public in Florida, California, and Hawaii that commercially produced Mexican avocados are still prohibited into those States? The public will not see a difference between these two scenarios and it is not discussed within the proposal. I fully expect to see serious increases in inadvertent movement of fruit from Mexico.

Response: The general public will be notified of the change in the Mexican avocado program and its specific restrictions through this rulemaking process and through Agency outreach and the media by way of press releases, fact sheets, publications, and other materials that help explain APHIS programs. The Agency's outreach efforts are coordinated with those of the States in order to extend their coverage. Federal inspection officers at ports of entry will continue to inspect members of the public returning to the United States and will seize any agricultural items, including avocados, that are prohibited from entering the country.

Comment: In light of the ARS conclusion that Hass avocados are a very poor host for *Anastrepha* fruit flies, it would seem logical for APHIS to at least lower some of the very costly elements of the systems approach in Michoacan that are targeted at *Anastrepha* spp. fruit flies. Yet, instead of decreasing the requirements aimed at fruit flies in Michoacan, APHIS has left the requirements for fruit fly trapping completely intact. This means that when *Anastrepha* spp. flies are found, a list of unnecessary regulatory actions must take place, including the needless application of pesticides.

Considering the consensus that the Hass avocado is a very poor pathway for *Anastrepha* spp. fruit flies, it would seem logical to replace the current restrictions requiring the need for a full fruit fly trapping program with a fruit fly monitoring program. Additionally, in light of the proposal to remove the specific details of the seed and stem pest surveys from the regulation and insert them into the phytosanitary work plan, it would also make sense to remove the specific language referring to this fruit fly monitoring activity from the regulation and, for the sake of consistency, insert it into the phytosanitary work plan as well. This way, as the discussion on the host status of the Hass avocado continues to evolve, there will be no need to go through the rulemaking process to make adjustments to this section of the regulation in the future.

Response: Removing the details for fruit fly trapping was not considered at the time the proposed rule was published and, therefore, we will not remove those details in the final rule. We will, however, consider this issue for future rulemaking.

Comment: USDA should ensure that the surveys and detection trappings in Mexico occur during all 12 months of the year to ensure that monitoring for all potential pests is sufficient for all the listed pests and occurs during all the potential detection periods (instead of the proposed semiannual surveys).

Response: The semiannual municipality and orchard surveys are required for initial certification and to maintain certification later on. There is year-round trapping for fruit flies, which is performed in support of a separate APHIS program, and packinghouse and border inspections will occur on a continual basis. Other pests of concern are surveyed at specific times of the year based on the biology of those species. The regulations provide for the suspension of an orchard or municipality from the program at any time as a result of the detection of specified pests during the semiannual pest surveys, orchard surveys, packinghouse inspections, or other monitoring or inspection activity.

Comment: We disagree with the APHIS proposal to replace the requirement to seal each consignment moving from the packing shed to the border with a new requirement for the avocados to be packed in insect-proof boxes, loaded in insect-proof containers, or covered with insect-proof mesh or plastic tarpaulin prior to leaving the packing shed so that in the very infrequent occurrence of a shipment being stopped for inspection by

Mexican authorities, fruit flies or hitchhiking pests will not enter. It is not logical to add those requirements for the following reasons:

- Refrigerated containers do not attract fruit flies or other subtropical pests. In fact the opposite is true. Refrigerated containers present a very inhospitable environment for tropical and subtropical arthropods. Additionally, such conveyances do not provide an adequate environment for insect activity such as oviposition.
- If the Hass avocado is not a host to the fruit flies that occur only in rather small numbers in Michoacan, then fruit fly-proofing the shipment is completely unnecessary.
- Actual fruit fly host materials such as mangos, citrus, tomatoes, and peppers, which are routinely shipped from Mexico to the United States, are not subject to such a requirement, nor is it necessary.

- Fruit fly/insect proof requirements on commodities such as tomatoes from Israel or citrus from Spain are in place because the fruit is often subject to long periods of exposure to the environment while awaiting shipment to the United States at seaports or airports. One hundred percent of the Hass avocado shipments destined to the United States from Mexico are safeguarded in insect-proof warehouses prior to being sealed in insect-proof, refrigerated trailers.

Based upon this reasoning, we believe that the current sealing requirement is adequate and should remain in place.

Response: After careful consideration of the comments, APHIS has decided to retain the provisions regarding sealing of containers. In the proposed rule, we stated that our reason for changing from sealing of containers to pest proof boxes, for safeguarding purposes, was because some containers had been arriving at the port of entry with broken seals. Seals could and were being broken by Mexican authorities, to inspect containers for contraband. When the containers were inspected by Mexican authorities, we were concerned that the shipment could be exposed to possible infestation.

Upon further investigation, APHIS found that Mexico has effectively addressed the issue of shipments arriving with broken seals. If a seal is broken by a Mexican official, that official is to provide a specific document stating that he/she has broken the seal. If the documentation is not provided, U.S. inspectors use various methods to determine if the shipment had been tampered with.

Data collected at the border reflects that Mexico has taken steps to adequately address the broken seal

issue. The number of shipments that arrived at the ports of entry with broken safeguarding seals decreased considerably, from 690 shipments in the 2002/2003 season to 231 in the 2003/2004 season. Of the 231 shipments arriving with a broken seal during that last season, more than 86 percent had documentation from the Mexican official who broke the seal. In addition, the data show that none of the shipments arriving with broken seals were compromised or infested with pests. As the commenter noted, refrigerated containers present a very inhospitable environment for tropical and subtropical arthropods and such conveyances do not provide an adequate environment for insect activity such as oviposition. We agree with the commenter as our data supports this statement.

Based on the above, we will continue to require sealing of shipping containers at the packinghouse to safeguard each consignment as it transits Mexico to the United States. This will not affect the results or conclusions of the risk assessment. As long as sufficient measures remain in place to safeguard the avocados during transit to the United States, the conclusion of the risk assessment that likelihood of introduction of quarantine pests is low will remain the same. Therefore, this final rule does not require the avocados to be packed in insect-proof cartons, loaded in insect-proof containers, or covered with insect-proof mesh or plastic tarpaulin prior to leaving the packinghouse.

Comment: Five years ago, the USDA representatives presented a plan, called the "systems approach to pest risk mitigation." The plan was evaluated by two models, using the Monte Carlo modeling engine. The first model, that of no import restrictions, was compared to the second model, that of the systems approach. Had the evaluation established a model for the current environment at the time, that of a complete ban on Mexican avocado imports, the systems approach could never have generated acceptable numbers in the modeling engine. Model 1, no restrictions, indicates a likelihood of infestation by the seed weevil in an average of 95 years, seed moth in 355 years, and the fruit fly in 72 years. Model 2, the systems approach, indicates a likelihood of infestation by the seed weevil or fruit fly in 10,000 years, and by the stem weevil in 11,000 years. In reality, a complete ban on Mexican avocado imports into California in the current environment has led to two Mexican fruit fly infestations in the last 5 years.

Infestations by perseia mite, thrips, and other pests have also occurred within the last 12 years.

Response: Contrary to the commenter's conclusion that prior infestations in California were the result of APHIS policy, there is no evidence linking any infestations with commercial Hass avocados from Mexico imported under the program regardless of a model used to predict risk. The current APHIS risk assessment based its predictive model on detection samples for the quarantine pests of concern. The samples were program fruits cut during orchard certification surveys, packinghouse inspections, and at the border. This produced a sample of over 10 million fruit taken over 6 years of the import program. The results of the model are presented as expected numbers of infested avocados entering the United States annually.

Comment: The fruit fly study does not address susceptibility of late season avocado to infestation. From my own grove operation, I have noted the following late season fruit quality characteristics which could influence fruit susceptibility to insect infestation:

- Fruit oil content is higher than early season fruit;
- Seed tap root pushes through bottom of avocado giving easy access to fruit interior;
- Fruits start ripening on the tree; and
- Handling time window shortens; mature fruit ripen quicker.

The fruit fly is not the only insect pest of concern. How does late season avocado fruit impact the occurrence of stem and seed weevils? What other late season Mexican insect pests must the industry be concerned with? USDA has failed to account for the possibility of the harvest of mature, ripe avocados that could harbor fruit fly eggs and larvae.

Response: The Aluja *et al.* fruit fly study included avocados tested on the tree at maturity levels from low to high percentage dry matter, indicating early and late season fruit. ARS reviewed the study and concluded that commercial Hass avocados are a very poor host for Mexican fruit fly and did not single out any maturity stage on the tree as particularly vulnerable. APHIS has concluded, based partly on the ARS findings, that there is a low likelihood of *Anastrepha* species of fruit flies being in program fruit. APHIS recognizes that other internal quarantine pests analyzed in the risk assessment may be present in mature fruit, but that systems approach measures maintain the low likelihood of their introduction in program fruit, which has been validated by the fruit sampling that has been conducted over 6 years of the program.

Stem weevils are found in all varieties of avocados and can be especially abundant in trees not managed under the program. Stem weevils can be detected both by visual examination of cut fruit and by the highly visible exudates the larvae leave on tree branches. Orchards will be surveyed semiannually for stem weevil, and if weevils or weevil signs are found, certification is denied or suspended. Additionally, if stem weevil larvae are found in fruit cut at the packinghouse or at the border, the regulations require the removal of the originating orchard from the program immediately and avocado exports from that orchard will be suspended until APHIS and the Mexican NPPPO agree that the pest eradication measures taken have been effective and that the pest risk within that orchard has been eliminated.

Additionally, and as previously stated, USDA considers mature, commercial Hass avocados to be a very poor pathway for thrips. Several research studies (e.g., Hoddle, 2002; Yee *et al.*, 2003, cited in the PRA) have demonstrated that *Scirtothrips perseae*, the avocado thrips (which APHIS considers as probably representative of other pest thrips species) lays eggs in small, immature fruits and tender leaves, and does not feed on or lay eggs in mature fruit, and is, therefore, unlikely to be imported with the fruit. This is supported by the fact that there have been no thrips interceptions by APHIS on commercial Hass avocados from Mexico since the program began.

Comment: In order to provide time to reconcile critical issues on safe agricultural import practices and create parity in U.S./Mexican trade policy, there should be no expansion of Mexican avocado imports beyond the 31 currently approved States for a period of 7 years. During that time, U.S. avocado producers should have unrestricted access to designated Mexican markets with allowances for comparable levels of export (tonnage). Also during the 7-year period, the USDA should:

- Conduct a comprehensive research program on U.S. avocado farms to document existing exotic pest and disease problems;
- Monitor U.S. avocado farms to measure the increase or decrease to U.S. avocado production and costs from exotic pests; and
- In conjunction with the California and Florida avocado commissions, verify Mexico's compliance with and support of the U.S. avocado export program.

After this 7-year period, USDA may consider easing restrictions subject to the following conditions:

- U.S. avocado farms experience no significant additional impacts due to exotic pests or expanded quarantines;
- U.S. avocado exports to Mexico have reached a comparable equilibrium measured in tonnage and price with Mexican avocado exports to the United States; and
- No new research or data demonstrate greater future risk from exotic pests or diseases from expanding Mexican avocado imports into additional U.S. States.

Assuming these conditions have been met, USDA may propose to allow further Mexican exports to U.S. States other than California and Florida and the States which directly border California.

Response: APHIS has no authority under the Plant Protection Act to prohibit or restrict the entry of an article merely to create parity in trade between the United States and another nation. Further, as a signatory to the International Plant Protection Convention, the United States has agreed not to prescribe or adopt phytosanitary measures concerning the importation of plants, plant products, and other regulated articles unless such measures are made necessary by phytosanitary considerations and are technically justified. Based on the conclusions of the APHIS risk assessment, we do not believe that there is a technical justification for the 7-year delay or other measures suggested by the commenter. We have, however, implemented a 2-year delay for imports into and distribution within California, Florida, and Hawaii in response to other comments we received on the proposed rule. This restriction will provide APHIS an opportunity to further substantiate the effectiveness of the mitigation measures under the expanded program.

Comment: USDA's proposed rule on the Mexican Hass avocado import program includes several proposed changes to the protocol under which the program operates. For example, the Department has proposed conducting semiannual, rather than annual, pest surveys at the municipality and orchard levels. We support the idea of semiannual surveys during the wet and dry seasons. It is appropriate, too, to leave the details of how and when surveys will be conducted to the annual work plan developed by Mexico's national plant protection organization and APHIS. In our view, it is imperative, however, that areas with wild or backyard avocado trees continue to be included in pest surveys conducted at the municipality level. These areas represent the greatest

potential source of infestation or reinfestation of export orchards.

Response: The proposed rule did not include a proposal to eliminate the surveying of areas with wild or backyard avocado trees during municipality surveying. The proposal was to eliminate specific language on the surveys from the regulations because this information would be included in the workplan. Areas with wild or backyard avocado trees will continue to be surveyed.

Comment: The regulations in § 319.56–2ff (c)(2)(iii) state that “avocado fruit that has fallen from the trees must be removed every 7 days and may not be included in field boxes of fruit to be packed for export.” I request and strongly recommend this permissive “may” be strengthened to a mandatory “must” or “shall.”

Response: The phrase “may not be included” does not contain a “permissive” element as the commenter suggests. As written, the text of § 319.56–2ff (c)(2)(iii) serves as clear prohibition on the inclusion of fallen fruit in field boxes of fruit to be packed for export.

Comment: Serious program infirmities must be addressed before expansion can occur: There are no standardized procedures, training, or oversight for fruit cutting; fruit cutting techniques are ineffective at detecting the eggs, first instar, and second instar larvae of fruit flies or the stem weevil, rendering USDA’s risk probabilities unreliable; improper pest survey timing has underrepresented pest population levels; fruit fly trapping methodology and servicing are flawed; fruit fly response and treatment procedures are inadequate. The inspection process is not sufficient. USDA inspectors may simply drop an avocado into a slicer and check for a mature worm rather than using a loupe (a portable microscope lense). The larvae for almost every pest are not visible to the naked eye. Additionally, the Department of Homeland Security (DHS) is now doing port inspections that focus more on drugs, guns, etc., than plant pests.

Response: Regarding training and oversight for fruit cutting, inspectors are trained to detect pathway pests based on the biology of the pest and what signs or symptoms of infestation to look for. They have hand lenses that they may use, if they need them, to complete an inspection. Pest damage, rot, and most stages of each of the internal pests are visible to the trained inspector. APHIS is aware that there is a possibility that a pest may escape detection and has accounted for this uncertainty in the current risk assessment. Fruit cutting is

only one of the multiple measures of the systems approach that mitigates pest risk.

Survey timing: Under the modified systems approach, semiannual surveys will be conducted at the municipality and orchard level. Municipalities must be free of *Ceratitis capitata*, *Conotrachelus aguacatae*, *C. perseae*, *Heilipus lauri*, and *Stenomoma catenifer* before they can be certified to export avocados to the United States. In addition, orchards must be certified free of *Copturus aguacatae*. Trapping is conducted in orchards for *Anastrepha* spp. fruit flies. Both the regulations and the workplan specify what mitigation measures must be taken when a pathway pest is detected in a certified orchard. The time periods selected for the surveys were based on the biology of the pests. Additionally, the fruit cutting will be conducted in the orchard, packinghouses, and at the port of entry. Since the expansion of Mexican avocado imports in 1997, none of these pests have been intercepted during inspections of fruit at packinghouses or upon inspection at the U.S. border ports.

Fruit fly trapping is modeled after other APHIS programs for consistency, and the actions are based on the biology of the pests and fruit fly detections.

Comment: Because of insufficient analysis, USDA should subject its risk assessment to rigorous, external peer review, to incorporate the best science available and to establish a more credible research base for its decision to allow imports to particular States. Serious program deficiencies must be addressed before Mexico is allowed to expand exports to additional States. For example, there are no standardized procedures, training, or oversight for fruit cutting during pest inspections. Fruit cutting techniques are ineffective at detecting the eggs and larvae of fruit flies or the stem weevil, thus rendering USDA’s risk probabilities unreliable. Additionally, improper pest survey timing has underrepresented pest population levels; fruit fly trapping methodology and servicing are flawed; and fruit fly response and treatment procedures are inadequate. I urgently request that this program be suspended for further study by independent experts in the field and in consultation with the industry because the scientific basis for allowing Mexican fruit into the United States was based on a joint USDA-Mexico study for one growing season in Mexico. This study is a very small basis upon which to overthrow 80 years of exclusion and contains much that is controversial and open to question.

Response: The APHIS risk assessment has been made available for public review twice. First, we made the draft risk assessment available for public comment for a total of 90 days through a notice of availability published in the **Federal Register** on June 16, 2003 (68 FR 35619, Docket No. 03–022–1), and a subsequent extension of the comment period (68 FR 48595–48596, Docket No. 03–022–2, published August 14, 2003). An updated version of the risk assessment was also made available for public comment for an additional 60 days as part of our May 2004 proposed rule. We received numerous comments regarding the risk assessment in both instances, including comments from professional risk analysts, private risk consultants, and university and government scientists, and updates have been made to the risk assessment to address those comments. Further, the fruit fly study (Aluja *et al.* 2004) noted by the commenter that is cited in the risk assessment was subjected to rigorous peer review prior to its publication in the *Journal of Economic Entomology* and was likewise reviewed by USDA fruit fly experts in ARS and APHIS. The input that APHIS received from ARS follows the tradition and guidelines of peer review. The ARS experts offered their own interpretation of the scope and applicability of the findings. This information suggested that we should update our risk assessment, and we considered the ARS input in preparing our updates and changing our classification of the host status of Hass avocados. We believe that these documents do, in fact, provide a credible research base for our decisionmaking with regard to the expansion of the Mexican avocado export program to additional States and the Secretary’s determination is based on the findings of the risk assessment and her judgment that the application of the measures required under § 319.56–2ff would prevent the introduction or dissemination of plant pests into the United States, thus we do not believe that the program suspension recommended by the commenter is appropriate.

The specific issues raised by the commenter regarding fruit cutting, pest surveys, inspection, and fruit fly trapping are addressed in the response to the previous comment.

Comment: In the proposed rule, APHIS states that even if an infested avocado were to arrive in an area of the United States where host material was present, several additional conditions are required for pest establishment (*i.e.*, the pests survive during transportation and storage; the infested avocados must

be discarded in close proximity to host material; the pests must find mates; the pests must successfully avoid predation; the adult pests must find host material; the climatological and microenvironmental conditions must be suitable; and they must escape detection and subsequent eradication measures). APHIS admits that information that would allow quantifying these conditions is not currently available. Without that information, how can the Secretary conclude that it is not necessary to restrict Mexican avocados for phytosanitary reasons?

Response: As stated in the proposed rule and in this document, the Secretary's determination is based on the findings of the risk assessment and her judgment that the application of the measures required under § 319.56-2ff would prevent the introduction or dissemination of plant pests into the United States. The risk assessment contains both quantitative and qualitative elements, and our final expression of a likelihood of introduction is a descriptive statement. The results of the quantitative analysis do not equate to likelihood of establishment. Rather, they express the likelihood of an infested avocado being discarded in a suitable location; establishment and spread would require the additional steps noted by the commenter, which substantially reduce the likelihood of establishment. People generally consume the fruit they purchase and dispose of the waste material in a manner (such as in plastic bags that are landfilled or incinerated³) that precludes the release of pests into the environment. For these reasons, our final expression of a likelihood of introduction is a descriptive statement. These factors, in combination with the results of the quantitative analyses, led APHIS to conclude that the likelihood of establishment of infested avocados through the commercial pathway of Hass avocados imported from the State of Michoacan and produced using the systems approach is low.

Comment: Much is made in the risk assessment of the maximum likelihood estimate of the number of infested avocados imported in any year being zero. However, a more interesting statistic, from the point of view of the agricultural industry, is the probability of no infested avocados being imported in any year. From this one can calculate the probability of importation of infested fruit over a period more

meaningful to agriculture. For tree crop agriculture, 20 years or more is a meaningful planning horizon, and the formula $p_{20} = 1 - (p_i)^{20}$ where p_{20} = the probability that 1 or more infested fruit will be introduced during a 20 year period and p_i = the probability of no infested avocados being imported (assuming p_i for $i = 1$ to 20 are independent) in any year. This p_{20} can be adjusted for the likelihood that any imported infested fruit will result in establishment of the pest in a producing area, as presented in the text. From this estimate of the probability of establishment of the pest, multiplied by the cost of eradication plus losses to growers, one can calculate the expected cost of allowing the importation of Mexican avocados. This calculation has much more meaning to the industry than the mere statement that the probability of infestation from imported avocados (in any one year) is "low."

Response: The risk assessment was prepared to assist APHIS in evaluating Mexico's request to expand the scope of the existing Hass avocado import program. As such, its purpose was to analyze the risks of expanding the Mexican Hass avocado import program to authorize imports throughout the United States year-round. Although the method presented by the commenter for estimating the likelihood of no infested avocados being imported in any year could produce useful information from the point of view of the agricultural industry, it does not appear that the endpoint sought by the commenter—i.e., the "expected cost of allowing the importation of Mexican avocados"—could be achieved in a meaningful way. Two of the factors that would be considered in the calculation proposed by the commenter—the cost of eradication plus losses to growers—could vary enormously, depending on the nature and scope of the pest outbreak to be eradicated and the effects the particular pest might have on production, so the final estimates would necessarily be very broad in their range.

Comment: With respect to the risk assessment, USDA has ignored the directive of the Congressional Appropriations Committee, which stated "The Committee directs APHIS to include independent, third party scientists in the development of any PRA for Mexican avocados prior to the publication of any PRA in the **Federal Register**." Further, USDA ignored fundamental disagreements between its own scientists regarding the conclusions drawn by the underlying research data, and has not released that research data, thus not allowing time for independent review before the risk assessment was

issued. Finally, the USDA has assigned only a minimum crew of 11 men to survey and monitor an increase of Mexican avocado acreage from 3,700 acres in 1997 to over 53,000 certified acres.

Response: On June 16, 2003, APHIS published a notice in the **Federal Register** to inform the public of the availability of a new draft PRA that was prepared in response to the Mexican Government's request that the avocado import program be expanded to include all 50 States for the entire year. In accordance with the Committees' direction to include independent, third party scientists in the development of PRAs for the avocado program, APHIS scientists consulted with independent subject matter experts from a variety of accredited academic institutions during the development of the draft PRA. These institutions included, among others, Florida A&M University, the University of Florida, and the Institute of Ecology in Veracruz, Mexico. APHIS scientists also consulted with ARS researchers from various locations, including Hawaii and Texas. APHIS extended the original comment period on the PRA for an additional 30 days and accepted public comments on the assessment until September 15, 2003. The public comment period served as an additional opportunity for all members of the public, including independent researchers and members of academia, to evaluate the draft PRA. After reviewing all the comments, we determined that it was appropriate to move ahead with a proposed rule. We reported our action to the Committee prior to publishing the proposed rule.

As noted above, APHIS solicited the opinion of ARS scientists regarding the fruit fly research presented in Aluja *et al.* (2004) and worked with those scientists to understand the similarities and differences between our Agencies' interpretations of the conclusions drawn in the study. The APHIS position was to initially agree with Dr. Aluja's findings that commercially packed Hass avocados are not a host of Mexican fruit flies. ARS took a slightly more conservative position that those avocados are a very poor host of the Mexican fruit fly. The difference in the categorization of the Hass avocado's host status did not effect the level of risk in the APHIS risk assessment. APHIS did, in the final analysis, change its categorization of the Hass avocado host status based on ARS's conclusions. Changing our conclusions on the host status made it then necessary to calculate the pest risk for fruit fly in our risk assessment. After performing these calculations, we found the likelihood of

³ Citations pertaining to disposal patterns can be found on pages 9 and 36 of "Importation of Avocado Fruit (*Persea americana* Mill. var. "Hass") from Mexico: A Risk Assessment," September 17, 2004.

fruit fly infestation through commercial shipments of Hass avocado from Mexico to be very low. The pest risk did not change as a result of labeling the fruit fly as a poor host rather than a non-host.

The Aluja *et al.* research used in the APHIS risk assessment was published in the Journal of Economic Entomology in April 2004. Because the proposed rule was published on July 23, 2004, and was open for public comment for 60 days, we believe that the research was available to the general public with ample time for examination. Because the Aluja *et al.* study had already been accepted for publication in 2003, it was unavailable for distribution during the June-September 2003 comment period for the draft PRA.

Finally, as previously stated, APHIS' role under the operational workplan provided by the regulations is to provide management and monitoring of the activities specified in the workplan, e.g., trapping, surveying, and packinghouse inspections. While APHIS personnel do not necessarily conduct these activities themselves, they do monitor Mexican officials' compliance with workplan specifications. The staffing level of APHIS personnel is sufficient to ensure that APHIS meets its requirements under the workplan and that other signatories are in compliance with the regulations. The lack of pest detections in the orchard, packinghouse, and border inspection since the program began in 1997 is evidence that the regulations and workplan are being complied with.

In addition, as more orchards have applied for certification, it does take longer for inspectors to perform the initial inspection before the first shipping date of October 15. The inspectors have had to start inspections earlier before that date each year to finish inspecting all of the orchards. Additional inspectors would be hired to inspect the increased acreage within the required time-frame. If the inspection does not occur within that timeframe, the orchards would not be certified. All orchards must be inspected using the same work plan criteria, as the records show. APHIS keeps lists of all the orchards inspected by name.

Comment: Limiting Mexican fruit to colder climates makes sense. Maybe Mexican fruit could be allowed only if it were packaged and processed in a frozen type of product.

Response: Some types of processed avocado products are allowed into the United States and can go to all States. Whether or not the processed product is allowed in depends on whether the processing mitigates any pest risk.

Frozen avocados are allowed entry if they meet these requirements:

- An import permit is required,
- The seeds must be removed; and
- The avocados must be at or below

20 °F at the time of arrival at the port of entry. If the temperature of the avocados is higher than specified, the avocados will be required to meet the import requirements of fresh avocados.

As we discussed in the proposed rule and in this final rule, we do not believe it is necessary to limit the importation of Mexican avocados to cooler climates because of the mitigations in place and the findings in our risk assessment.

Comment: Cultural practices used by Mexican avocado growers, including unsanitary Mexican growing conditions in which human waste is used, could cause illness in U.S. consumers.

Response: APHIS has no information to suggest that human waste is used in avocado production in Mexico. Even if it were used in some cases, the fact that avocados are a tree fruit make it unlikely that avocados on the tree would be contaminated as a result.

Comment: Regarding this proposal to establish limitations on the entry of Hass avocados into States with commercial production of avocados in the United States, we believe that the scientific support contained in the Aluja *et al.* study, which documents the scientific evidence showing that the Hass avocado is not a host for *Anastrepha* spp. fruit flies, together with there having been no detections of quarantine pests throughout 7 years of exporting, ensures an adequate level of plant health protection for the United States, including the avocado-producing areas.

The above is also supported by the risk assessment prepared by USDA in which the probabilistic analysis, based on the information from cut fruit exported to the United States, establishes that the annual number of fruits infested by quarantine pests imported into the United States is zero.

Response: To provide APHIS an opportunity to further substantiate the effectiveness of the mitigation measures under the expanded program as discussed in our risk assessment on pages 4, 10, and 11, APHIS has decided to delay for 2 years the implementation of the importation of Hass avocados from Mexico into all 50 States. Rather, APHIS will allow for the immediate importation of those avocados into all States except for California, Florida, and Hawaii, which are avocado producing States, to monitor the program and gather efficacy data under production conditions during all months of the year. While APHIS has concluded in the

risk assessment that there is low likelihood of introduction of fruit flies based on the findings of the Aluja *et al.* study, as well as the conclusion of ARS that commercial program Hass avocados are a "very poor host" of Mexican fruit fly and our own analysis of detections based on over 10 million fruit sampled over 6 years of the import program, we believe the delay will offer the opportunity to further substantiate these findings. In the risk assessment, APHIS was asked to determine the likelihood of introduction of quarantine pests of concern in program Hass avocados from Mexico. Based on the above evidence presented in the risk assessment, a finding of "non-host" for *Anastrepha* spp. fruit flies was not necessary for APHIS to draw the conclusion of low likelihood of introduction. During the near future, however, APHIS plans to work with Mexico, ARS, and independent researchers in the scientific community to form a consensus on the host status issue of the Hass avocado and *Anastrepha* spp. fruit flies.

Comment: To protect our avocado-growing States from inadvertent transmission of infested fruit, buffer zones of additional States is a must. There is ample clientele for Mexico to sell, promote, and educate outside our vulnerable areas. Mexican producers' insistence to sell fruit in California and other growing areas shows proof of their intent to destroy their competitors by causing pest infestations in an area that would not have the tools to deal with the infestation because of government regulations.

Response: APHIS has determined that the likelihood of introduction of quarantine pests of concern would not be significantly reduced by buffer States any more than just prohibiting movement into or through California, Florida, and Hawaii for 2 years for the following reasons:

1. The likely buffer States, which would be Alabama, Arizona, Georgia, Nevada, and Oregon, do not produce avocados or have special quarantine regulations against avocados moving through their States or moving into the prohibited States, but California and Florida do have adequate quarantine regulations against certain agricultural products moving within them. Since Hawaii is an island, it would not need "buffer States."

2. The avocado-growing area of Florida is confined to the southern half of the peninsula, therefore the State's northern counties serve as buffers to the producing counties. The avocado-growing areas of California are more extensive, but they are either bordered

by the Pacific Ocean on the west, large expanses of mainly desert counties of California or desert areas of Nevada and Arizona to the east, a wide expanse of non-avocado-growing counties to the north, and Mexico to the south.

Comment: I strongly oppose any provisions that would allow Mexican Hass avocados to enter Florida until at least 1 year's worth of monitoring data, both within Mexico and shipments to other States, has been collected to demonstrate that the shipments are free of plant pests of quarantine significance. Scientific data should be provided that proves that the Mexican Hass variety of avocados is, under all environmental conditions, resistant to all fruit flies known to be established in Mexico. There is concern that environmental conditions may cause the avocado to ripen prematurely while still on the tree and therefore making it susceptible to fruit flies. I would also like to receive information regarding the Mediterranean fruit fly trapping program that is being utilized in Hass avocado production areas in Mexico.

Response: As previously stated, APHIS is implementing a 2-year delay on the importation of Hass avocados from Mexico into California, Florida, and Hawaii. Additionally, in their review of the Aluja *et al.* fruit fly research, ARS noted that there were some larvae that developed in a few infested fruit, that the conditions enabling the larvae to develop were not known, and that viable adults were not produced. Even allowing for the few larvae, ARS experts still concluded that the fruit were a "very poor host" of Mexican fruit fly. The Aluja *et al.* research included fruit at all levels of maturity including fruit off of the tree that had been allowed to ripen for three hours. The conclusion was that fruit still on the tree was not a host for the fruit fly.

The Mexican Mediterranean fruit fly trapping areas include all of the avocado-growing areas of Michoacan. APHIS monitors all aspects of the pest detection protocol in all avocado producing municipalities that export to United States, including trapping for Medfly. Under our regulations, Medfly is trapped at a density of 1 trap per 1 to 4 square miles. Any findings of Medfly must be reported to APHIS.

Comment: There are a number of issues of concern not addressed in the underlying research and the APHIS risk assessment used to justify the expansion of the Mexican Hass avocado import program. These issues are:

- The APHIS risk assessment does not provide scientific data covering phenology of fruit or the changes in

soluble solids throughout the year as it relates to pest infestation;

- Traceback methods have been ineffective in the past;
- The movement of fruit from an area of low pest prevalence may not be accurate. The number of infested fruit could be much higher than predicted;
- There is no information about temperature ranges during exposure period and effect of temperature changes on quarantine pests;
- USDA has never clarified how the Mexican fruit fly infestation entered Valley Center, CA, in 2002.

Response: The Aluja *et al.* study did include the summer months June, August, and September as well as other months, fruits of a range of sizes that were commercially mature, and mature fruit attached to the tree as well as off the tree. This covered a range of fruit sizes and soluble solid ranges. APHIS and ARS both concluded, based on the study, that the fruit were a very poor host for Mexican fruit fly. Fruit of a range of sizes and solid content have been present on the trees during the 6-month shipping season, and only mature fruit are exported, which may represent a range of soluble solid contents. Sampling is done throughout the shipping period as well as in the orchards before the season, so a range of soluble solid contents that may occur in mature fruit would be in the sampled fruit. The shipping season, which has occurred during a 6-month period with wide temperature fluctuations, and the inspections conducted during that period were considered in the risk assessment. The risk assessment describes fruit sampling by other researchers that included most months of the year when pests would be likely to be found.

Regarding tracebacks, because no infested exported fruit have been detected in 6 years of sampling, no tracebacks have been necessary in the program. However, because of required labeling on the boxes, the necessary information is available to trace fruit back to packinghouses and orchards if necessary.

Additionally, APHIS has monitored infestation through inspection of program exported fruit. Predictions of infestation are based on the inspections. The "area of low prevalence" concept is not an element of the systems approaches that is relied upon under the importation program. In relation to fruit flies, orchard trapping and subsequent eradication if there is a detection are required under the program.

Finally, as stated previously, the Valley Center infestation stemmed from unknown origins and not from a legally

imported commercial Hass avocado shipment from Mexico, which were prohibited from entering California. The Mexican fruit fly could have been introduced into California through a number of pathways, including the smuggling of many different kinds of fruit.

Comment: Allowing Mexican avocados into California would be a signal to the public that it is permissible to bring avocados across the border from sources that have not been inspected. Therefore, USDA should formulate a rule that includes a permanent provision to not allow Mexican Hass avocados to be imported into California or any other avocado-producing State.

Response: It is stated in the regulations that commercial shipments of Hass avocados from Mexico cannot be imported or distributed into California, Florida, and Hawaii for the first 2 years of the expanded importation program. Inspectors will continue to check returning travelers for unapproved agricultural commodities, including avocados. Our regulations are enforceable under the provisions of the Plant Protection Act.

Comment: Based on the results reported in the Aluja *et al.* study, which established that the avocado should be considered a non-host for *Anastrepha* spp. fruit flies, we request that *A. ludens* and *A. striata* be removed from the list of pests of Hass avocados grown in Mexico that follow the pathway.

Response: APHIS has concluded in the risk assessment that there is low likelihood of introduction of fruit flies based on the finding of ARS that commercial program Hass avocados are a "very poor host" of Mexican fruit fly, and on analysis of detections based on over 10 million fruit sampled over 6 years of the import program. During the near future, however, APHIS plans to work with Mexico, ARS, and independent researchers in the scientific community to form a consensus on the host status issue of the Hass avocado and *Anastrepha* spp. fruit flies. At that time we will evaluate all *Anastrepha* spp. fruit flies and determine which species should be removed from the pest list.

Comment: For reasons not known, it appears that APHIS has accepted the unsupported and seemingly arbitrary opinion of ARS over the conclusions of a team of scientific experts, headed by one of the foremost fruit fly researchers in the world, after 2 years of exacting research on the precise issue, and subsequently peer reviewed and published in the Journal of Economic Entomology. In short, a three-page memo based upon the opinion of two

ARS researchers with limited history in this area, containing one reference to a study that was done on a different avocado, in a different environment, with different insects has overruled the years of painstaking research and the peer reviewed study published in the Nation's leading relevant scientific journal.

Even the California Avocado Commission (CAC) supports this concept. On December 20, 2002, in a letter to Dr. Richard Dunkle, Deputy Administrator, USDA-APHIS-PPQ, an official of the CAC requested an "alternative protocol" that would allow Hass avocado growers in the core area of the Valley Center Mexican fruit fly outbreak in California the opportunity to harvest and distribute Hass avocados under a system that mirrors the Mexican Hass avocado export program. Surely, the CAC would not make this request if they thought that the Hass avocado would pose the threat of moving *Anastrepha* spp. fruit flies out of the quarantined area into other areas of California and the country.

Response: The claim that non-experts from ARS provided input is incorrect. Whereas those particular ARS experts may not have published extensively on fruit flies, a biological scientist is perfectly able to review documents for scientific validity. The input from ARS follows the tradition and guidelines of peer review, and the ARS experts did not say that the article from Aluja *et al.* was invalid; rather the ARS experts offered their own interpretation of the scope and applicability of the findings. This information suggested that we should update our risk assessment, and we considered the ARS input in preparing our updates. We fully intend to continue to seek and incorporate ARS expertise and guidance in our risk analysis products.

Comment: The Mediterranean fruit fly (*Ceratitis capitata*) is not present in Mexico. Only two outbreaks have occurred along the border between Chiapas and Guatemala, which were treated through the National C. capitata Campaign, in which the Governments of the United States, Mexico, and Guatemala participate, and those outbreaks were controlled. For this reason, there is no justification for establishing measures to prevent the introduction of this pest by means of the entry of Mexican Hass avocados into the United States, since the avocado exporting zone is located far away from the site of the outbreaks in Chiapas.

Response: While the Mediterranean fruit fly is currently considered eradicated in Michoacan, there have been occasional limited outbreaks

beyond those cited by the commenter. Therefore, APHIS will continue monitoring for Medfly. APHIS continues to consider Mediterranean fruit fly monitoring and control as important elements of the Hass avocado program systems approach, as avocados are considered to be a good host of Mediterranean fruit fly. The pest is regarded in the risk assessment as a quarantine pest that could be in the pathway if it is detected in the avocado-producing area.

Comment: An expansion of the Mexican Hass avocado import program will lead to increased air pollution and unsafe Mexican truck traffic.

Response: USDA has no authority over emissions or safety standards for Mexican trucks.

Comments on the Economic Analysis

A number of commenters raised issues regarding the economic analysis that accompanied the proposed rule. These issues are grouped into three sections: The model and analysis, effects for California avocado producers, and other comments.

The Model and Analysis

Comment: The base period for the analysis is October 15, 2000, through October 15, 2002, with base figures being an average of these 2 years. A possible problem with the use of these 2 years is that the rules for Mexican avocado imports changed, effective November 2001, and only 1 of the 2 years included the expanded number of States and time period that are currently effective. This choice of base period tends to understate likely Mexican imports.

Response: We agree with the commenter and have changed the baseline used in the analysis for this final rule to the 2-year period October 15, 2001, to October 15, 2003.

Comment: There is evidence that the producer level price elasticity of demand may be even less than the -0.57 [used in the proposed rule]. If a more inelastic coefficient were used (-0.50 or lower), the estimated price impacts of Mexican imports on California producers would be greater, especially in the short run.

Response: USDA agrees with the commenter that price elasticity of demand seems to have generally decreased over time. However, year-to-year fluctuations occur, due to changes in real price levels. In the analysis for the proposed rule, the elasticity of demand was adjusted downward from an earlier study ("An Economic Evaluation of California Avocado Industry Marketing Programs 1961–

1995," by Hoy F. Carman and R. Kim Craft, Giannini Foundation Research Report Number 345, University of California, July 1998), from -0.75 to -0.57 . In the analysis for this final rule, the price elasticity of demand used for California avocados is -0.63 , based on the parameters estimated in Carman and Kraft and the observed level of per-capita consumption and the real producer price of California avocados from our baseline data. This elasticity is somewhat higher than that used in the analysis for the proposed rule due to a higher real producer price in the new baseline.

The commenter provides an equation by which he has estimated a price elasticity of -0.53 at average prices and quantities, and an average of -0.44 for the period 1996/1997 through 2000/2001. (We presume that the description of Q_t as consumption of avocados from all sources is a notational error, since the equation is supposed to represent the demand function for only California avocados.)

The small changes suggested by the commenter would affect the results of the analysis insignificantly. As the commenter himself states, "Estimated coefficients from a recent demand function indicate that the f.o.b. [free-on-board] level price elasticity of demand for California avocados may be slightly more inelastic than -0.57 , but this should have only a small effect on the final estimates." The overall conclusions of the study in terms of net social benefits of the rule would still hold.

Comment: Mexico's market share in currently approved States during Period 1 (October 15 through April 15) is understated in the analysis for the proposed rule because the baseline is not current. A more current baseline would show Mexico's larger market share, thereby affecting the shift parameters and resulting in larger Mexican imports.

Response: We agree with the commenter. Based on the updated baseline (October 15, 2001, to October 15, 2003) used in the analysis for this final rule, we find nearly an 11 percent increase in Mexico's market share in the currently approved region and time period, from 57.5 percent to 68.3 percent.

Comment: The retail food sector has significant market power. At the very least, the analysis should point out that retailers (middlemen) will use their market power to capture a portion of the welfare gains.

Response: If food retailers do possess some degree of market power in pricing avocados, we agree that retailers will

use their market power to capture some of the welfare benefits. However, this will largely represent a change in the distribution of the welfare gains from the proposed rule, with some of the benefits being transferred from consumers to retailers. There will be some increase in the deadweight loss due to an increase in the retail margin, but the magnitude of deadweight loss is typically a very small portion of the overall welfare change.

As the commenter suggests, we acknowledge in the analysis for this final rule that if retailers do possess market power in the pricing of avocados, a portion of the welfare gains to consumers will be transferred to retailers, with a resulting small deadweight loss. In this case, the overall welfare gain will be slightly overstated.

Comment: The price elasticity of supply used in the analysis, 0.35, is overly elastic. Perennial crop acreage adjustments are lagged and occur over many years. California production will change very little in the first year or two after a rule change, with the result that prices may be lower than projected for several years. The decrease in supply will occur over time as some producers go out of business and others remove trees in response to low prices and returns.

Response: The elasticity of supply used in the analysis for the proposed rule was based on elasticities used in previous avocado studies. We agree with the commenter that there will be limited opportunity for producer adjustments during the first year following publication of the final rule. In the analysis for the final rule, the time assumed for moving to the new equilibrium is 2 years. Due to the uncertainty of the magnitudes of the supply and demand elasticities in the model, we conduct a sensitivity analysis that considers alternative elasticity values. For the supply elasticity, we consider a range of 0.05 to 0.65. As is reported in the analysis accompanying this final rule, the estimated standard deviations of the estimated changes in the producer price of California avocados are relatively small. Thus, the model results are not very sensitive to the choice of the value of the supply elasticity within this range.

Comment: The initial values for the shift parameters for Region A during Period 1 should be applied to Regions B and C during Period 1. Adjustment of the shift parameters for Period 2 (April 15 to October 15) in all three regions will be a judgment call. I suggest that the parameter for Mexico must be increased significantly (at least to midway between Chile's parameter for

Period 2 and Mexico's parameter for Region A, Period 1), with proportional reductions in the parameters for the United States and Chile.

Response: For time period 1, we disagree that the initial values of the shift parameters for Region A should be applied to Regions B and C. First, consumers in Region A have been able to purchase fresh Hass avocados from Mexico for an extended period of time; since 1997 for some consumers. Because individual preferences are usually thought to evolve slowly over time, applying the shift parameters for Region A to the other regions during Period 1 would likely overstate the increase in demand for Mexican avocados. We believe that it is more likely that consumers in Regions B and C will maintain a slight preference for California avocados, at least in the short run. This belief is based on the observation that the quantity market shares for avocados from California and Chile for Regions B and C in the baseline data for the final rule are almost equal. The wholesale price premium for California avocados in both regions implies a preference towards California avocados. (The initial values of the shift parameters are approximately 0.6 for California avocados and 0.4 for Chilean avocados.) This preference may be a result of marketing activities by the Californian Avocado Commission or consumer perceptions that fruit from California is fresher than fruit from Chile. In the analysis of the final rule, the shift parameters for Regions B and C during Period 1 are adjusted to 0.4 for California avocados and 0.3 each for Chilean and Mexican avocados.

For period 2, we disagree with the commenter that the shift parameters for Mexican avocados should be increased significantly. Due to seasonality in production, we believe that the preference parameter for Californian avocados should be higher in Period 2 than in Period 1. More fresh avocados are available from California than from Chile and Mexico during the summer months and therefore the shift parameter for California avocados should be larger for this time period. In the analysis accompanying this final rule, the shift parameters for California avocados in Regions A and B are approximately equal to 0.65, and the preference parameters for Chilean and Mexican avocados are each approximately equal to 0.175. Using this pattern of shift parameters, the empirical model estimates that approximately 60 percent of total Mexican and Chilean exports will occur during Period 1. This closely matches

historical seasonal export shares for both Mexico and Chile.

Comment: Mexican producers with avocados certified for export to the United States have a choice to ship to the United States or to a domestic Mexican market, with the choice of shipping destination based on where the avocados will return the highest net price to the producer. Given average wholesale prices in Mexico, I would expect Mexican producers to continue to ship avocados to the United States until U.S. prices decreased to that available for domestic shipments. I do not have the "break-even" producer price for Mexican shipments to the domestic or U.S. export markets, but it could be estimated. I would expect this price to be significantly less than \$0.63 per pound (the producer price used in the analysis for the proposed rule); perhaps less than \$0.50 per pound. A realistic Mexican farm price for analysis of the proposed rule change, one that accounts for domestic marketing opportunities in Mexico, should be estimated and entered into the model.

Response: Mexico exports only about one-tenth of its production (in 2002, about 94,243 metric tons out of 897,231 metric tons), so we would generally not expect export prices to have a large effect on Mexico's domestic prices. Moreover, the export and domestic markets are different in their production requirements. For exports to the United States (the destination of half of Mexico's exports in 2003), the required risk mitigation measures mean higher costs of production—costs readily borne because of the much higher net returns compared to domestic sales. We expect that most of Mexico's avocado producers have limited access to export opportunities because they cannot satisfy the risk mitigation requirements, and perhaps because of commercial and infrastructural limitations as well. Mexican growers, however, are currently exporting to the United States only a fraction of the avocados they could export from already approved orchards and municipalities in the State of Michoacán, thus the rule does assume a substantial increase in imported Mexican avocados.

We agree with the commenter that producers with certified fields will prefer to export to the United States as long as there is an export premium to be gained. Because the average U.S. wholesale price of Mexican avocados is substantially less than the wholesale prices of California and Chilean avocados, we would not expect significant decreases in the U.S. wholesale and farm prices of Mexican avocados. Thus, we believe that any

price premium enjoyed by Mexican producers from exporting to the United States will be maintained. Because exports are a small share of total avocado production in Mexico, even a large increase in exports will not likely substantially affect the Mexican domestic price.

Comment: The analysis assumes that recent price differentials between California, Chilean, and Mexican Hass avocados will continue. I believe that a portion of the differential will disappear over time as Mexican shippers improve their quality of pack and as they establish relationships with large U.S. buyers.

Response: The model does indicate a reduction in price differentials with the increase in imports from Mexico, as shown in the following table of the results of the analysis for the proposed rule.

| | Wholesale prices in the initial equilibrium | Wholesale prices with the rule |
|-------------------------|---|--------------------------------|
| Supply region: | | |
| California | \$1.63 | \$1.43 |
| Chile | 1.29 | 1.20 |
| Mexico | 1.14 | 1.14 |
| Price differences: | | |
| California-Chile | 0.34 | 0.23 |
| Chile-Mexico | 0.15 | 0.06 |
| Mexico-California | 0.49 | 0.29 |

Comment: We generally concur with the evaluation and offer the following perspectives for consideration in reviewing the model. We believe that the increase in consumption of 10.4 percent utilized in the model may be overly conservative. The introduction of Mexican grown avocados over a period of 7 years has resulted in an increase of over 400 percent in the consumption of avocados in the approved States. We believe that the quality of Mexican avocados, coupled with targeted promotional activities, may likely yield a higher growth in consumption than is assumed within the model. We believe that the impact of future imports from Chile will have a greater effect than is being projected in the model. Chilean avocado growers have invested significantly in new avocado groves that will increase the volume of fruit exported to the United States in the near future. Approximately 95 percent of Chilean avocado exports are destined for the U.S. marketplace, and it is unlikely that these exports will be reduced regardless of the opening of the U.S. marketplace to Mexican Hass avocados. We believe that greater

consideration should be given to the impact that the proposed rule will have on the domestic Mexican avocado market. We believe that historical domestic consumption rates coupled with the reaction of prices in the domestic Mexican markets as a result of decreases in the domestic supply of avocados will have a significant impact. If Mexican domestic prices increase substantially, it is likely that the Mexican avocado producers will choose to supply quantities that are less than those contemplated in the model. A significant adjustment in volumes from those assumed in the model may have a considerable impact on the results of the analysis.

Response: We acknowledge the significant growth in consumption of avocados from Mexico in the approved States, but also note that this is the region and time period of weakest demand for California avocados. We do not expect the same market dominance by Mexican imports in the currently non-approved States, especially during the summer months.

The model shows continued strong participation in the U.S. avocado market by Chile. Notwithstanding the expected decline in prices earned and quantities supplied by that country, the model shows that with the rule, prices and quantities of Chilean avocados will remain higher than those of Mexican avocados.

The difference between Mexican domestic and export wholesale avocado prices is significant. Compared to an average wholesale price during the baseline period in the United States of \$1.08 per pound, the average wholesale price per pound in Mexico was \$0.46 in 2001, \$0.37 in 2002, and \$0.46 in January through October 2003. There will be price adjustments in Mexico in response to increased exports to the United States, but we do not believe that increases in Mexican domestic prices will significantly affect expected export levels.

Comment: I believe that the USDA is being negligent in concluding that the U.S. economy will have a significant net welfare benefit from the proposed rule. According to your own economic analysis (May 19, 2004), the proposed rule will result in a net welfare loss of somewhere around \$85 million to the California avocado producers. However, in that same analysis you admit that you cannot reasonably predict the impact to the California producer. In fact, you conclude that the cost to producers could be as high as \$114 million. Shouldn't we know with reasonable certainty whether it will cost producers \$114 million or not? It is important to

know because if the impact is \$114 million, it will substantially eliminate the \$115 million gain to the consumer.

Response: The results of the analysis for the proposed rule were tested for their sensitivity to changes in the parameters used in the model. The range in values from the sensitivity analysis for the loss in producer surplus did include \$114 million as an extreme upper end-point value. Larger losses in producer surplus for Californian producers are associated with larger decreases in the price of California avocados, which also create larger welfare gains for consumers. In the preliminary economic analysis (May 19, 2004), the net change in U.S. welfare was approximately \$31 million with a standard deviation of \$2.3 million. Assuming a normal distribution, a 95 percent confidence interval for the net change in welfare would be approximately \$26.5 million to \$34.5 million.

Comment: The analysis reports that small entities are a factor to be considered, and that 98 percent of the producers are small entities. However, it does not report how much weight is to be given to this factor. I believe that it should be given much weight. This proposed rule could wipe out 6,500 avocado growers for the benefit of a handful of large Mexican avocado producers. Other ramifications would include the handlers, the fertilizer suppliers, the grove managers, equipment suppliers, the City of Fallbrook, CA, etc. Are these ramifications insignificant to the USDA? If not, then why have they not been accounted for?

Response: As discussed in other responses, the California avocado industry will not be eliminated by the rule, although producers will incur price and quantity declines due to increased avocado imports from Mexico. Expected losses for California's producers are evaluated as part of the expected benefits and costs of the rule. As stated in the Small Business Administration's "A Guide for Government Agencies: How to Comply with the Regulatory Flexibility Act [RFA]" (page 1): "The RFA does not seek preferential treatment for small entities, require agencies to adopt regulations that impose the least burden on small entities, or mandate exemptions for small entities."

We recognize that there will be indirect and induced effects of the rule, especially in avocado-growing localities. We note that while some U.S. entities will be indirectly affected negatively, others will benefit indirectly from the increase in imports from Mexico.

Comment: An in-depth economic and business assessment should be done to take the needed measures to avoid a negative impact in the agricultural businesses of California and Texas.

Response: An economic and business assessment of measures that could be taken to avoid negative agricultural impacts is beyond the scope of the regulatory impact analysis.

Comment: How is it Chile presently ships in avocados with no appreciable drop in price? We know this because we hear a common complaint from friends who say the fruit seems to get smaller but stays the same price.

Response: The increased supply of Mexican avocados will result in lower wholesale and producer prices for Californian and Chilean suppliers. Chile has exported avocados to the United States for many years, and the impact of imports from Chile on the aggregate price for avocados would need to be considered in terms of a base period. The aggregate price for avocados and relative prices for California, Chilean, and Mexican avocados depend on a variety of market influences, including promotional activities.

Comment: Increased imports from Mexico would increase consumption of all avocados.

Response: We expect that increased supply of Mexican avocados will cause a reduction in the demand for higher-priced avocados from California and Chile, and an increase in the total demand for avocados.

Comment: The analysis of effects for small entities should be redone using the 2002 Census of Agriculture.

Response: In the analysis prepared for this final rule, we cite the 2002 Census of Agriculture.

Effects for California Avocado Producers

A number of commenters emphasized the financial hardship and negative economic effects the rule will cause California avocado producers, with several stating that jobs will be lost and avocado farms will be put out of business.

Three examples of these types of comments are the following:

- USDA's economic analysis estimated that opening all of the United States all year to Mexican imports will reduce the price that California growers receive by about 20 percent. When you consider that avocado growers in the United States make less than a 10 percent margin on their crops, this proposal will mean an end to avocado production in the United States.

- Our county has enacted laws restricting the use of agricultural land

for any other purposes. These types of laws have been upheld in court. Because Mexico clearly has cost advantages that cannot be enjoyed in the United States, many of our farms may no longer be economically viable. Our farms cannot be retooled like factories to produce different parts. We have trees that would have to be destroyed and replanted with other crops. Many growers are in situations like mine where the only possible alternate crop is lemons. It would take over 5 years and enormous costs to make that change. Right now that does not look like a practical option.

- The California avocado industry is made up almost entirely (98 percent) of small business entities. Most of these entities are likely to go out of business if the proposed rule is implemented. What now brings \$330 million into the U.S. economy, and provides tens of thousands of jobs, could be destroyed forever.

The following comment received from the Office of Advocacy of the U.S. Small Business Administration encapsulates many of these issues:

"APHIS documented the impacts as a percentage of revenue lost in California, but it doesn't go the next extra step to examine how that might impact growers. The agency should determine profit margins for growers and examine how the impact will affect their bottom line, perhaps by using average industry profit margins for appropriately sized agricultural firms. This could reveal a potentially important impact caused by one parameter in the model. Specifically, very inelastic supply of avocados by California producers means that while prices fall dramatically, California growers don't reduce production much. Thus, California producer costs do not decrease nearly as much as their revenues, which drop over 30 percent. This undoubtedly will strain profit margins and suggests that there potentially could be significant business closures among growers—particularly among very small growers—who may exit the market. APHIS should consider completing a profitability analysis that will assess the possibility of business closures. Ideally, the model should also include a more long run market analysis that will allow entry and exit of producers. It seems likely that with the possibility of exit, and the relatively elastic supply of Mexican avocados, the losses to California growers will be greater in the long run than in the short run."

Response: California producers will be economically harmed by the rule, but not as severely as they would be if there

were no delayed access of Mexican Hass avocados into California, Florida, and Hawaii. As shown in the analysis for this final rule, we have no reason to expect the demise of the California avocado industry.

The question of effects of the rule on small entity profit margins is not easily addressed. Each avocado farm draws upon a unique set of human and capital resources and marketing arrangements that define its financial position and prospects. Profit margins vary among firms and from one season to the next. Nonetheless, the Agency agrees with the commenter that small-entity producers with recent histories of small or negative profit margins may be placed at risk by the rule.

As an indicator of possible effects, we reproduce in the following table part of the results of a profitability analysis published in 2002. The table shows returns to management (returns per acre above cash and non-cash costs) for various price-yield combinations. For example, for a yield of 5,000 pounds per acre, a drop in price from \$1.10 to \$1.00 per pound would mean returns to management declining from \$276 per acre to a negative \$224 per acre.

The profitability analysis was based on avocado orchard establishment and production practices considered typical in Ventura and Santa Barbara Counties. The results are applicable to the economic analysis to the extent that costs and returns in Ventura and Santa Barbara Counties in 2001 are similar to those for California Hass avocado producers generally between October 2001 and October 2003. With the rule, California producer prices are shown to fall from \$1.02 to \$0.81 per pound. Using the price-yield combinations from the table, farms with yields of at least 7,000 pounds per acre would still show positive returns to management (although total returns would be reduced due to the 7.3 percent decline in California's overall supply indicated by the model). Farms with yields of 6,000 pounds per acre would move from positive to negative returns to management. Farms with yields of 5,000 pounds per acre or less would probably not be providing positive returns to management to begin with, given the initial baseline price of \$1.02 per pound. The 2003–2004 estimated average yield for Hass avocado orchards in California is 6,865 pounds per acre (California Avocado Commission, http://www.avocado.org/growers/pages/2000_38.php?sd=growers).

RETURNS TO MANAGEMENT PER ACRE FOR VARIOUS YIELDS AND PRICES, VENTURA AND SANTA BARBARA COUNTIES,
2001

| | Yield in pounds per acre | | | | | | | | |
|----------------|--------------------------|----------|----------|----------|--------|--------|-------|-------|---------|
| | 3,000 | 4,000 | 5,000 | 6,000 | 7,000 | 7,500 | 8,000 | 9,000 | 10,000 |
| | Dollars per acre | | | | | | | | |
| Dollars/pound: | | | | | | | | | |
| \$0.70 | -\$2,871 | -\$2,298 | -\$1,724 | -\$1,151 | -\$557 | -\$290 | -\$4 | \$570 | \$1,143 |
| 0.80 | -2,571 | -1,898 | -1,224 | -551 | 123 | 460 | 796 | 1,470 | 2,143 |
| 0.90 | -2,271 | -1,498 | -724 | 49 | 823 | 1,210 | 1,596 | 2,370 | 3,143 |
| 1.00 | -1,971 | -1,098 | -224 | 649 | 1,523 | 1,960 | 2,396 | 3,270 | 4,143 |
| 1.10 | -1,691 | -698 | 276 | 1,249 | 2,223 | 2,710 | 3,196 | 4,170 | 5,143 |
| 1.20 | -1,371 | -298 | 776 | 1,849 | 2,923 | 3,460 | 3,996 | 5,070 | 6,143 |
| 1.30 | -1,071 | 102 | 1,276 | 2,449 | 3,623 | 4,210 | 4,796 | 5,970 | 7,143 |

Source: Table 7 of "Avocado Sample Establishment and Production Costs and Profitability Analysis for Ventura and Santa Barbara Counties, Based on 2001 Data Collected in Ventura and Santa Barbara Counties, California," by Etaferahu Takele, Ben Faber, and Silvana Chambers, UCCE Southern California.

The rule may contribute to some small entity avocado farms failing, if their operation is already showing borderline returns. We note that the California avocado industry has been trending toward fewer operations, with expansion only among the very largest producers. Overall, the number of avocado farms in California dropped by nearly 20 percent between 1997 and 2002, from 5,963 to 4,801 farms. This decline in the number of avocado farms is on top of a 16 percent decline between 1992 and 1997. There was a decrease in the number for farms of all sizes except those with 100 or more acres (which increased in number from 99 in 1997 to 114 in 2002), and the smaller farms experienced the larger percentage declines. Even without this rule, avocados farms are becoming fewer, with the sharpest decline for those of smallest size.

Comment: APHIS should analyze the potential impact to the very small growers with less than 5-acre plots, and potentially those in the next higher size category as well. As it stands, the analysis for the proposed rule mentions only that it is likely these growers produce other agricultural products in addition to avocados because of the small revenue earned from avocado production. To analyze profitability and business survival, a proper baseline of revenues for these producers would need to be established, including revenues from all production, so that the losses from diminished avocado revenues could be properly analyzed. One way to accomplish this might be to assume that these growers would earn revenues equivalent to the average small farm in California.

Response: In the analysis for the proposed rule, we took note of the large number of very small avocado farms.

The 1997 Census of Agriculture data showed over half of the avocado farms that year harvested less than 5 acres. Average 1997 receipts for these farms was about \$4,800.

We did not intend to imply that these smaller avocado producers grow other crops, but only that their average annual revenue from avocado production would necessitate other sources of income. We agree that to properly analyze impacts of the rule for small entities, we would need to have data on these other revenue sources, but this information is not available. If all revenue sources for small entity avocado producers could be obtained, it would likely indicate a wide range of income from a variety of sources. We have no basis for assuming that agricultural receipts for California's small entity avocado growers are on average equivalent to revenues earned by other small entity farmers in that State. Other Comments

Comment: In its analysis, APHIS mentions that California, Florida, and Hawaii produce avocados. However, the analysis included in the proposed rule only discusses the impact on California producers. While it is clear that Hawaii produces avocados for intrastate consumption, there should be some discussion of the impact of the rule on Florida producers. For example, the rule should identify the number of producers in Florida and estimate how many are small and thus will be impacted by the rule.

Response: Production of Hass avocados in Florida and Hawaii is negligible, and therefore producers in those States will not be directly affected by the rule. The green-skin avocado varieties grown in Florida and Hawaii and Hass avocados grown in California are weak substitutes for one another and

should not be compared, as evidenced by the large difference in their prices. The 2003–2004 average prices per ton were \$2,170 for California avocados (where the Hass variety is dominant), \$1,240 for Hawaii avocados, and \$808 for Florida avocados (USDA NASS, "Noncitrus Fruits and Nuts 2003 Summary," July 2004). In the model, green-skin avocado varieties are included with other goods that compete with Hass avocados for the consumer's dollar. Whatever indirect impacts the rule may have on small entity avocado producers in Florida and Hawaii are expected to be small, all the more so given the 2-year delay of entry of Mexican Hass avocados into those States.

Comment: The permanent reduction in California avocado acreage because of the rule will lead to the loss of open space and costs of urbanization that are not taken into account in the analysis.

Response: Replacement of avocado orchards by housing communities signifies the land acquiring greater value in another use. We acknowledge that non-market valuations may not be fully realized in the transaction. If an avocado orchard, even though privately owned, has additional value to society as open space, then theoretically, publicly allocated resources could be used to maintain the land in that use. It would be very difficult to identify over time the loss of open space and increased urban development attributable specifically to the rule. Even if it were possible, the sale and purchase of land and changes in land use reflect the non-uniform values and personal preferences of society. To speak only of the costs of urbanization neglects the welfare gains of those benefitting from the new communities.

Comment: The following comments concerned zoning restrictions and how they may limit alternative uses of land where avocados are currently grown:

I suggest that an economic impact report be made by a qualified U.S. economist, paid by Mexican growers, to understand the consequences of the elimination of the avocado industry in the San Diego and Ventura Counties, CA. The conclusion may well show that the citrus industry would be affected negatively by putting a crimp on the supporting industries. I am clearly aware that Ventura County has zoning ordinances to minimize development for that very reason. If it is so important to restrict land developments, there must be a very significant reason to maintain viability in the farming industry.

Our county has enacted laws restricting the use of agricultural land for any other purposes. These types of laws have been upheld in court. Because Mexico clearly has cost advantages that cannot be enjoyed in the United States, many of our farms may no longer be economically viable. Our farms cannot be retooled like factories to produce different parts. We have trees that would have to be destroyed and replanted with other crops. Many growers are in situations like mine where the only possible alternate crop is lemons. It would take over 5 years and enormous costs to make that change. Right now that doesn't look like a practical option.

Response: If local governments require that land be kept in agricultural use regardless of its agricultural return, then the land's public value as an agricultural asset or open space may exceed its private productive value. If in such circumstances avocado production for some producers were no longer viable and local land use restrictions would only allow the land to be used in its next best agricultural use, then private and public valuations may well diverge.

Comment: Not only is it unfair to me, but unfair to the general population. Someone is not looking at the big picture. In my community, 80 percent of water usage is agricultural (avocados). This means that the water delivery system is paid for, in large part, by the growers. As soon as this rule takes effect, it no longer makes sense to water and I begin selling firewood. When I stop watering, the 20 percent of water users now have to pay for 100 percent of the delivery system resulting in domestic water rates tripling, or worse.

Response: We can expect the land to be put to productive use, whether to grow avocados or for other agricultural

or non-agricultural purposes. Water fees that are charged can be expected to be modified as uses of the land change. To the extent that water delivery costs are principally borne by avocado producers, there could be a cost realignment if land is moved from agricultural to non-agricultural uses.

Comment: I believe the entire issue of "free trade" is clouded by the reality that its beneficiaries are often not (as we would hope) independent producers in other countries gaining access, at a reasonable scale, to the U.S. market. Rather, the beneficiaries are more often American or multinational corporations that transfer production (and jobs) offshore on a massive scale to take advantage of relaxed trade rules, along with lower labor costs, more lenient environmental and safety regulations, and avoidance of U.S. taxation. Offshore competition at that scale is bad for everyone except the owners of the corporations involved. American consumers may enjoy lower prices for a while, but at whose expense?

Response: The increase in Mexican avocado imports will benefit U.S. consumers and Mexican producers. Firms involved in the trade, including U.S. handlers and importers, will benefit as well. The range of beneficiaries will extend beyond owners of corporations.

Comment: Imported fruits and vegetables will lower the price of non-organic produce to a degree that California organic farmers will not be able to compete in the marketplace and will be forced to use non-organic techniques to survive financially.

Response: Lower-priced, non-organic imports will reduce demand for organically grown produce to the extent that customers' willingness to forgo organically grown produce is price responsive. The expected increase in Mexican avocado imports because of the rule will lead to lower avocado prices. We cannot comment on whether the price decline will affect demand for organically grown avocados.

Therefore, for the reasons given in the proposed rule and in this document, we are adopting the proposed rule as a final rule, with the changes discussed in this document.

Executive Order 12866 and Regulatory Flexibility Act

This rule has been reviewed under Executive Order 12866. The rule has been determined to be economically significant for the purposes of Executive Order 12866 and, therefore, has been reviewed by the Office of Management and Budget.

This rule amends the regulations to expand the number of States in which fresh Hass avocado fruit grown in approved orchards in approved municipalities in Michoacan, Mexico, may be distributed and to allow the distribution of the avocados during all months of the year. For the first 2 years following the effective date of this rule, those avocados may be distributed in all States except California, Florida, and Hawaii; after 2 years, the avocados may be distributed in all States. We are taking this action in response to a request from the Government of Mexico and based on our finding that the phytosanitary measures described in this final rule will reduce the risk of introducing plant pests associated with Mexican Hass avocados into the United States.

For this rule, we have prepared an economic analysis. The economic analysis contains cost-benefit analysis as required by Executive Order 12866, as well as a final regulatory flexibility analysis that considers the potential economic effects of this rule on small entities, as required by the Regulatory Flexibility Act. The economic analysis is summarized below. Copies of the full analysis may be obtained from the person listed under **FOR FURTHER INFORMATION CONTACT**. In addition, the full analysis may be viewed on the Internet at <http://www.aphis.usda.gov/ppq/avocados/>.

Summary of Economic Analysis

Impacts are analyzed using a partial equilibrium model. Expected effects of two alternatives are compared: (1) Allowing Hass avocados from Mexico to enter all States year-round except California, Florida, and Hawaii, for which entry would be delayed 2 years (as set forth in the rule); and (2) allowing Hass avocados from Mexico to enter all States year-round with no delay for any States.

The model describes three demand regions and three supply regions for two time periods. The three demand regions are: The 31 northeastern and central States (and the District of Columbia) currently approved to receive Hass avocado imports from Mexico during the 6-month period October 15–April 15 (Region A); 15 Pacific and southern States, excluding California, Florida, and Hawaii, not currently approved to receive Hass avocados from Mexico (Region B); and California, Florida, and Hawaii (Region C). (Mexican Hass avocados have been allowed entry into Alaska since 1993.) The three supply regions in the model are California, Mexico, and Chile. Nearly all U.S. Hass avocado production takes place in

California. Over 96 percent of all Hass avocado imports are supplied by Chile and Mexico. The two time periods specified in the model are the 6-month period during which Hass avocado imports from Mexico are currently allowed, October 15–April 15 (Period 1), and April 16–October 14 (Period 2). Throughout the following discussion, “avocado” refers only to fresh Hass avocados unless otherwise indicated.

Currently, Mexico is exporting to the United States a fraction of the avocados that could be exported from approved orchards and municipalities in the State of Michoacan. For the market year 2003/2004, an estimated 479 million pounds of avocados will be produced in certified areas. During the baseline period, October 15, 2001, to October 15, 2003, annual imports from Mexico totaled 58.2 million pounds, or about 12 percent of what currently could be certified for export to the United States. It is apparent that Mexican producers could readily expand avocado exports to the United States at the current price level. Compared to an average wholesale price during the baseline period in the United States for Mexican avocados of \$1.08 per pound, the average wholesale price per pound in Mexico was \$0.46 in 2001, \$0.37 in 2002, and \$0.46 in (January through October) 2003.

With respect to pest risks, a systems approach currently in place provides multiple safeguards against pest introduction. Risk mitigation measures include pest field surveys; orchard certification; and packinghouse, packaging, and shipping requirements. Since shipments into the conterminous United States began in 1997, cutting and inspection of over 10 million Mexican Hass avocados has not revealed any quarantine pests.

The pest risk assessment for the rule finds an overall low likelihood of pest introduction, concluding with 95 percent confidence that:

- Fewer than 393 infested avocados will enter the 47 States each year.
- Fewer than seven avocados infested with stem weevil, seed weevils and seed moth will enter avocado producing areas outside of California, Florida, and Hawaii each year.
- Fewer than 98 avocados infested with fruit flies will enter fruit fly susceptible areas outside of California, Florida, and Hawaii each year.
- Fewer than one avocado infested with stem weevil, seed weevils, or seed moth will be discarded in avocado-producing areas outside of California, Florida, and Hawaii each year.
- Fewer than five avocados infested with fruit flies will be discarded in fruit fly susceptible areas outside of

California, Florida, and Hawaii each year.

Even if some infested avocados entered the United States, the likelihood of pest establishment and spread would require that: (1) The infested avocados must be in close proximity to host material; (2) the pests must find mates; (3) the pests must successfully avoid predation; (4) the adult pests must find host material; and (5) the climatological and microenvironmental conditions must be suitable. These factors substantially reduce the likelihood of establishment. The degree of pest risk reduction attributable to each of the factors has not been quantified. People generally consume the fruit they purchase and dispose of the waste material in a manner (such as in plastic bags that are land-filled or incinerated) that precludes the release of pests into the environment. The economic analysis examines expected effects of the rule and the no-delay alternative without quantifying the very small risk of pest entry and establishment. The difference in risk between the two alternatives is assumed to be negligible.

The rule includes certain changes from existing risk-mitigating requirements. In the approved orchards in Michoacan, Mexico, surveys for the quarantine pests of concern will be increased from annually to semiannually, since the avocados will be allowed to be imported throughout the year. In the packinghouses, a sample of 300 avocados per consignment currently must be selected, cut, and inspected and found free from pests. APHIS is replacing the specific sample size of 300 fruit with a requirement for a biometric sample at a rate determined by the Agency to be appropriate for the size of the particular consignment.

Currently, handlers and distributors are required to enter into compliance agreements with APHIS, as well as satisfy requirements regarding the repackaging of the avocados after their entry into the United States. These requirements are to ensure that handlers and distributors are familiar with the distribution restrictions and other requirements of the regulations, and to ensure that any boxes used to repackage the avocados in the United States bear the same information that is required to be displayed on the original boxes in which the fruit is packed in Mexico.

The repackaging requirements will be maintained. However, APHIS has decided that requiring compliance agreements for 47 States is both untenable and unnecessary. For the 2 years during which Hass avocados from Mexico will be prohibited from entering California, Florida, and Hawaii, there

are appropriate safeguards such as fruit and package labeling, regulatory prohibition from importing into and transiting through these three States, and ample penalties for violation of these regulations under the Plant Protection Act.

Currently, Hass avocados from Mexico may enter the United States only at certain ports. These port-of-entry limitations are intended to work in concert with the shipping area provisions to ensure that the avocados are moved by the most direct route to the approved States where they may be distributed. The port-of-entry limitations will be revised to allow Hass avocados from Mexico to enter all States except California, Florida, and Hawaii. If the avocados are moved by air, the aircraft will not be allowed to land in California, Florida, or Hawaii. Hass avocados as residue cargo on maritime vessels will not be offloaded in California, Florida or Hawaii.

Costs related to any of these changes from the current requirements are expected to be small and not significantly influence the supply of Mexican avocados. Costs associated with risk mitigation changes in Mexico will be borne by Mexican entities.

Alternatives

One alternative would be to leave the regulations unchanged. In this case, access of Mexican avocados would continue to be restricted to the 31 States and the District of Columbia currently approved to receive avocados from Mexico between October 15 and April 15 (and Alaska year-round).

With no rule change, demand for avocados from all three supply regions would continue to increase due to population and income growth, with the relative percentages supplied by California, Chile, and Mexico shifting in response to changes in relative prices and preferences. It is noted that Mexico's avocado exports to the United States have been expanding rapidly (27.9 million pounds in 2001, 58.8 million pounds in 2002, 76.8 million pounds in 2003), as it acquires a larger share of the market in the approved States between October 15 and April 15. During the baseline period (October 15, 2001, to October 15, 2003), more than 68 percent of avocado sales in this region and time period were supplied by Mexico, an increase of nearly 11 percent from its market share between October 15, 2000, and October 15, 2002.

The analysis that follows considers two alternatives to the status quo: The rule, which will allow access of Mexican avocados to all States year-round with a 2-year delay for California,

Florida, and Hawaii, and the alternative of allowing Mexican avocados to enter all States year-round with no delays.

The Model

Both the rule, which includes the 2-year delay in allowing avocados from Mexico into California, Florida, and Hawaii, and the no-delay alternative are compared to the baseline. Initial quantities and prices used as the baseline for the model are averages for the 2-year period October 15, 2001, to October 15, 2003. California producer prices are prices "out the packinghouse door" reported by the California Avocado Commission. Chilean and Mexican producer prices are unit import prices reported by USDA's Foreign Agricultural Service.

Wholesale price data are taken from prices reported in Wholesale Market Fruit Reports (various issues), by Market News Archive, USDA Agricultural Marketing Service. Prices for Mexican avocados include costs associated with risk mitigation measures. Changes in Mexican avocado costs that may result because of revised risk mitigation measures, such as the increased frequency of orchard surveys and the larger number of approved ports of entry, are assumed to be minor. A fixed Mexican avocado price is assumed throughout the analysis.

The analysis is based on a set of equations that describe, on the demand side, avocado consumption in the United States, and on the supply side, foreign and domestic avocado production for the U.S. market. Demand for avocados in the model is based on a utility function for a representative consumer. On the supply side, the

model captures the option of producers to leave ripe avocados on the tree and vary their sale between time periods as relative prices change.

Shift parameters are used in specifying the model's utility function. The shift parameters can be thought of as reflecting non-price influences on demand. As described in the economic analysis, even if avocados from the three supply regions were equal in price, demand for them would not be the same because of consumers' perceptions and preferences. A decrease in the shift parameter for avocados from any of the three supply regions signifies a decrease in demand relative to the demand for avocados from the other regions, for reasons other than a change in price.

Simulation of the changes in Mexican avocado import restrictions as set forth in the rule and the no-delay alternative (no delay) requires that the model account for year-round access to the newly approved demand regions. New accessibility is represented by changing the shift parameters for these regions from zero values based on current regulatory restrictions, to non-zero values based on consumer preference.

Effects on Supply and Demand

Expected quantity and price impacts of the rule and the no-delay alternative are shown in table 1. With the rule, avocado consumption is expected to increase by 9 percent, from 581 million pounds to 634 million pounds. Quantities supplied by California and Chile will decline by 7.3 percent and 10.3 percent, respectively, while imports from Mexico will increase to 2.6 times their initial level, from 58 million pounds to 154 million pounds. Prices

for California avocados will fall by 12.3 percent at the wholesale level (from \$1.63 to \$1.43 per pound) and by 20.6 percent at the producer level (from \$1.02 to \$0.81 per pound).

Under the no-delay alternative, avocado consumption would increase by 13.7 percent, from 581 million pounds to 661 million pounds. Quantities supplied by California and Chile would decline by 12.2 and 16.5 percent, respectively, while imports from Mexico would increase to 209 million pounds, 3.6 times their initial level. California's prices would fall by 20.9 percent at the wholesale level (from \$1.63 to \$1.29 per pound) and by 34.3 percent at the producer level (from \$1.02 to \$0.67 per pound). Thus, all impacts would be larger in comparison to expected effects with the rule.

Effects by demand region, supply region, and time period are provided by the model. Because overall demand for avocados from California and Chile will decrease in both time periods, wholesale and producer prices for avocados from California and Chile also will decrease in both time periods. With the rule, 62 percent of avocado imports from Mexico will enter during Period 1. Since imports from Mexico during Period 1 will comprise a larger share of total avocado consumption, they will exert greater downward pressure than during Period 2 on prices of avocados supplied by California and Chile. In Region B during Period 1, avocados from Mexico will displace 32 percent of the avocados that had been supplied by California. During Period 2, Mexican avocados will displace 19.5 percent and 20.6 percent of California avocados in Regions A and B, respectively.

TABLE 1.—SUMMARY OF NEAR-TERM CHANGES IN ANNUAL QUANTITIES AND PRICES ¹

| | Initial prices and quantities | With rule ² | With alternative to rule ³ |
|--|-------------------------------|------------------------|---------------------------------------|
| Million pounds | | | |
| Quantity: | | | |
| Total | 581.071 | 633.542 | 660.868 |
| Supplied by: | | | |
| California | 346.011 | 320.821 | 303.866 |
| Chile | 176.814 | 158.695 | 147.695 |
| Mexico | 58.247 | 154.026 | 209.307 |
| Dollars per pound | | | |
| Wholesale price of avocados supplied by: | | | |
| California | \$1.63 | \$1.43 | \$1.29 |
| Chile | 1.29 | 1.20 | 1.15 |
| Producer price for: | | | |
| California | 1.02 | 0.81 | 0.67 |
| Chile | 0.59 | 0.49 | 0.44 |

¹ Prices weighted by regional and time period quantities. Producer and wholesale prices for avocados from Mexico are assumed constant in the model.

² Year-round entry of Hass avocados from Mexico into all States, except California, Florida, and Hawaii.

³ Year-round entry of Hass avocados from Mexico into all States.

Welfare Effects

Price and quantity changes described by the model translate into the welfare changes for U.S. avocado consumers and producers shown in table 2. A portion of consumer gains may be captured by retailers exerting market power in setting avocado retail prices. To the extent that this occurs, overall welfare gains are slightly overstated and there is a small deadweight loss.

With the rule, the decrease in California avocado prices due to producers' inelastic supply response will result in gains in consumer utility across all regions and time periods of \$121.7 million. Not surprisingly, consumers in Region A in Period 1 will gain the least, since this is the region and time period already approved to receive avocados from Mexico. Consumer gains in Region B will be greater than in Region C in both time periods, since Mexican avocados will be restricted from entering Region C. Under the no-delay alternative, consumer gains (\$184.5 million) would be over 50 percent greater than with the rule, illustrating the significance of avocado demand in Region C.

Welfare impacts for avocado producers in California and Chile are

determined by computing changes in producer surplus based on their avocado factor endowment supply curves. A fall in producer prices will decrease the amount of factor endowment employed in avocado production. Given the decline in producer prices, California avocado producers would experience welfare losses equivalent to \$71.4 million with the rule, and \$114.4 million under the no-delay alternative.

The net change in U.S. welfare is computed by subtracting losses for California producers from consumer gains. As shown, the net welfare gains would be \$50.3 million with the rule and \$70.1 million under the no-delay alternative. Although the no-delay alternative is preferable in terms of net benefits, the 2-year delay of entry of Mexican avocados into California, Florida, and Hawaii has been chosen by USDA because it will provide an opportunity for the efficacy of the rule's risk-mitigating safeguards to be demonstrated through year-round distribution to the remaining 47 States, as Mexican avocados currently are only allowed entry during the winter months.

A sensitivity analysis was conducted that considers alternative values for the

elasticities of substitution and transformation and California's aggregate supply elasticity in recognition of the uncertainty surrounding the values of these parameters. Because no information is available about their distributions, uniform distributions were assumed. The results of the sensitivity analysis for the welfare effects are given in the standard deviation columns in table 2. As shown, the standard deviations for the changes in consumer welfare are small. The standard deviations for the changes in producer welfare are larger, implying greater variability. This greater variability is largely attributable to the wide distribution assumed for California's aggregate supply elasticity in the sensitivity analysis; there is greater uncertainty with respect to the supply elasticity as compared to the demand-based elasticities of substitution. If the change in producer surplus for California avocado producers is normally distributed, the 95 percent confidence interval for their welfare loss with the rule would be (\$45 million, \$102 million), and with the alternative to the rule, (\$76 million, \$158 million).

TABLE 2.—NEAR-TERM WELFARE GAINS AND LOSSES ¹
[Dollars in millions]

| | With rule ² | | With alternative to rule ³ | |
|---|------------------------|---------------------------------|---------------------------------------|--------------------|
| | Change in welfare | Standard deviation ⁴ | Change in welfare | Standard deviation |
| Losses in producer welfare: | | | | |
| California | − \$71.37 | \$14.27 | − \$114.39 | \$20.48 |
| Chile | − 15.71 | 5.29 | − 24.35 | 5.79 |
| Gains in consumer welfare: | | | | |
| Period 1: ⁵ | | | | |
| Region A ⁶ | 4.02 | 0.99 | 7.84 | 1.18 |
| Region B ⁷ | 21.92 | 2.08 | 29.66 | 2.34 |
| Region C ⁸ | 14.17 | 3.34 | 27.33 | 2.48 |
| Period 2: ⁹ | | | | |
| Region A | 24.98 | 2.70 | 32.42 | 4.22 |
| Region B | 31.76 | 3.38 | 41.08 | 5.29 |
| Region C | 24.81 | 5.29 | 46.12 | 6.34 |
| Total | 121.66 | 3.61 | 184.45 | 1.93 |
| Net U.S. welfare change ¹⁰ | 50.29 | 14.27 | 70.06 | 20.48 |

¹ The difference between baseline values and (i) values with the rule and (ii) values with the alternative to the rule.

² Year-round entry of Hass avocados from Mexico into all States, except California, Florida, and Hawaii.

³ Year-round entry of Hass avocados from Mexico into all States.

⁴ Standard deviations of the sensitivity analysis distributions.

⁵ October 15–April 15.

⁶ The 31 northeastern and central States (and the District of Columbia) currently approved to receive Hass avocado imports from Mexico during the 6-month period, October 15–April 15. (Note: Mexican Hass avocados are allowed to enter Alaska year-round.)

⁷ Fifteen Pacific and southern States, excluding California, Florida, and Hawaii, not currently approved to receive Hass avocados from Mexico.

⁸ California, Florida, and Hawaii.

⁹ April 16–October 14.

¹⁰ The sum of welfare losses for California producers and U.S. consumer welfare gains for all regions and both periods.

Final Regulatory Flexibility Analysis

The Regulatory Flexibility Act requires agencies to evaluate the

potential effects of their proposed and final rules on small businesses, small organizations and small governmental

jurisdictions. U.S. businesses that will be directly affected by the rule are Hass

avocado producers, handlers and importers.

Hass Avocado Producers. An avocado farm is considered small if it has annual receipts of not more than \$750,000. (All small-entity definitions in this analysis are provided in Title 13 of the Code of Federal Regulations, Part 121: Small Business Size Regulations.) Based on 2002 Census of Agriculture data, over 97 percent of California avocado farms are small entities (4687 out of a total of 4801 farms). We describe the expected impact of the rule and the no-delay alternative for these small-entity producers in terms of decreases in gross revenue, as derived from the results of

the general analysis. The model indicates that with the rule there will be a 26.7 percent decline in gross revenue, assuming the decrease is proportionally spread across all farms (table 3). Under the no-delay alternative, there would be a 42.2 percent decline in gross revenue. The gross revenue declines are attributable more to decreases in price than to decreases in quantity (table 4).

The status quo alternative would be preferable for California's avocado producers, but it would not yield the net benefits to the United States shown to be gained by expanding U.S. access for Mexican avocados. The rule is preferable to the no-delay alternative for

California producers. The analysis shows prices for California producers falling by 21 cents per pound and California avocado production decreasing by 25 million pounds under the rule, compared to declines of 35 cents per pound and 42 million pounds if there are no delays (table 1). Producer surplus losses—declines in revenue beyond variable costs—are estimated with the rule to be about \$71 million, compared to losses of about \$114 million without the 2-year delay (table 2). In all respects, California producers will be harmed less when there is a 2-year delay for California, Florida, and Hawaii.

TABLE 3.—ANNUAL IMPACT ON GROSS REVENUE FOR CALIFORNIA HASS AVOCADO PRODUCERS
[Dollars in millions]

| | With rule ¹ | With alternative to rule ² |
|--|------------------------|---------------------------------------|
| Initial gross revenue (baseline) | \$354.32 | \$354.32 |
| Gross revenue with the rule or alternative to the rule | 259.58 | 204.73 |
| Decrease in gross revenue incurred by large and small Hass avocado producers | 94.74 | 149.59 |
| Decrease incurred by small-entity avocado producers ³ | 59.69 | 94.24 |
| Decrease as a percentage of initial gross revenue ⁴ | 26.7% | 42.2% |

¹ Year-round entry of Hass avocados from Mexico into all States, except California, Florida, and Hawaii.

² Year-round entry of Hass avocados from Mexico into all States.

³ Decreases in gross revenue are multiplied by 63 percent, the percentage of the total value produced by farms with less than 100 acres harvested. Hass avocado production is assumed to be proportionally distributed among farms of all sizes.

⁴ The decrease in gross revenue is assumed to be proportionally spread across all producers.

TABLE 4.—PERCENTAGE CHANGES IN CALIFORNIA AVOCADO PRODUCER PRICES AND IN QUANTITIES OF AVOCADOS SUPPLIED BY CALIFORNIA

| | With rule ¹ | | With alternative to rule ² | |
|-----------------------------|------------------------|----------|---------------------------------------|----------|
| | Price | Quantity | Price | Quantity |
| Period 1 ³ | – 20.0% | – 6.8% | – 37.3% | – 14.0% |
| Period 2 ⁴ | – 21.3% | – 16.0% | – 33.2% | – 19.4% |

¹ Year-round entry of Hass avocados from Mexico into all States, except California, Florida, and Hawaii.

² Year-round entry of Hass avocados from Mexico into all States.

³ October 15–April 15.

⁴ April 16–October 14.

The past decade has seen a decrease in the number of small-entity California avocado producers and in the number of acres harvested. Revenue declines because of the rule are expected to be large compared to losses that small-entity producers may have experienced because of the industry's contraction and growing concentration. California producers will be harmed by the rule, but we cannot predict that a certain number of firms may fail. Each avocado farm draws upon a unique set of human and capital resources and marketing arrangements that define its financial position and prospects. Firm survival will depend on these specific conditions, but in general those small-entity producers with recent histories of

small or negative profit margins will be most at risk.

Handlers. California Hass avocado handlers (firms engaged in post-harvest activities) will be directly affected by the rule. Companies handling avocados are considered small businesses if their annual receipts are not more than \$5 million. By this definition, 40 out of 51 firms that will be affected by the rule, are small entities.

The decrease in producers' revenues will mean a decrease in receipts by small-entity handlers as well. Negative impacts may be at least partially alleviated by additional avocado business activities in Mexico in which U.S. handlers may be involved, but it is unlikely that the smaller firms will have this opportunity. Decreased receipts

from reduced avocado sales may also be moderated if the firms are engaged in handling produce other than avocados. Like California producers, affected handlers will benefit from the 2-year delay.

Importers. Firms that import avocados are defined as small entities if they have 100 or fewer employees. The annual wholesale value of Hass avocados imported by 52 of the 85 firms expected to be affected by the rule is less than \$1 million. We believe these firms are likely to employ fewer than 100 employees, and therefore can be considered will be small entities. As a group, these firms will benefit from the increase in imports of Hass avocados from Mexico (an increase of nearly 96 million pounds with the rule), but gains

will be tempered by reduced imports from Chile (a reduction of about 18 million pounds).

For small-entity Hass avocado importers, the no-delay alternative would be preferable, since it would mean a larger increase in imports (taking into account reduced quantities from Chile): 122 million pounds compared to 78 million pounds with the rule. In either case, importers will benefit compared to leaving the regulations unchanged.

Longer-Term Effects

This analysis describes near-term impacts of two alternatives to current regulations restricting the importation of avocados from Mexico: The rule, which will allow the avocados to enter all States year-round except California, Florida, and Hawaii, for which entry would be delayed two years; and an alternative to the rule, which would allow importation into all States year-round with no delay for any States. The near term may be thought to represent the first year that the rule is in effect. We address here the question of how the alternatives compare in the longer term.

A static, partial equilibrium model is used to depict expected effects of the regulatory change. An initial market equilibrium for avocados was determined based on baseline quantities and prices. Regulatory expansion of access of Mexican avocados into the U.S. market can be thought of as an exogenous shock. The resulting increase in avocado imports from Mexico will lead, in general, to a decline in the prices and quantities of avocados supplied by California and Chile. A new partial equilibrium is attained through regional price and quantity changes, given the parameters of the model. Whether the effects described in the analysis would be fully realized in the first year of the rule is not known. While the sale of Mexican avocados year-round and the addition of 15 States with the rule (or 18 States under the alternative) will have immediate effects, impacts in the first 12 months may or may not match those described by the model. Changes in buyers' perceptions and preferences—the non-price influences represented by the model's shift parameters—will occur over a period of time. The model does not inform as to how long this transition will take.

If we assume that the effects described in this analysis do occur in the first year, and we assume that the changed supply and demand conditions continue into the second year, then by the end of the second year the effects would be twice those reported in the analysis.

When compared to the baseline, the net welfare gain attributable to the rule would be about \$50 million in Year 2, the same as in Year 1, for an undiscounted net gain of about \$100 million over the two years. (The preferred comparison would be one of conditions with and without the rule in Year 2, but the model describes neither of these situations.)

More realistically, by the second year there will be production and marketing responses by California producers to the substantial increase in avocado imports from Mexico. Altered regional marketing strategies and industry promotional activities, for instance, may influence the effects for California producers from Year 1 to Year 2 of the rule (or of the alternative). We do not believe that the new equilibrium described by the model, assumed to be attained in Year 1, will remain unchanged in Year 2.

In Year 3 and afterwards, as long as there are not any pest discoveries that prevent expansion of Mexican avocado imports into California, Florida, and Hawaii, the rule and the alternative are the same. Changes in Year 3 of the rule can be expected to be broadly similar to differences in impact between the rule and the alternative described by the model for Year 1. There will be a further decrease in producer welfare and increase in consumer welfare, with the latter outweighing the former for an overall net increase in U.S. welfare.

We would not expect the changes in Year 3 to be equal to the differences in impact between the rule and the alternative described for Year 1. Inclusion of California, Florida, and Hawaii will take place two years after the year-round and 15-State expansions have occurred. Two years of Mexican avocado imports into southern and western States may result in regional prices and quantities different from those portrayed by the model. The Year 1 difference between the rule and the alternative in net welfare gains is estimated to be about \$20 million, but the undiscounted net welfare gain in Year 3 of the rule will probably have a different value.

The analysis shows near-term impacts of the rule and the alternative. The period is assumed to represent the first year that the rule is in effect. Differences in impact between the rule and the alternative will continue during Year 2, but are unlikely to be the same as modeled for the first year. The third-year adjustment, when the rule will allow Mexican avocado imports into all States, will remove all distinctions between the rule and the alternative. Effects in Year 3 will be like those

indicated by the Year 1 differences in impact between the rule and the alternative, but the quantity, price, and welfare changes are likely to differ from those described by the model for Year 1.

This rule contains no new information collection requirements. (See "Paperwork Reduction Act" below.)

Small Business Regulatory Enforcement Fairness Act of 1996

This rule has been designated by the Administrator, Office of Information and Regulatory Affairs, Office of Management and Budget, as a major rule under the Small Business Regulatory Enforcement Fairness Act of 1996 (5 U.S.C. 801–808). Accordingly, the effective date of this rule has been delayed the required 60 days pending congressional review.

Executive Order 12988

This final rule allows Hass variety avocados to be imported into the United States from Mexico. State and local laws and regulations regarding Hass variety avocados imported under this rule will be preempted while the fruit is in foreign commerce. Fresh fruits and vegetables are generally imported for immediate distribution and sale to the consuming public, and remain in foreign commerce until sold to the ultimate consumer. The question of when foreign commerce ceases in other cases must be addressed on a case-by-case basis. No retroactive effect will be given to this rule, and this rule will not require administrative proceedings before parties may file suit in court challenging this rule.

National Environmental Policy Act

An environmental assessment and finding of no significant impact have been prepared for this final rule. The assessment provides a basis for the conclusion that the potential environmental impacts associated with the importation of Hass avocados from Mexico under the conditions specified in this rule will not present a risk of introducing or disseminating plant pests and will not have a significant impact on the quality of the human environment. Based on the finding of no significant impact, the Administrator of the Animal and Plant Health Inspection Service has determined that an environmental impact statement need not be prepared.

The environmental assessment and finding of no significant impact were prepared in accordance with: (1) The National Environmental Policy Act of 1969 (NEPA), as amended (42 U.S.C.

4321 *et seq.*), (2) regulations of the Council on Environmental Quality for implementing the procedural provisions of NEPA (40 CFR parts 1500–1508), (3) USDA regulations implementing NEPA (7 CFR part 1b), and (4) APHIS' NEPA Implementing Procedures (7 CFR part 372).

The environmental assessment and finding of no significant impact are available for viewing on the Internet at www.aphis.usda.gov/ppq/avocados/. Copies of the environmental assessment and finding of no significant impact are also available for public inspection at USDA, room 1141, South Building, 14th Street and Independence Avenue, SW., Washington, DC, between 8 a.m. and 4:30 p.m., Monday through Friday, except holidays. Persons wishing to inspect copies are requested to call ahead on (202) 690–2817 to facilitate entry into the reading room. In addition, copies may be obtained by writing to the individual listed under **FOR FURTHER INFORMATION CONTACT**.

Paperwork Reduction Act

This final rule contains no new information collection or recordkeeping requirements under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*).

List of Subjects in 7 CFR Part 319

Coffee, Cotton, Fruits, Honey, Imports, Logs, Nursery stock, Plant diseases and pests, Quarantine, Reporting and recordkeeping requirements, Rice, Vegetables.

■ Accordingly, we are amending 7 CFR part 319 as follows:

PART 319—FOREIGN QUARANTINE NOTICES

■ 1. The authority citation for part 319 continues to read as follows:

Authority: 7 U.S.C. 450 and 7701–7772; 21 U.S.C. 136 and 136a; 7 CFR 2.22, 2.80, and 371.3.

§ 319.56–2bb [Removed and Reserved]

■ 2. Section § 319.56–2bb is removed and reserved.

■ 3. Section 319.56–2ff is amended as follows:

■ a. By revising the section heading and the introductory text of the section to read as set forth below.

■ b. By revising the introductory text of paragraph (c) and paragraphs (c)(1)(i) and (c)(1)(ii) to read as set forth below.

■ c. By revising the introductory text of paragraph (c)(2) and paragraphs (c)(2)(i) and (c)(2)(v) to read as set forth below.

■ d. By revising the introductory text of paragraph (c)(3) and paragraphs (c)(3)(i),

(c)(3)(iv), (c)(3)(vi), and (c)(3)(vii) to read as set forth below.

■ e. By revising paragraphs (d), (e), and (f) to read as set forth below.

■ f. By removing paragraphs (g), (h), and (k) and redesignating paragraphs (i) and (j) as paragraphs (g) and (h), respectively.

■ g. By revising newly redesignated paragraph (g) to read as set forth below.

§ 319.56–2ff Administrative instructions governing movement of Hass avocados from Michoacan, Mexico.

Fresh Hass variety avocados (*Persea americana*) may be imported from Michoacan, Mexico, into the United States only under a permit issued in accordance with § 319.56–3, and only under the following conditions:

(a) * * *

(2) Between January 31, 2005 and January 31, 2007, the avocados may be imported into and distributed in all States except California, Florida, and Hawaii. After January 31, 2007, the avocados may be imported into and distributed in all States.

* * * * *

(c) *Safeguards in Mexico.* The avocados must have been grown in the Mexican State of Michoacan in an orchard located in a municipality that meets the requirements of paragraph (c)(1) of this section. The orchard in which the avocados are grown must meet the requirements of paragraph (c)(2) of this section. The avocados must be packed for export to the United States in a packinghouse that meets the requirements of paragraph (c)(3) of this section. The Mexican national plant protection organization (NPPO) must provide an annual work plan to APHIS that details the activities that the Mexican NPPO will, subject to APHIS' approval of the work plan, carry out to meet the requirements of this section; APHIS will be directly involved with the Mexican NPPO in the monitoring and supervision of those activities. The personnel conducting the trapping and pest surveys must be hired, trained, and supervised by the Mexican NPPO or by the Michoacan State delegate of the Mexican NPPO.

(1) *Municipality requirements.* (i) The municipality must be listed as an approved municipality in the bilateral work plan provided to APHIS by the Mexican NPPO.

(ii) The municipality must be surveyed at least semiannually (once during the wet season and once during the dry season) and found to be free from the large avocado seed weevil *Heilipus lauri*, the avocado seed moth *Stenomoma catenifer*, and the small

avocado seed weevils *Conotrachelus aguacatae* and *C. perseae*.

* * * * *

(2) *Orchard and grower requirements.*

The orchard and the grower must be registered with the Mexican NPPO's avocado export program and must be listed as an approved orchard or an approved grower in the annual work plan provided to APHIS by the Mexican NPPO. The operations of the orchard must meet the following conditions:

(i) The orchard and all contiguous orchards and properties must be surveyed semiannually and found to be free from the avocado stem weevil *Copturus aguacatae*.

* * * * *

(v) Harvested avocados must be placed in field boxes or containers of field boxes that are marked to show the official registration number of the orchard. The avocados must be moved from the orchard to the packinghouse within 3 hours of harvest or they must be protected from fruit fly infestation until moved.

* * * * *

(3) *Packinghouse requirements.* The packinghouse must be registered with the Mexican NPPO's avocado export program and must be listed as an approved packinghouse in the annual work plan provided to APHIS by the Mexican NPPO. The operations of the packinghouse must meet the following conditions:

(i) During the time the packinghouse is used to prepare avocados for export to the United States, the packinghouse may accept fruit only from orchards certified by the Mexican NPPO for participation in the avocado export program.

* * * * *

(iv) Prior to the culling process, a biometric sample, at a rate determined by APHIS, of avocados per consignment must be selected, cut, and inspected by the Mexican NPPO and found free from pests.

* * * * *

(vi) Prior to being packed in boxes, each avocado fruit must be cleaned of all stems, leaves, and other portions of plants and labeled with a sticker that bears the official registration number of the packinghouse.

(vii) The avocados must be packed in clean, new boxes, or clean plastic reusable crates. The boxes or crates must be clearly marked with the identity of the grower, packinghouse, and exporter. Additionally, between January 31, 2005 and January 31, 2007, the boxes or crates must be clearly marked with the statement "Not for

importation or distribution in CA, FL, and HI."

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(d) *Certification.* All consignments of avocados must be accompanied by a phytosanitary certificate issued by the Mexican NPPO with an additional declaration certifying that the conditions specified in this section have been met.

(e) *Pest detection.* (1) If any of the avocado seed pests *Heilipus lauri*, *Conotrachelus aguacatae*, *C. perseae*, or *Stenomoma catenifer* are discovered in a municipality during the semiannual pest surveys, orchard surveys, packinghouse inspections, or other monitoring or inspection activity in the municipality, the Mexican NPPO must immediately initiate an investigation and take measures to isolate and eradicate the pests. The Mexican NPPO must also provide APHIS with information regarding the circumstances of the infestation and the pest risk mitigation measures taken. The municipality in which the pests are discovered will lose its pest-free certification and avocado exports from that municipality will be suspended

until APHIS and the Mexican NPPO agree that the pest eradication measures taken have been effective and that the pest risk within that municipality has been eliminated.

(2) If the Mexican NPPO discovers the stem weevil *Copturus aguacatae* in an orchard during an orchard survey or other monitoring or inspection activity in the orchard, the Mexican NPPO must provide APHIS with information regarding the circumstances of the infestation and the pest risk mitigation measures taken. The orchard in which the pest was found will lose its export certification immediately and avocado exports from that orchard will be suspended until APHIS and the Mexican NPPO agree that the pest eradication measures taken have been effective and that the pest risk within that orchard has been eliminated.

(3) If the Mexican NPPO discovers the stem weevil *Copturus aguacatae* in fruit at a packinghouse, the Mexican NPPO must investigate the origin of the infested fruit and provide APHIS with information regarding the circumstances of the infestation and the pest risk mitigation measures taken. The orchard

where the infested fruit originated will lose its export certification immediately and avocado exports from that orchard will be suspended until APHIS and the Mexican NPPO agree that the pest eradication measures taken have been effective and that the pest risk within that orchard has been eliminated.

(f) *Ports.* The avocados may enter the United States only through a port of entry located in a State where the distribution of the fruit is authorized pursuant to paragraph (a)(2) of this section.

(g) *Inspection.* The avocados are subject to inspection by an inspector at the port of first arrival. At the port of first arrival, an inspector will sample and cut avocados from each consignment to detect pest infestation.

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Done in Washington, DC, this 23rd day of November 2004.

Charles D. Lambert,

Acting Under Secretary for Marketing and Regulatory Programs.

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