



**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.*

**THE IMPORTANCE OF THE CONSERVATION SECURITY ACT TO  
US COMPETITIVENESS IN GLOBAL ORGANIC MARKETS**

LUANNE LOHR

Luanne Lohr is an Associate Professor, Department of Agricultural and Applied Economics, The University of Georgia, Athens, GA, 30602.

---

Dept. of Agricultural & Applied Economics  
College of Agricultural & Environmental Sciences  
University of Georgia

---

# THE IMPORTANCE OF THE CONSERVATION SECURITY ACT TO US COMPETITIVENESS IN GLOBAL ORGANIC MARKETS

LUANNE LOHR

Department of Agricultural and Applied Economics  
University of Georgia  
Athens, GA 30602-7509

llohr@agecon.uga.edu

## ABSTRACT---

This briefing paper reviews the role that the proposed Conservation Security Act plays in improving US competitiveness in global markets for organic agriculture products. The European Union provides direct payments to organic farmers through an agri-environmental program that is considered a “Green Box policy” by the World Trade Organization and not subject to funding limits. US organic farmers are falling behind due to aggressive production conversion campaigns in the EU. The Conservation Security Act, which would pay farmers for environmentally sound practices, would counterbalance the EU subsidy program. With a level field for production support, the US organic industry could be expected to become a dominant market force in the \$102 billion global organic sector.

## -----KEY WORDS-----

organic agriculture, agri-environment program, Green Box policies, international trade

Faculty Series are circulated without formal review. The views expressed are those of the author. This research was supported by the University of Minnesota School of Agriculture Endowed Chair in Agricultural Systems and the Minnesota Institute of Sustainable Agriculture while the author was on leave.

The University of Georgia is committed to the principle of affirmative action and shall not discriminate against otherwise qualified persons on the basis of race, color, religion, national origin, sex, age physical or mental handicap, disability, or veteran’s status in its recruitment, admissions, employment, facility and program accessibility, or services.

**Copyright © 2001 by Luanne Lohr. All rights reserved. Readers may make verbatim copies of this document for non-commercial purposes by any means, provided that this copyright notice appears on all such copies.**

# **The Importance of the Conservation Security Act to US Competitiveness in Global Organic Markets**

## **I. Introduction**

This briefing paper reviews the role that the proposed Conservation Security Act would play in improving US competitiveness in global markets for organic agriculture products. This growing international market is conservatively projected to reach sales of \$102 billion by 2010.<sup>1</sup> The current value of the European organic market is estimated at \$5.255 billion, of which US imports contribute \$200 million to \$300 million, or about 4 to 6 percent. The current value of the Japanese organic market is estimated at \$3 billion, of which US imports constitute \$100 million, or about 3 percent. European Union (EU) organic producers have captured much of the international market, benefitting from early development of federal organic certification standards in 1991 and agri-environmental support programs implemented under an EU regulation introduced in 1992.

Since organic farming technologies are equally accessible to small and large farmers, organic agriculture promises opportunities to promote overall environmental and economic health in rural America. However, the US government has advanced the industry less aggressively than its European counterparts, the US having just completed acceptance of a final rule for organic certification in December 2000. The ability of EU farmers to rely on direct payments for conversion to and continuation of organic enables greater risk-taking in enterprise mixes, including high-value, high-risk crops, faster adoption of practices that require land-use adjustments that improve yields, and broader extensification of organic acreage that increases total output.<sup>2</sup> As Common Agricultural Policy (CAP) reform reduces farm support tied to production, participation in the agri-environmental program, which rewards farmers for various conservation and preservation practices in addition to organic, will increase.

These outcomes translate into production and marketing advantages for EU organic farmers that cannot be overcome by reliance on the conservation support programs currently offered in the US. Generic programs such as the Conservation Reserve Program (CRP) and the Environmental Quality Incentives Program (EQIP) support specific practices, but do not reward whole farm planning and systems changes associated with organic agriculture that provide multiple environmental benefits. The Conservation Security Act, as introduced under Senate Bill 932 in May 2001, addresses this oversight by providing the highest level of support for farmers, including organic farmers, who engage in the riskiest, most extensive changes to promote environmental quality.

The Conservation Security Act is the only policy tool that US agriculture has to counter the EU's advantage, because the agri-environmental program is a "Green Box" policy under the World Trade Organization (WTO) rules. This means it is not subject to spending limits or elimination, and is unlikely to be considered for such restrictions as long as the payments are related to environmental enhancement rather than production or export performance. As a result, the US Trade Representative would have difficulty arguing in the WTO for the elimination of the program on the basis of trade-distorting outcomes. The problem is compounded by the extensive

use of generic, practice-oriented conservation and environmental programs already in use in the US. A more direct way to level the playing field for US organic farmers is to accord them the same support as their European counterparts receive.

The Conservation Security Act would enable US organic farmers to be more aggressive in production expansion and marketing activities, making them competitive in the global organic market. The remainder of this paper documents the competitive disadvantages of American organic farmers with their EU counterparts, and projects benefits and costs of the Act as it would apply to organic farmers.

## II. Relevant Rules and Legislation

This section contains brief descriptions of the existing and proposed legislation discussed.

**National Organic Program Final Rule (NOP):** The Final Rule establishes criteria for organic certification for producers, processors, and handlers in the United States, and sets up a federal program of accreditation for certifiers operating within the United States. The rule was promulgated in December 2000 and will be fully implemented in October 2002.

**Senate Bill S.932 (House version differs) - Conservation Security Act (CSA):** The CSA is an agri-environmental program to give financial support to farmers who implement conservation practices in their operations. A three-tiered system would pay farmers according to the types of practices implemented under contract. As initially proposed, the maximum annual payments at each tier for a 5 to 10-year contract would be \$20,000 for basic nutrient, water and soil conservation activities in Tier 1, \$35,000 for land-use adjustment practices such as crop rotations in Tier 2, or \$50,000 per farm for whole farm planning and environmental enhancement in Tier 3. *The CSA is being considered for inclusion in the 2002 Farm Bill.*

**EC Reg. 2092/91 - EU Organic Standards:** The EU Organic Standards regulation establishes criteria for organic certification for producers, processors, and handlers in the EU member states. It also sets up rules for import acceptance, including a mechanism (Article 11) for non-EU countries to obtain "Third Country" status whereby that country's standards are considered equivalent to the EU standards, and imports are to be accepted as if produced within the EU, without additional requirements. Exporters from countries that do not hold Article 11 status must establish equivalency of their certification with EU standards independently. This regulation was introduced in 1991.

**EC Reg. 2078/92 - EU Agri-Environment Program:** The EU Agri-Environmental Program provides financial support to farmers who reduce and maintain reductions of chemical use or implement and continue organic farming methods, intensify production areas, reduce animal units per land unit, engage in nature protection or biodiversity measures, manage land for public access and environmental set-asides, and attend training or set up demonstration projects to promote environmental or organic farming practices. The regulation was introduced in 1992, subject to member implementation on a country-by-country basis.

**EC Reg. 746/96 - Clarification of EC Reg. 2078/92:** The clarification of EC Reg. 2078/92 requires that member states take specific account of EC Reg. No. 2092/91 in setting financial assistance levels for organic farmers, and explains the limits for combination of support programs. Under this regulation, the level of any incentive element of a support program cannot exceed 20% of foregone income and expenses incurred to implement the practice. Organic farming is eligible for an additional 20% incentive payment. Maximum total payments vary by agricultural product, time since implementation of practices, and other factors set unilaterally by member countries. The EU co-finances 50% of the program cost (up to 75% in some regions), and member countries pay the remainder, although any country may elect to pay more. The regulation was introduced in 1996.

**“Green Box” Policies:** Domestic support that is not considered trade-distorting under World Trade Organization rules and is not subject to spending limits. Examples of Green Box policies are the Conservation Reserve Program in the United States and the Agri-Environmental Program in the European Union.

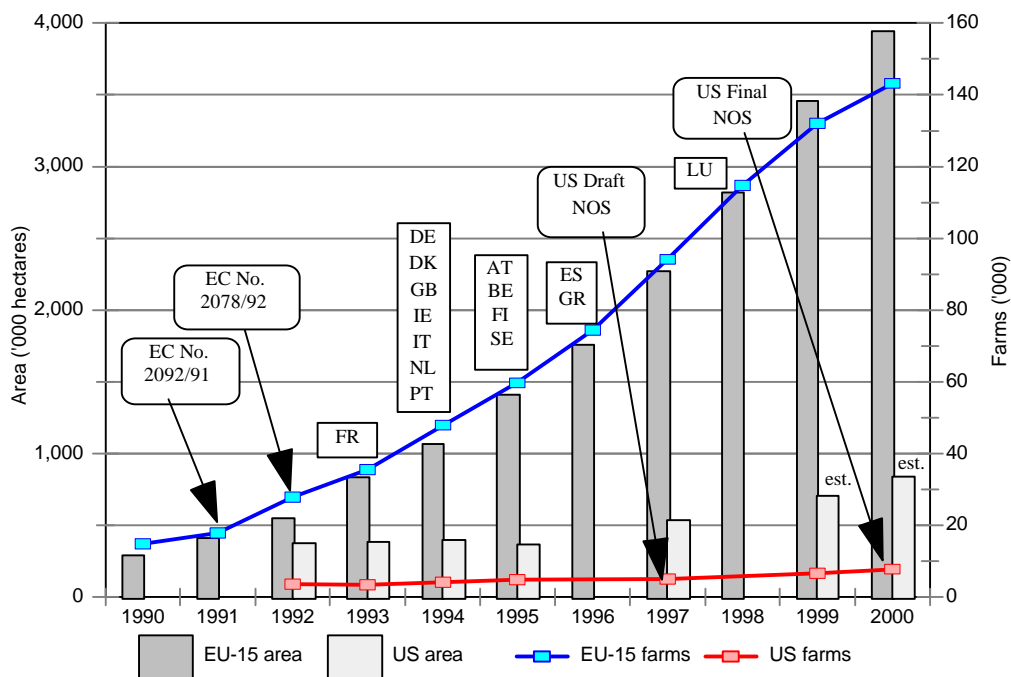
### III. Competitive Disadvantage for US Organic Farmers

This section contains graphical and narrative comparisons of the US and EU organic farm sectors and the effects of policy intervention on farm income.

#### A. Direct Payments Stimulate Transition to Organic

**Figure 1** shows the timing of the major regulations relative to the growth of organic production in the US and the EU-15 in terms of both area and number of farms from 1990 to 2000. The major policy events stimulating organic agriculture adoption in the EU were passage of EC Reg. 2092/91 and EC Reg. 2078/92. The financial support program is administered according to national government provisions, so individual countries instituted the program in different years, depicted on the graph. France was the first to implement the support program in 1993, followed by Germany, Denmark, Great Britain, Ireland, Italy, the Netherlands, and Portugal in 1994, by Austria, Belgium, Finland, and Sweden in 1995, by Spain and Greece in 1996, and by Luxembourg in 1998.

The key point of comparison for the direct payment policy is from 1995 onward, after which most EU countries had adopted the agri-environmental scheme. Between 1990 and 1995, the EU gained 1.1 million hectares in organic acreage and 45,000 farmers, compared with an estimated 2.2 million hectares and 68,000 farmers between 1996 to 2000. In the US, there was a decline in organic acreage between 1992 and 1995 of 7,000 hectares and a gain of 1,200 farmers compared with increases of 470,000 hectares and 2,700 farmers between 1995 and 2000 during the period when the draft and final National Organic Standards were released. The momentum established by the payments in the EU outpaced demand-driven farm conversions in the US.



**Figure 1. Growth in Organic Production from 1990 to 2000, US and EU-15**

The overall share of organic acreage in the EU was estimated at 2.9 percent in 2000, accounting for 3,945,200 hectares operated by more than 143,000 farmers.<sup>3</sup> In the US, which relied exclusively on the private sector and state governments for organic industry development, the overall share of organic acreage was estimated at 0.2 percent, or 837,200 hectares operated by 7,800 farmers.<sup>4</sup> Average organic farm size in both countries has increased. In 1995, the average organic farm in the EU was 23.6 hectares and in 2000, the average size was 27.5 hectares. In the US, organic farm sizes averaged 75.6 hectares in 1995 and 107.3 hectares in 2000.

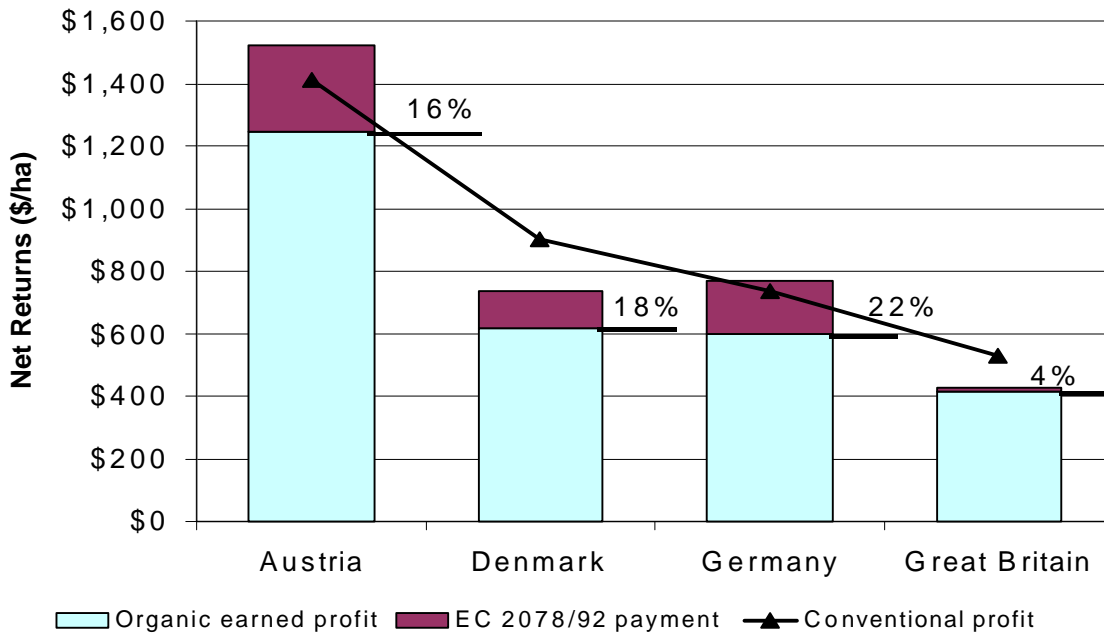
Thus, there are more, smaller organic farmers in the EU than in the US suggesting that the EU agri-environmental program protects small farmers and support rural communities. The program also stimulated conversion of more acreage in total, generating greater environmental and economic benefits, not to mention higher output, for the EU than for the US.

**Conclusion:** *The superior competitive position held by EU organic farmers is due to direct agri-environmental payments and cannot be overcome through pure market mechanisms.*

**B. Direct Payments Insure Competitive Farm Income**

**Figure 2** shows the net returns per hectare for the average organic farms in four EU countries - Austria, Denmark, Germany, and Great Britain, and the share due to the EC Reg. 2078/92 payment.<sup>5</sup> The average Austrian organic farm generated \$1,691.72 per hectare in 1996,

of which 18% was due to the payment. The average Danish organic farm gained \$734.16 per hectare in 1996/1997, of which 16% was due to the payment. The average German organic farm gained \$768.38 per hectare in 1995/1997, of which 22% was due to the payment. The average British organic farm gained \$428.84 per hectare in 1995/1996, of which 4% was due to the payment. Variation in the contribution of the payment to total profit and the net returns per hectare are due to regional differences in payment rates, farm structure, time under organic



**Figure 2. Organic and Conventional Farm Profit, Four EU Countries**

management, and other factors.

The comparable conventional farm returns were 23% higher than organic for both Denmark (\$903.07 per hectare) and Great Britain (\$527.03 per hectare), but were 7% lower for Austria (\$1,410.81 per hectare) and 4% lower for Germany (\$736.37 per hectare). These values demonstrate the significance of the direct agri-environmental payment to net farm returns in the EU. On average, payments are necessary to insure profitability comparable to subsidized conventional farms.

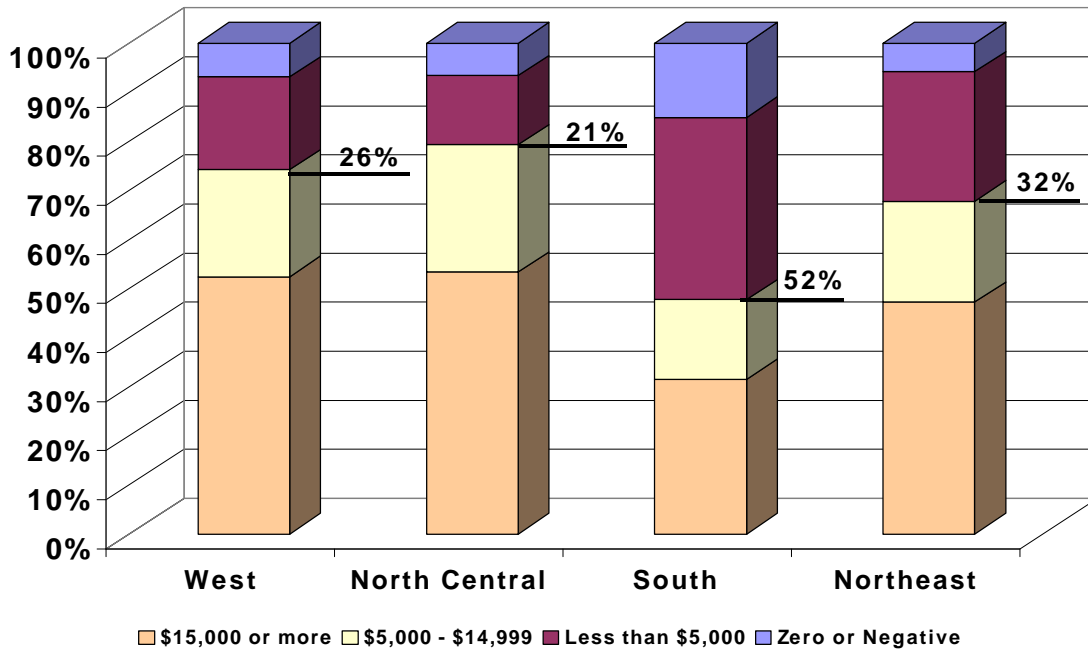
*Conclusion: Agri-environmental payments are needed to make organic farming competitive with subsidized conventional farming.*

**C. US Organic Farmers Incur Significant Income Risk**

**Figure 3** shows the 1997 income distribution attributable to organic farming in the US, by region.<sup>6</sup> Negative or zero income from organic outputs was earned by 7% of certified farmers in the West and North Central regions, by 15% of certified farmers in the South region, and by 6%



of certified farmers in the Northeast region. The minimum income requirement for certification under the US National Organic Program final rule is \$5,000. The percentages of farmers earning less than \$5,000 in 1997, including those with negative or zero income from organic outputs, were 26% in the West region, 21% in the North Central region, 52% in the South region, and 32% in the Northeast region. On a national level, 28% of organic farms earned less than \$5,000



**Figure 3. Organic Farm Income Distribution in 1997, Percentage of Farms by Region**

in gross income from organic farming in 1997, including 7% with zero or negative earnings.

The challenges of converting a farm to organic production and maintaining organic status in the post-conversion period have been well-documented. Legally, a transition farm must maintain organic practices, planning documents, and keep rigorous farm records for three years before being fully certified. The physical transition costs may be incurred for several more years, including penalties in yield or cost due to agroecosystem adjustments and management inefficiencies while learning new practices.<sup>7</sup> Financially, lack of access to premium prices until conversion is complete, conversion-related investments and disinvestments, and information-gathering costs for production and marketing are key constraints.<sup>8</sup>

Unlike their European organic counterparts, US organic farmers receive no federal payments for their farming practices. Beyond this, the US government provides limited alternative forms of support that might offset production and income risk incurred during and post-conversion. Funding dedicated to research and education programs for organic agriculture amounted to only \$2.0 million, or 0.11% of the USDA research and extension appropriations in 1995.<sup>9</sup> In 2001, only \$499,000 was allocated to the Organic Transition Program for research on conversion systems.<sup>10</sup> Until 2001, organic farmers were not eligible for the federal crop insurance program. Agri-environmental cost-sharing programs such as EQIP are left to states to administer,

and thus far, only Iowa has classified organic agriculture as a conservation practice eligible for funding. The USDA Market Access Program (MAP) contributed only \$48,520 for organic export promotion, representing approximately 0.05% of the \$90,000,000 spent on that program in 2000.<sup>11</sup>

*Conclusion: The income risk incurred by American organic farmers is significant and is not being addressed through federal government programs.*

#### **IV. Economics of The Conservation Security Act**

This section describes the benefits and costs of the Conservation Security Act.

##### **A. Production and Trade Benefits**

The most obvious benefit of the CSA is the reduction of individual organic farm income risk. Certified and many transitional organic farmers are likely to qualify for Tier 3 funding, with a maximum payment of \$50,000 per farmer per year. Although not required for participation in the CSA programs, organic certification might be taken as *a priori* proof of standing in the Tier 3 payment class. Payment would be specifically tied to costs of farm practices and their relative impact on environmental quality and resource protection. Compared to the gross income figures presented in Figure 3, this income support would provide sufficient income to offset the conversion costs described in Section III C. For transitional farmers converting from conventional agriculture, the shortest contract length (5 years) would cover the lack of price premiums over conventional products in the period until full certification is granted.

For established organic farmers, the support payment would increase flexibility in enterprise mix, marketing strategies, and participation in demonstration programs. Most organic farmers have expressed interest in expanding their operations in at least one of several ways. Among desired activities are to increase the volume of products marketed (74% of organic farmers), expand the number of markets or buyers (63%), increase the number of acres farmed (56%), add more commodities (49%), enhance value-added products (47%), and increase the number of animals in their operations (35%).<sup>12</sup>

With income risk protection, more farmers could engage in export promotion activities. These may include travel to international trade shows sponsored by the USDA Foreign Agricultural Service, certification with more expensive internationally recognized certification bodies, and tailoring enterprise mixes to meet product demand in international markets. About 39% of organic farmers have expressed a desire to increase export sales,<sup>13</sup> which would give the US substantially greater global market presence and insure competitiveness with EU producers.

##### **B. Estimated Costs**

The amount appropriated legislatively to fund the CSA would determine the final spending limit, but it is possible to estimate the cost of the program for organic farmers under reasonable scenarios of participation and spending.

*Payment assumptions.* The upper limit of spending per farmer is \$50,000 per year for the contract term, plus an advance payment of the greater of \$3,000 or 20% of the annual contract value. However, it is unlikely that all organic farmers would qualify for the upper spending limit, since the program is cost and impact based. This means smaller farms would not receive the highest payment level. The size distribution of organic farms is skewed toward smaller farms, with 44% of organic farms no bigger than 15 acres, and an additional 19% from 15 to 50 acres in size.<sup>14</sup> It is reasonable that these smaller farms, unless they are situated in highly environmentally sensitive areas, will receive substantially less than \$50,000 per year. Given the gross income figures shown in Figure 3, it would not be surprising to see an average annual payment over all farms in the range of \$5,000 to \$15,000. These values were set as low and high estimates for the average annual payment in the cost calculations, with the advance payment made in the first year at the time of contract being \$3,000.

*Industry growth assumptions.* In 2000, there were 7,800 certified organic farmers in the US.<sup>15</sup> to obtain the number of uncertified farmers growing organically, who would also qualify for Tier 3 support, the USDA estimate of 46% of the number of certified growers was used,<sup>16</sup> giving 3,588 uncertified organic farmers. The sum of certified and uncertified farmers was assumed to be the starting level of participation in the program in 2002. A 100% participation level was assumed to generate upper limit estimates of cost. In subsequent years, growth in participation was assumed to be the same as growth in the number of organic farmers. The USDA assumed a linear annual growth rate of 14% in the number of certified farmers and 8% in the number of uncertified farmers.<sup>17</sup> The USDA growth rates were projected in the absence of a payment program, and represent farmers who would engage in organic agriculture regardless of a subsidy. An additional 27% are expected to be induced to convert to organic agriculture due to the CSA payments.<sup>18</sup> Under this assumption of new entry stimulated by the payment program, the growth figures would be 17% for certified organic farmers and 10% for uncertified organic farmers. The USDA figures and the author's estimates were used as high and low estimates of sector growth rates for the cost calculations.

*Calculations:* Under Tier 3, a farmer may sign a contract of 5 to 10 years. Given the uncertainty of the program, initial contracts were assumed to be 5 years. In the first year of the CSA, all 11,388 farmers were assumed to receive the annual payment and the advance payment. In subsequent years, these 11,388 farmers would receive only the annual payment. In the second year of the CSA, growth in the organic production sector would result in 1,379 to 1,685 new organic farmers, depending on which growth assumptions are used. These farmer would receive the annual payment, plus the advance payment. Similarly, in subsequent years, more farmers will join the industry, and all are assumed to enter into CSA contracts. Thus, each year of the five-year calculation, existing contracts would be paid the annual payment and new contracts would receive the annual payment and the advance payment. This calculation was made for the first five years of the program, from 2002 to 2006. In order to determine the current cost of the first five

years of the CSA program, these annual costs were discounted using standard net present value calculations and assuming a discount rate of 5%. The annualized value of each scenario was also calculated.

**Table 1** shows the four scenarios estimated. They represent a combination of the two average annual payment levels and the two industry growth assumptions discussed.

**Table 1. Scenarios Used in CSA Cost Calculations**

Scenario	Payment	Growth Rates
Scenario 1	\$15,000 annual \$ 3,000 advance	14% certified farmers 8% uncertified farmers
Scenario 2	\$15,000 annual \$ 3,000 advance	17% certified farmers 10% uncertified farmers
Scenario 3	\$ 5,000 annual \$ 3,000 advance	14% certified farmers 8% uncertified farmers
Scenario 4	\$ 5,000 annual \$ 3,000 advance	17% certified farmers 10% uncertified farmers

**Table 2** shows the outcomes of the cost calculations under the four scenarios. The highest cost scenario is Scenario 2 at \$1.03 billion, followed by Scenario 2 at \$979.1 million, Scenario 4 at \$343.6 million, and Scenario 3 at \$325.4 billion. Scenario 4 is considered the most likely case, given that more than 60% of organic farmers have very small acreages and are unlikely to qualify for bonus payments for special circumstances. The annualized payment value for Scenario 4 is \$17.2 million per year.

**Table 2. Costs of Organic Contracts for First Five Program Years, Assuming 100% Participation Rate (\$1,000,000)**

Year	Scenario 1	Scenario 2	Scenario 3	<b>Scenario 4</b>
2002	170.8	170.8	56.9	56.9
2003	182.4	186.8	60.8	62.2
2004	194.8	204.3	65.0	68.1
2006	208.3	223.8	69.4	74.6
2006	222.8	245.3	74.3	81.7
Total Present Value	979.1	1,031.0	326.4	<b>343.6</b>
Annualized Value	49.0	51.5	16.3	<b>17.2</b>

By comparison, the EQIP, which pays for implementation of conservation practices on land that is in production, is funded at \$200 million per year for 5 to 10 years.<sup>19</sup> Scenario 4's annualized payment is 8.6% of this total. The CRP pays for retirement of environmentally sensitive crop land for 10 to 15 years, and paid \$1.4 billion on contracts active in October 2000.<sup>20</sup> Scenario 4's annualized cost is 1.2% of this total. However, it is unlikely that CSA participation would be 100% of organic farmers, so the total and annualized payments would be lower. Also, contracts under CSA would be redundant to other conservation programs, so that annual payments would be reduced by the amount received from other programs, unless those contracts were converted to CSA agreements. To the extent that organic farmers currently participate in any of the other conservation programs, the total cost figures would be reduced by that amount. Thus, these cost figures represent an upper limit on program costs associated with organic farmer participation in the CSA.

*Conclusion: The Conservation Security Act is a cost-effective means of insuring that US organic agriculture achieves global competitiveness.*

## V. Notes and References

1. L. Lohr. Factors affecting international demand and trade in organic food products. In: Changing Structure of Global Food Consumption and Trade, A. Regmi (ed.). US Department of Agriculture. ERS WRS No. 01-1. May 2001.
2. F. Offermann and H. Nieberg. Economic Performance of Organic Farms in Europe. Organic Farming in Europe: Economics and Policy, volume 5. Stuttgart: University of Hohenheim.
3. C. Foster and N. Lampkin. Unpublished data posted to website at [www.organic.aber.ac.uk](http://www.organic.aber.ac.uk) Copyright by Nicolas Lampkin, Welsh Institute of Rural Studies, University of Wales, Aberystwyth, GB-SY23 3AL, 2000.
4. Author's estimate based on data provided by the Organic Farming Research Foundation from its 1997 survey of organic farmers and on data in C.R. Greene, U.S. Organic Farming Emerges in the 1990s: Adoption of Certified Systems, US Department of Agriculture, ERS AIB No. 770, June 2001.
5. Calculated from data in F. Offermann and H. Nieberg, op cit., Table 5-11, p. 87, and Annex 6, pp. 179-189 for "all farms." Currency conversions are from the Oanda currency calculator ([www.oanda.com](http://www.oanda.com)).
6. Author's estimate based on data provided by the Organic Farming Research Foundation from its 1997 survey of organic farmers. Regions are the four USDA SARE regions (see <http://www.sare.org/htdocs/sare/about.html> or more information).

7. T. Irwin Hewitt and L. Lohr, Economic and environmental simulation of alternative cropping sequences in Michigan, *Journal of Sustainable Agriculture* 5(1995), 59-86.
8. S. Padel and N.H. Lampkin, Conversion to organic farming: an overview, In: *The Economics of Organic Farming*, N.H. Lampkin and S. Padel (eds.), CAB Intern., Oxon, 1994, pp. 295-313.
9. M. Lipson, Searching for the "O-Word", Santa Cruz, CA, Organic Farming Research Foundation, 1997, p. 58.
10. Fiscal Year 2002 President's Budget Proposal, House and Senate Action and Previous Appropriations, <http://www.reeusda.gov/budget/webfund.htm>, Nov. 8, 2001.
11. USDA Foreign Agricultural Service, Market Access Program Allocations Fiscal Year 2000, <http://www.fas.usda.gov/info/factsheets/mapfact.html>, Nov. 7, 2001.
12. E. Walz, Final Results of the Third Biennial National Organic Farmers' Survey, Santa Cruz, CA, Organic Farming Research Foundation, 1999, Table 4.5, p. 67.
13. E. Walz, op cit., Table 4.4, p. 67.
14. E. Walz, op cit. Table 8.6A, p. 102.
15. OFRF counts 7,800 certified organic farmers in U.S., Press Release, Santa Cruz: Organic Farming Research Foundation, May 9, 2001, <http://www.ofrf.org/press/Releases/PR.CERTIFIER.html>, Nov. 8, 2001.
16. The 46% figure was derived from calculations given in USDA Agricultural Marketing Service, National Organic Program Final Rule, Appendix A. Regulatory Impact Assessment for Final Rule Implementing the Organic Foods Production Act of 1990, <http://www.ams.usda.gov/nop/nop2000/Final%20Rule/Appendices/Appendix%20A-RIA.htm>, Nov. 7, 2001, p. 10.
17. The 14% figure was stated by the USDA. The 8% figure was derived from calculations given in USDA Agricultural Marketing Service, National Organic Program Final Rule, Appendix A. Regulatory Impact Assessment for Final Rule Implementing the Organic Foods Production Act of 1990, <http://www.ams.usda.gov/nop/nop2000/Final%20Rule/Appendices/Appendix%20A-RIA.htm>, Nov. 7, 2001, p. 10.
18. The 27% figure is from L. Lohr and L. Salomonsson, Conversion subsidies for organic production: results from Sweden and lessons for the United States, *Agricultural Economics* 22(2000), 133-146. The percentage of profit that was composed of the 1989 subsidy in Sweden was estimated at about 50%; the share of profit attributable to the EC 2078/92 subsidy in Sweden was 30% in 1996. The CSA subsidy will likely be in this range for many, if not most, converting farmers, and thus, the percentage who require the subsidy to convert is assumed to be the same. The article defends the applicability of Swedish data to the US case.

19. Fact sheet - Environmental Quality Incentives Program, USDA, Natural Resources Conservation Service, [www.nhq.nrcs.usda.gov/CCS/FB96OPA/eqipfact.html](http://www.nhq.nrcs.usda.gov/CCS/FB96OPA/eqipfact.html), Nov. 8, 2001.

20. USDA to issue more than \$1.4 billion in CRP payments, News Release No. 1613.00, USDA, Farm Service Agency, [www.fsa.usda.gov/pas/news/releases/2000/10/1613.htm](http://www.fsa.usda.gov/pas/news/releases/2000/10/1613.htm), Nov. 8, 2001.