



**AgEcon** SEARCH

RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

*The World's Largest Open Access Agricultural & Applied Economics Digital Library*

**This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.**

**Help ensure our sustainability.**

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

[aesearch@umn.edu](mailto:aesearch@umn.edu)

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

*No endorsement of AgEcon Search or its fundraising activities by the author(s) of the following work or their employer(s) is intended or implied.*



# Relaxing Fruit and Vegetable Planting Restrictions

**Edwin Young**  
[ceyoung@ers.usda.gov](mailto:ceyoung@ers.usda.gov)

**Barry Krissoff**  
[barryk@ers.usda.gov](mailto:barryk@ers.usda.gov)

**Demcey Johnson**  
[djohnson@ers.usda.gov](mailto:djohnson@ers.usda.gov)

**Gary Lucier**  
[glucier@ers.usda.gov](mailto:glucier@ers.usda.gov)

- A recent WTO challenge to U.S. commodity programs has created pressure to eliminate fruit and vegetable planting restrictions on farms that operate on base acres.
- If planting restrictions were relaxed, overall market effects would likely be limited, with the greatest effects in California, the Southeast, and the Upper Midwest.
- Some producers with base acreage could benefit while others without base acres may find that production of fruit and vegetables becomes less profitable.

Fruit and vegetables have never been a major focus of U.S. farm programs, but a recent ruling by the World Trade Organization (WTO) places them at the center of policy discussions. At issue are the planting restrictions that apply to "base acres," and whether billions of dollars of direct payments to U.S. farmers can remain exempt from internationally agreed-upon spending limits.

Under current U.S. farm legislation, recipients of direct and counter-cyclical payments can plant whatever they like on their base acres, including lentils, mung beans, and dry peas—except for fruit, vegetables, and wild rice. Payments tied to base acres are partially or fully forfeited when fruit and vegetables are harvested. Planting restrictions, in various forms, have been a feature of U.S. commodity programs for many years, but are now a source of controversy because of a successful Brazilian challenge to U.S. cotton programs. In March 2005, a WTO appellate body ruled that, because of planting restrictions, U.S. fixed, direct payments to cotton farmers could not be considered "minimally trade distorting" under terms of the Uruguay Round Agreement on Agriculture. This legal ruling draws into question whether the United States can continue to claim that direct payments are "green box," that is, exempt from WTO obligations on trade-distorting support, without eliminating the restrictions.

An author interview is featured online at:  
[www.ers.usda.gov/amberwaves/](http://www.ers.usda.gov/amberwaves/)

In principle, elimination of the planting restrictions could expand the supply of fruit and vegetables, thereby reducing grower prices. Industry groups are divided on the issue. Growers are naturally concerned about the price-depressing effects of potential shifts in production, given the magnitude of base acreage (about 266 million acres nationally) and the small amount of acreage (over 12 million acres) currently harvested for restricted fruit and vegetables. On the other hand, vegetable processors tend to regard planting restrictions as a competitive obstacle—one that limits available acreage, raises procurement costs, and can accentuate risks of localized crop problems, such as diseases that render fields unsuitable for production. This argument carries special force in the Midwest and other areas where vegetables were traditionally grown, but where base acreage expanded under the 2002 Farm Act as a result of base acreage updating and the addition of historical soybean acreage. Some current fruit and vegetable producers argue that it would not be fair to allow new fruit and vegetable producers to continue to receive Federal subsidies.

ERS analysis suggests that if current planting restrictions were relaxed, acreage would most likely shift in regions where the land and climate are suitable for fruit and vegetable production, but nonbase acres are in limited supply. California and Florida account for a major share of fruit and vegetable production. Florida has a small number of base acres, which limits the potential impact on supply. Eliminating planting restrictions would most likely enable some producers to switch from producing program crops to producing fruit and vegetables in California, the Upper Midwest, and the coastal plain in the Southeastern States.

However, these regions would not necessarily experience large acreage shifts because current restrictions are not always binding for producers. For example, some

### Glossary of Farm Policy Terms

**Base acreage**—A farm's crop-specific acreage of wheat, feed grains, upland cotton, rice, oilseeds, or peanuts eligible to participate in commodity programs under the 2002 Farm Act.

**Counter-cyclical payment**—Payments that vary inversely with market prices and are available for eligible commodities under the 2002 Farm Act whenever the effective commodity price is less than the target price. The payment amount for a farmer equals the product of the payment rate, the payment acres, and the payment yield. Payments are tied to historical base acres and program yields.

**Direct payment**—Annual payments based on payment rates specified in the 2002 Farm Act and a producer's historical program payment acres and yields.

**Green box policies**—Domestic or trade policies that are deemed to be minimally trade distorting and excluded from domestic support reduction commitments in the Uruguay Round Agreement on Agriculture.

producers circumvent the restrictions by leasing nonbase land, planting fruit or vegetables on owned (base) acres, and reconstituting the farm entity to preserve government payments. In other cases, the difficulty of securing sufficient labor for harvesting, the difficulty in establishing a pre-harvest marketing contract with buyers, and other agronomic or economic factors would deter many producers from growing fruit or vegetables. In still other cases, the loss of payments under the current program is simply too small to deter growers from switching into these crops.

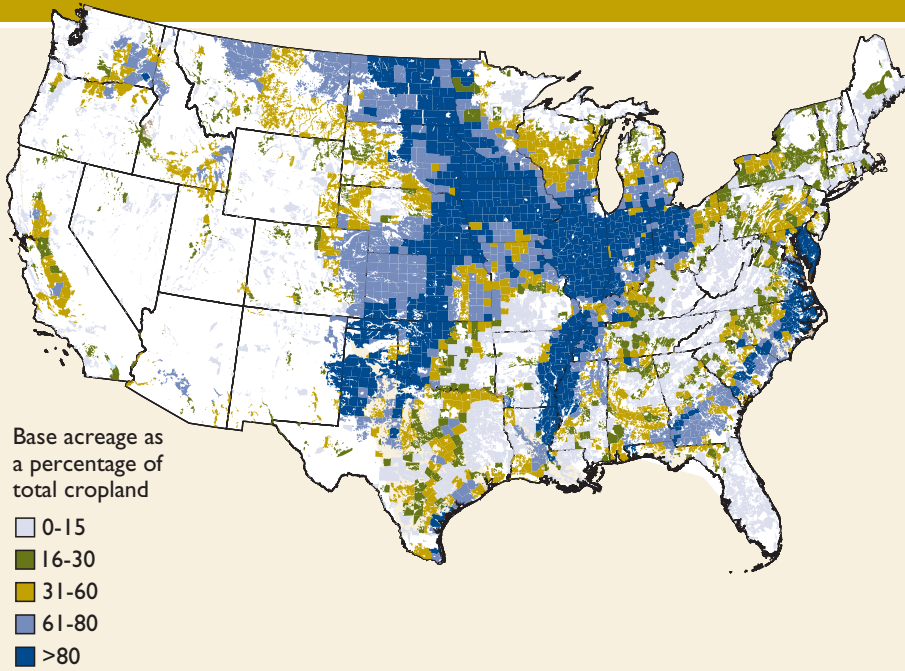
### Base Acreage Constraints Greatest in California, Upper Midwest, and Southeast

According to the 2002 Census of Agriculture, about 434 million acres of cropland were available, of which about 12.5 million acres were used to produce fruit and vegetables. Data from USDA's Farm Service Agency (FSA) show that 266 million acres of cropland were designated as base acreage in 2003, and 35 million acres of cropland were enrolled in the Conservation Reserve Program and not available for annual crop production. These data suggest that sufficient land is available to increase production of fruit and vegetables. However, a different story emerges when the data are disaggregated by region: base acreage constraints are not uniform across the country, and planting restrictions under current law might be significant only in certain regions.

Base acreage constitutes a particularly large share of cropland in the Corn Belt, Northern Plains, Mississippi Delta, and parts of the Southeastern States. Base acreage is significant in California, the top U.S. fruit- and vegetable-producing State, but accounts for a much smaller share of available cropland than in other regions. Florida, the second leading U.S. fruit- and vegetable-producing State, has very little cropland designated as base acreage.

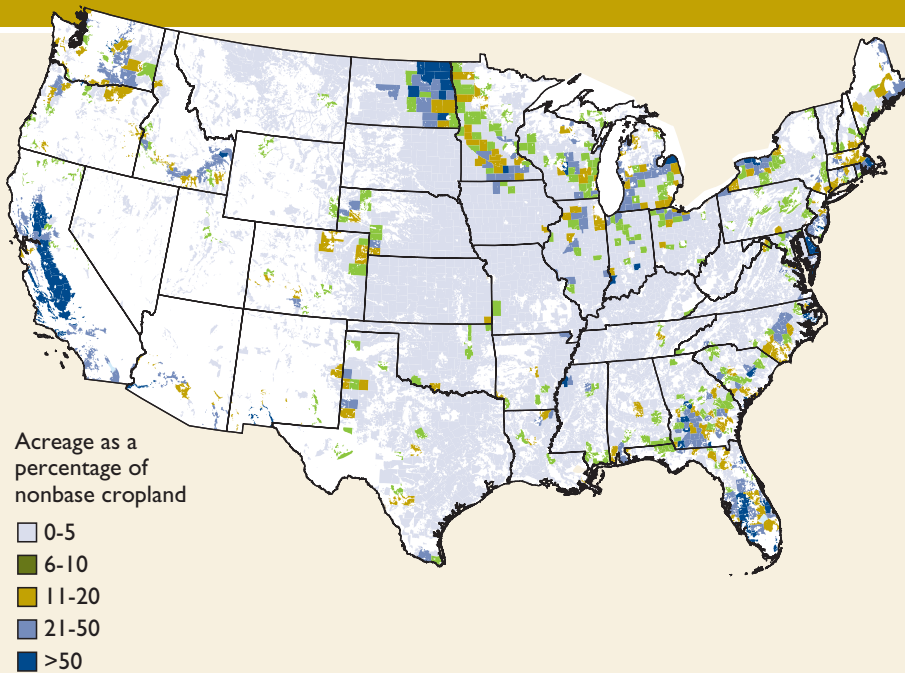
Base acreage constraints may be limiting fruit and vegetable production in eastern North Dakota, a region where dry beans and potatoes are grown. Land constraints may also limit acreage shifts or expansion in southern Minnesota, central Wisconsin, northern Illinois, western Michigan, and western New York, where a variety of processing fruit and vegetables are grown. In California and Florida, fruit and vegetables already account for a large share of cropland. While fruit and vegetable acreage is high in the eastern coastal plain, southern Idaho, and central Washington, many counties in these

**Higher shares of total cropland designated as base acreage indicate where land may be constrained**



Source: Compiled by USDA, Economic Research Service from USDA, Farm Service Agency data.

**Fruit and vegetable area planted comprises a large share of nonbase cropland in some regions**



Source: Compiled by USDA, Economic Research Service from USDA, Farm Service Agency data.

regions have more than 100,000 acres of additional nonbase land available for crop production.

Disaggregating the data helps identify areas where planting restrictions may limit fruit and vegetable production but does not identify the specific commodities likely to be affected by relaxed planting restrictions. Based on the share of cropland that is base acreage in States producing selected fruit and vegetables, planting restrictions have the greatest effect on production of dry beans, processing vegetables, and potatoes. The average share of base acreage in total cropland is about 20 percent in States producing citrus, and 70 percent in States producing dry beans.

**Many Farms Produce Both Program Crops and Fruit and Vegetables**

Many regions produce both program crops and fruit and vegetables. The same can be said about many producers. With their experience growing these crops, these producers would be prime candidates for expanding production of fruit and vegetables if the acreage constraints were eliminated. Many farms currently produce or have a history of producing fruit and vegetables on base acreage. Farmers who participate in the direct and counter-cyclical payment programs must annually report or "certify" the use of land on their farms with FSA. A close look at such data helps gauge the overlap between production of program crops and production of fruit and vegetables.

Based on State-level summaries of acreage reports and program enrollment data for 2003, farms that certified acreage planted about 2 percent of their cropland, or over 6.5 million acres, to fruit and vegetables. Thus, farms that certify acreage with FSA account for about half of land devoted to fruit and vegetables. These farms contain about 80 percent of land

## Base Acreage and Planting Restrictions

To be eligible to receive direct and counter-cyclical payments, farmers are restricted from planting fruit and vegetables for harvest. The following criteria apply:

- If a farm has a “history” of planting fruit and vegetables on base acres, the farm is allowed to plant fruit and vegetables on up to all of its base acres, but it must give up the payments for those acres.
- If the farmer has a “history” of planting fruit and vegetables on a different farm, the farmer can plant the specific crop for which there is a history, but the farmer is limited to the (average) number of historical acres for which he or she has a history. The farmer must give up the payments for those acres.
- In regions that have a history of double-cropping, farms are permitted to double-crop fruit and vegetables, with no acreage limits.

Farmers who violate these conditions must forfeit up to all of their direct and counter-cyclical payments for that year.

In 2003 and 2004, about 14,400-15,000 program farms planted fruit and vegetables on just over 600,000 base acres. About 99 percent of these farms had a history of planting fruit and vegetables on base acreage, so they lost payments (an average of \$22 per acre) associated with only the affected acreage. California accounted for about a third of the acreage for which payments were forfeited, and North Dakota and Minnesota combined accounted for about a fifth.

planted to vegetables, dry beans, and potatoes. Farms with certified acreage account for less than a quarter of the land devoted to production of fruit, nuts, and berries. Farmers may be less likely to plant fruit trees and vines on base acreage than they are to plant vegetables and melons because trees and vines require several years to mature, thus delaying harvest.

## Some Producers Find It Profitable To Forgo Direct and Counter-cyclical Payments . . .

As noted earlier, 80 percent of potatoes, dry beans, and other vegetables are grown on farms with program acreage. Many of these farmers, with a history of producing fruit and vegetables on their farms, have assessed the benefits and costs of planting these crops on base acreage and have elected to forgo program payments. In 2003, producers gave up \$13.5 million in direct and counter-cyclical payments on about 620,000 acres to plant fruit and vegetables.

This type of planting decision is evident in California, where land devoted to almond groves has increased sharply over the last decade, partly at the expense of cotton base acreage, which brings the highest per acre value of payments. The U.S. has been the world's leading almond producer since 1977, contributing half of total output. Nearly all the U.S. crop is produced in California's San Joaquin and Sacramento Valleys. Both domestic and export demand have been rising, with export value exceeding \$1.6 billion in fiscal year 2006. With recent high prices, the prospective returns for almonds—a crop that takes years to bear fruit—are such that some cotton farmers have been willing to give up their direct and counter-cyclical payments. In other words, the

value of expected net revenue from almond production exceeds the expected revenue plus government payments for cotton. While base acreage constraints could impede land-use shifts into almond production, they do not appear to be preventing the switch.

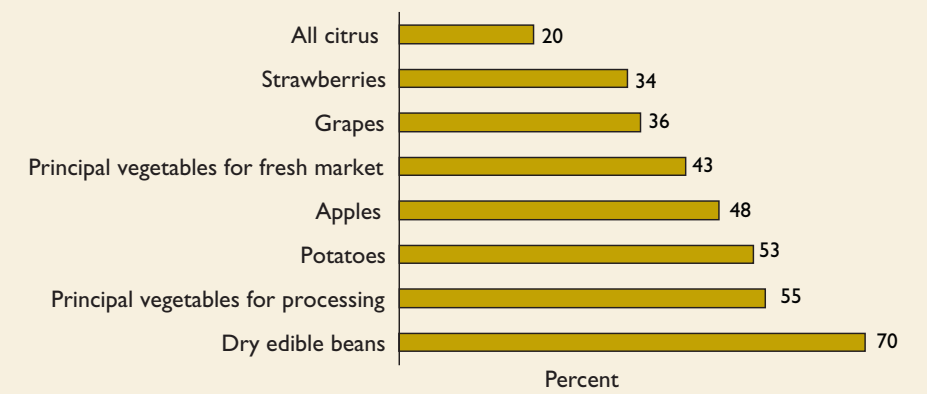
Generally, the per acre value of producing fruit and vegetables exceeds the per acre value, including government payments, of producing competing program crops. Corn direct payments of less than \$25 per acre are small relative to expected revenue per acre from sweet corn production. Similarly, a farmer considering a switch from wheat production to dry beans might not consider program payments to be a significant barrier to switching. As a result, in 2003, many producers with a history of producing fruit and vegetables concluded that giving up payments that averaged \$22 per acre to plant fruit and vegetables on base acreage made economic sense. This suggests that producers with base acres who make money from fruit and vegetable production have already expanded their production of fruit and vegetables; removing planting restrictions may, therefore, not have much additional effect.

## . . . but Agronomic and Economic Barriers May Limit Expansion of Fruit and Vegetable Production

A producer who is considering a shift or move into producing fruit and vegetables also needs to consider the potential demand (or revenue) and cost factors, particularly the specialized costs for the selected commodity. For new growers, demand and cost factors can be prohibitive.

Producers who are expanding fruit and vegetable production need to consider potential product demand, the need to

**Share of base acreage in areas producing selected fruit and vegetables**



Source: Compiled by USDA, Economic Research Service from USDA, Farm Service Agency and USDA, National Agricultural Statistics Service data.

locate, develop, and secure markets, and the prevalence of contracting in the sector. Market competition is intense for many fruit and vegetable growers. Most vegetables destined for processing are grown under contractual arrangements between growers and processors, and longrun demand is stagnant or declining, offering little chance for industry acreage expansion. Contracting is especially prevalent in the production of processing vegetables (tomatoes, sweet corn, green beans, and green peas), as processors require assurances of a crop's volume, and specific characteristics, such as variety, size, color, and timing of delivery to the factory.

While returns per acre can be substantial, the costs and financial risks of producing many fruit and vegetables (especially fresh-market crops) are high, creating significant barriers to switching land from program crops to fruit and vegetables. A number of products are labor intensive or require specialized harvesting equipment. Irrigation needs, high herbicide and pesticide costs, and specialized production and marketing expertise also impede the switch to those crops. Fruit production has its own limitations. It takes several years following planting for

trees and vines to produce commercially marketable crops. During these nonproductive years, growers who plant on base acreage incur costs associated with maintaining the new crops as well as forgoing direct and counter-cyclical payments.

**What Can We Conclude About the Market Effects of Relaxing Planting Restrictions?**

Market effects of eliminating planting restrictions are likely to be limited and confined to specific regions and commodities. Supply shifts would be more likely in regions where the land and climate are suitable for vegetable production and nonbase acreage is in limited supply. Acreage in these regions would not necessarily shift significantly because current restrictions are not always binding for producers. Because some fruit and vegetables are expensive to produce, program crop farmers are more likely to switch to less capital-intensive crops, such as dry beans, or to processing vegetables, than to fresh fruit or vegetables. However, analysis of market effects is complicated because of a lack of comprehensive and consistent data, a large number of commodities, and limited estimates of relevant economic parameters. ERS research reflects these limitations.

While overall market impacts are likely to be small, impacts could be significant for individual producers, commodities, and regions. Producers with base acreage are the most likely to benefit because they may be able to realize additional revenue from harvesting fruit and vegetables. Under current program rules, these producers could expand production by forgoing direct and counter-cyclical payments for the current year, if expected net returns to producing the fruit and vegetables exceed expected net returns from producing the program crop, including program payments. If planting restrictions were eliminated, these producers would continue to receive direct and counter-cyclical payments. However, before switching any acreage into fruit and vegetables, farmers will need to carefully consider the startup costs and potential markets for their output. **W**

**This article is drawn from . . .**

*Eliminating Fruit and Vegetable Planting Restrictions: How Would Markets Adjust?* by Demcey Johnson, Barry Krissoff, Edwin Young, Linwood Hoffman, Gary Lucier, and Vince Breneman, ERR-30, USDA, Economic Research Service, November 2006, available at: [www.ers.usda.gov/publications/err30/](http://www.ers.usda.gov/publications/err30/)  
*Fruit and Vegetable Backgrounder*, by Gary Lucier, Susan Pollack, Mir Ali, and Agnes Perez, VGS-31301, USDA, Economic Research Service, April 2006, available at: [www.ers.usda.gov/publications/vgs/apr06/vgs31301/](http://www.ers.usda.gov/publications/vgs/apr06/vgs31301/)

**You may also be interested in . . .**

ERS Briefing Rooms on:  
Farm and Commodity Policy, [www.ers.usda.gov/briefing/farmpolicy/](http://www.ers.usda.gov/briefing/farmpolicy/)  
Fruit and Tree Nuts, [www.ers.usda.gov/briefing/fruitandtreenuits/](http://www.ers.usda.gov/briefing/fruitandtreenuits/)  
Vegetables and Melons, [www.ers.usda.gov/briefing/vegetables/](http://www.ers.usda.gov/briefing/vegetables/)