



PURDUE AGRICULTURAL ECONOMICS REPORT

JUNE 2005

Comparing Alternative Indiana Farmland Leases

*Nicholas Held, Angel Aguiar, and Craig Dobbins**

Higher capacity machinery and advances in agricultural technology have made it possible for individual farm operators to cover many more acres than in the past. In order to obtain control of additional acreage, a producer must either purchase or lease additional land. Purchasing farmland requires a large capital investment, so many producers find leasing more feasible than purchasing.

Producers and landowners have a number of different lease alternatives to choose from when developing a leasing arrangement. For this analysis, a crop-share lease, a crop-share lease with an additional cash payment, a fixed cash rent lease, yield adjusted cash rent lease, and cash rent set at a fixed percentage of gross income are evaluated.

The leases are evaluated under North Central Indiana conditions. For all leases, machinery operating costs (fuel and repair), crop drying, machinery ownership costs, and labor costs are paid by the tenant. The land ownership costs are paid entirely by the landowner. Additional lease terms are described below.

* *Nicholas Held, is an Extension Educator, Dearborn County, Indiana, and former graduate student, Angel Aguiar is a graduate student and Craig Dobbins, Professor, Department of Agricultural Economics, Purdue University.*

Crop-share lease represents a traditional 50-50 crop-share lease. The yield and government support payments are shared equally between the landlord and tenant. The cost of seed, fertilizer, chemical, and crop insurance are also divided equally.

Crop-share lease with a cash payment has the same division of revenues and expenses as the crop-share lease. The difference is that the tenant makes an additional cash payment to the landlord. This additional payment is negotiated at the same time as other lease terms are agreed to. For this analysis, the fixed cash payment is set at \$10 per acre.

Fixed cash leases provide the tenant with the entire yield and the entire government payment. The tenant is responsible for all seed, fertilizer, chemical, and crop insurance costs. The only source of income for the landowner is rent. For this analysis, a specified payment of \$128 per acre is made by the tenant. Half the rent is assumed to be paid in March. The other half is paid after harvest.

Flexible cash lease adjusted for yield has the same division of revenues and expenses as the fixed cash lease. The difference is that the rent paid is adjusted up or down based on the yield received. With this lease, base corn and soybean yields are set at the time that the base rent is established. The actual rent paid

is adjusted at the end of the lease period based on the ratio of actual yields to base yields. If the yield received is above the base yield by 5%, then cash rent is increased by 5%. A similar adjustment is made for yield reductions.

The base rent amount for this lease was set at \$128 per acre. The base corn and soybeans yields were set at 145 bu. per acre and 46 bu. per acre, respectively. The rent actually paid is determined by the following formula:

Rent paid (\$ per acre) =

[Base rent * (corn yield received / base corn yield) * percent of farm planted to corn]

+ [Base rent * (soybean yield received / base soybean yield) * percent of farm planted to soybeans]

Flexible cash rent based on percent of gross income has the

In This Issue

Comparing Alternative Indiana Farmland Leases	1
Supporting Entrepreneurship through Business Planning: the AICC Business Planner	3
U.S. Conservation Programs: A Synopsis	6

Table 1. Per Acre Tenant Mean Return, Coefficient of Variation, and 5% Value at Risk with No Insurance, APH Insurance and CRC Insurance

Lease Alternative	No Insurance			APH Insurance			CRC Insurance		
	Mean	CV ¹	5% VAR ²	Mean	CV ¹	5% VAR ²	Mean	CV ¹	5% VAR ²
50 – 50 Share	\$96.43	22.7%	\$57.48	\$95.33	21.0%	\$61.22	\$95.92	19.1%	\$66.38
Fixed Cash	\$87.29	50.8%	\$7.89	\$85.08	47.8%	\$16.25	\$86.26	42.8%	\$25.80
50 – 50 Share plus \$10 Cash	\$86.43	25.3%	\$47.48	\$85.33	23.5%	\$51.22	\$85.92	21.3%	\$56.38
40% Gross Income	\$85.65	30.7%	\$38.69	\$82.49	29.9%	\$41.46	\$82.30	26.8%	\$46.51
Cash Adjusted by Yield	\$81.61	33.7%	\$37.03	\$79.40	31.3%	\$42.35	\$80.58	28.4%	\$46.65

Table 2. Per Acre Landowner Mean Return, Coefficient of Variation, and 5% Value at Risk with No Insurance, APH Insurance and CRC Insurance

Lease Alternative	No Insurance			APH Insurance			CRC Insurance		
	Mean	CV ¹	5% VAR ²	Mean	CV ¹	5% VAR ²	Mean	CV ¹	5% VAR ²
Cash Adjusted by Yield	\$137.05	14.7%	\$100.95	\$137.05	14.7%	\$100.95	\$137.05	14.7%	\$100.95
40% Gross Income	\$132.97	13.8%	\$99.24	\$133.98	12.5%	\$105.16	\$135.29	11.3%	\$110.33
50 – 50 Share plus \$10 Cash	\$132.17	16.9%	\$92.14	\$131.07	15.6%	\$95.57	\$131.52	14.2%	\$100.89
Fixed Cash	\$131.38	0.3%	\$130.62	\$131.38	0.3%	\$130.62	\$131.38	0.3%	\$130.62
50 – 50 Share	\$122.15	18.4%	\$80.47	\$121.15	17.0%	\$85.48	\$121.67	15.3%	\$90.99

1 Coefficient of variation is the standard deviation divided by the mean.

2 The values in the table represent the net return per acre at which there is a 5% chance that net returns will be lower. For a tenant concerned with the downside outcomes, the larger the number the better the alternative.

same provisions as the fixed cash lease except for determining the rent. The rent paid is a fixed percentage of the

gross receipts. This flexible cash rent is adjusted for both yield and price. As gross revenue increases or decreases, the rent will increase or decrease. Harvest-time prices are used to determine market revenue. Government payments are included as part of the gross revenue. In this analysis, it is assumed that rent paid by the tenant will be 40% of the gross revenue.

Method of Evaluation

A spreadsheet simulation model was developed to calculate the estimated tenant and landlord return for each leasing alternative. The tenant and landowner return were calculated under three scenarios - no crop insurance, Actual Production History (APH) insurance, and Crop Revenue Coverage (CRC) insurance. Harvest-time corn and soybean prices, corn and soybean yields, corn and soybean production costs (fertilizer, seed, chemicals, and machinery fuel and repair), interest rates, and base and harvest prices for Crop Revenue Coverage insurance were treated as uncertain variables in the model.

The calculations were repeated 2,500 times to generate a distribution

of returns for the tenant and landowner. The tenant's return represents the return that remains for machinery resources, operator labor, and management. The landowner's return represents the gross rent.

Results

Three criteria were used to evaluate the leasing alternatives: 1) average or mean return, 2) coefficient of variation, and 3) 5% Value at Risk (VaR). The coefficient of variation provides a measure of the variation on return or risk. The 5% Value at Risk indicates how well the lease alternative provides down side risk protection. Table 1 reports the estimated return for the tenant. Table 2 reports the estimated return for the land owner.

Conclusions

Using the results of the research, several conclusions can be made regarding the use of share, cash, and adjustable cash leases and their effects on the returns to the tenant and landowner.

From a tenant's perspective:

- A share lease is the best alternative. The 50 – 50 Share provided

Purdue Agricultural Economics Report is a quarterly report published by the Department of Agricultural Economics, Purdue University.

Editor

Gerald A. Harrison
E mail: harrisog@purdue.edu
Phone: 765 494 4216 or
toll free 1 888 398 4636

Editorial Board

Stephen B. Lovejoy
Christopher A. Hurt
Philip L. Paarlberg

Layout and Design

Cathy Malady

Circulation Manager

Jan Metzler

Agricultural Economics Department

www.agecon.purdue.edu

PAER World Wide Web

www.agecon.purdue.edu/extension/pubs/paer/

Cooperative Extension Service Publications

www.ces.purdue.edu/extmedia/

Subscription to PAER

Paper copies of the PAER are \$12 per year (payable to Purdue University). Electronic subscriptions are free and one may subscribe at: www.agecon.purdue.edu/contact/contact.asp

Purdue University
Cooperative Extension Service,
West Lafayette, IN

*Purdue University is an Equal Opportunity/
Affirmative Action employer.*

the tenant with the highest mean return, the lowest relative variability, and the best downside risk protection.

- The adjustable cash leases evaluated provided much lower variability in return and better downside risk protection when compared to fixed cash rent. However, these alternatives have a lower mean return.
- CRC crop insurance reduces the variability in return more than the APH alternative regardless of the lease type. While the mean returns with CRC insurance were lower than the no crop insurance alternative, the mean returns are equal to or greater than the mean return for APH insurance except for the 40% Gross Income lease.
- The type of lease has a strong influence on the ability of crop insurance to enhance downside risk protection. With no insurance the 5% VaR for the Fixed Cash alternative was \$7.89 per acre. When this lease is combined with CRC insurance, the 5% VaR is \$25.80 per acre, an increase of 327%. Under the 50-50 Crop Share alternative, the increase with CRC insurance was only 15%.

From a landowner's perspective:

- A fixed cash lease is the best alternative for the landowner.

The fixed cash lease provided the landowner with the highest mean return, the lowest variability, and the best downside risk protection.

- The 50-50 Share lease is the least preferred alternative for the landowner. For the landowner, the 50-50 share lease resulted in the lowest mean return, the highest variability, and the lowest downside risk protection. Combining the share lease with an additional payment of \$10 per acre provides a slightly larger mean return when compared to the Fixed Cash alternative, but still has much more variability.
- Adjustable cash leases may be a tough sell to landowners. First, all adjustable cash leases in the study resulted in higher variability and lower downside risk protection than a fixed cash lease. Second, the terms of these lease provided a larger mean return than the fixed cash lease, but the increase was small. Based on these results, there is little incentive for a landowner to move from a fixed cash lease to an adjustable cash lease.

Final Comment

The low average return provided to the landowner by the traditional 50-50 crop-share lease relative to the average return provided by the

other alternatives indicates that its use is likely to continue to decline. The flexible cash rent alternatives provide a slightly larger average return to the landowner and thus a slightly lower return to the tenant. Landowners may conclude that the additional return is not sufficient for the added variability of returns. Tenants may conclude that the increased complexity of these leases and the lower average return are not attractive; especially, when crop insurance can be used to reduce the variability of the fixed cash lease.

Reaching agreement on the terms of a farmland lease is influenced by many factors. The expected average return and the variation in return, while important, are only two factors that are taken into account. The difficulty in understanding the terms of the lease, the impact that the lease has on operating procedures, the level of management the lease requires from the parties, the level of communication between the parties that the lease requires, the additional services that are often provided but not specified in the lease, and many other things exert important influences on lease terms. Regardless of the lease, it is important to conduct a periodic review to insure that the lease remains equitable to all parties to the lease.

Additional details about this research can be found in the June PAER URL: <http://www.agecon.purdue.edu/extension/pubs/paer/>.

Supporting Entrepreneurship through Business Planning: the AICC Business Planner

*Cole Ehmke and Michael Boehlje**

While successful new business ventures have helped many agricultural households in increasing household income, more new

* Cole Ehmke is an assessment specialist with the Agricultural Innovation and Commercialization Center and Michael Boehlje is Professor, Department of Agricultural Economics, Purdue University.

initiatives fail than succeed. Why? Often failure results from lack of adequate attention to the details of a new business venture or lack of planning. While most experts agree that a business planning process is essential, there have been few tools that rural households could utilize to assist them unless they had an MBA in the house. With new software from Purdue, that has all changed.

Educators at the Agricultural Innovation and Commercialization Center (AICC) have developed an easy to use, systematic, Internet-based business planning tool. The *AICC Business Planner* guides entrepreneurs through the business planning process in stages. In each of the stages the entrepreneur answers key questions that guide the business creation process. The entrepreneur's work becomes a business plan that

may be taken to potential partners or investors.

Business Planning and the Stage-Gate Process

There are many arguments that intuitively reinforce the concept that formal business planning is important. For instance, a business plan provides direction by making entrepreneurs define the purpose of the venture; it provides a structure for identifying key success factors; it is a blueprint for implementing goals; and it is a communication tool for use with potential employees, suppliers and customers. While the entrepreneur may be challenged for time when a venture is being formed, developing a business plan will help identify areas of weakness or opportunity. Without a structured plan the entrepreneur might otherwise miss such areas.

Because the new venture development process is often haphazard and disorganized there are often serious gaps—omissions of steps and poor quality of execution—in new venture development. During the 1960s and 1970s companies became concerned with the high failure rate in new product development. Failure was attributed to many reasons, including inadequate market analysis, lack of effective marketing, higher costs than anticipated, and technical production problems or defects. One solution was to implement a formal new product development process that would produce more successes. (Cooper, 1994). This process is the stage-gate process.

The stage-gate process separates the innovation or new venture development process into a number of defined stages. Each stage is comprised of a set of activities which must be completed to answer a

specific set of questions concerning the venture's viability. A gate must be passed before moving on to the next stage. Each gate tests how well the work for a stage has been completed—it is a place to review the activity completed and make a decision as to whether the project should be continued. Most of today's industries and well-managed R&D processes rely on some form of the stage-gate process.

The first empirically based attempt to describe such a sequential process for product development management outlined six stages for the development activities (developed by Booz, Allen and Hamilton in 1968). These stages were

- Exploration (idea generation),
- Screening (initial project review and selection),
- Business analysis (build a business case),
- Development (product development),
- Testing (test marketing), and
- Commercialization (product launch).

The AICC Business Planner focuses primarily on the business analysis phase of the overall commercialization process.

The Agricultural Innovation and Commercialization Center**

Educators at Purdue's Agricultural Innovation and Commercialization Center were awarded a \$1 million USDA grant to develop business planning resources and delivery mechanisms for entrepreneurs. The focus has been on creating practical tools that guide entrepreneurs through the business planning process. The AICC Business Planner is the main result of the Center's efforts. In addition to the planning tool a series of Extension publications has been developed to be used as part of an entrepreneur's analysis of the commercialization process for a new venture. Additionally the Center has

developed a partnership with Purdue Extension's New Ventures team of educators who provide one-on-one business assistance, and an association with Indiana's Small Business Development Corporation.

The AICC Business Planner separates the innovation or new venture development process into six defined stages that are part of the commercialization process. Each stage is designed to gather information needed to evaluate an essential dimension of the venture before proceeding through a gate to the next stage.

The stages of the AICC Business Planner are as follows:

Stage 1. Fundamentals of Your Business: an initial review of the venture. This introductory stage requires a cross functional overview of the venture, including the primary motivation for beginning the venture, the product (or service) that is proposed, the customer identification and preliminary break-even calculation.

Stage 2. Analyzing Your Market: a detailed examination of the target market. Users complete a thorough review of the market and its characteristics, including an assessment of the competition.

Stage 3. Producing Your Product or Service: a broad-based inquiry into producing products and managing the venture. The venture management team is identified and profiled, production methods are outlined, ownership of the venture is reviewed and intellectual property issues are identified.

Stage 4. Marketing Your Product or Service: a rigorous inquiry into the marketing plan. The target customer is profiled, and the components of a complete marketing plan are developed in depth, including the product definition and bundle, the pricing plan, the distribution methods and promotion efforts.

 ** *The framework and the conceptual base for the AICC Business Planner was developed by Jay Akridge, Michael Boehlje, Craig Dobbins, Cole Ehmke, Joan Fulton, Allan Gray and Maria Marshall, all of the Department of Agricultural Economics, using funding from the USDA Rural Business-Cooperative Service.*

Stage 5. Financial Analysis of Your Business: the creation of forecasted financial statements. Estimations of operating revenue and expenses, capital outlays, financing and required rates of return are constructed.

Stage 6. Executive Summary: a focused review of the venture. An overview of the venture is written.

The format used to elicit information in this model is question and answer. Each transition to the next stage is a decision point at which entrepreneurs review the work done previously and decide, consciously, whether or not to continue to the next stage. To aid in the answering of questions, sets of "considerations" are provided to stimulate thinking and analysis about issues relevant to each of the questions. A typical working area of the AICC Business Planner is shown in Figure 1.

Resources are also provided as references and background on topics, such as how to define goals and conduct an industry assessment. Because of the way that the AICC Business Planner model has been constructed, users can create a business plan of higher value through both the systematic process they follow and the electronic facilitation they receive as they progress through components of the business plan.

An important element of the stage-gate method is the gate at the end of each stage. The stage-gates exist as quizzes that pose critical questions on the quality of the work done in the stage and the continued viability of the project overall. Each stage-gate contains critical quality-of-execution criteria that can be used to increase the value of the analysis and assessment. If entrepreneurs grade themselves harshly on these criteria, they are encouraged to revisit the stage to collect additional information or rethink the viability of the project. Decisions to continue with the project (go decisions) are formalized based on the information provided in the stages.

In each of the stages the entrepreneur answers the key questions that guide the business creation process. The entrepreneur's work becomes a business plan that may be taken to potential partners or investors. A wide variety of publications and other resources are available to assist in venture development.

The AICC model is available as a software application delivered through either the Internet or as a standalone application for users without high speed access to the Internet. It can be found at www.agecon.purdue.edu/planner. In essence the model decreases the uncertainty and poor planning often found in venture development by acting as an electronic mentor.

The AICC model progressively collects the information necessary to judge the viability of a project. It guides new entrepreneurs using a structured business planning process increases the likelihood that high quality decisions are made on value-added ventures.

Summary

While entrepreneurs may benefit from formal business planning, many fail to do so, or do so in an

unstructured way that leaves them open to errors. To overcome such problems Purdue University educators have developed a six-stage methodology and a model for venture assessment. This model, the AICC Business Planner, increases the likelihood of successful ventures by systemizing and sequencing new venture planning. The AICC Business Planner has been used by approximately 330 users since it became available on-line in December, 2004.

Note: this article is abstracted from a paper presented at the June 25-28, 2005 meetings of the International Food and Agribusiness and Management Association. A full-text version is available at www.emba-agbus.purdue.edu/planner/resources/AICCMoel.pdf.

References

- Booz, E., J. Allen and C. Hamilton (1968). *Management of New Products*. Booz-Allen & Hamilton, New York.
- Cooper, R. G. (2001). *Winning at New Products: Accelerating the Process from Idea to Launch*, 3rd ed. Basic Books.
- Cooper, R. G. (1994). "Perspective: Third-Generation New Product Processes." *Journal of Product Innovation Management* 11, 3-14.

Figure 1. Illustration of a component of Stage 2 of the AICC Business Planner

U.S. Conservation Programs: A Synopsis*

Zachary Cain and Stephen Lovejoy**

Over the last 70 years the United States Congress has taken on the task of determining how federal dollars will be invested in agriculture through Farm Bills***. The focus of this paper is to determine how conservation programs have arisen and evolved and to speculate about future direction. Conservation programs have taken a variety of forms since 1933, usually as vehicles for rural investment, income support, and supply control. It was not until the mid-1980s that conservation programs were truly rooted in protecting natural resources. Several important environmental gains have been made over the last 70 years, and the future of conservation programs looks even more promising.

* This is a synopsis of an expanded version of this analysis which appeared as "History and Outlook of Conservation Programs" in *Choices*, Nov/Dec, 2004, pps 37-42. The full text is available in the June PAER at the following URL: <<http://www.agecon.purdue.edu/extension/pubs/paer/>>.

** Zachary Cain and Stephen Lovejoy are Graduate Research Assistant and Professor, respectively in the Department of Agricultural Economics, Purdue University, West Lafayette, Indiana. This research was funded, in part, by a cooperative agreement from the Conservation Effects Assessment Program, Agricultural Research Service, USDA. The views expressed are solely those of the authors and do not represent the views of ARS/USDA or Purdue University.

*** Farm Bill is used throughout this manuscript as a common method for referring to Acts of Congress pertaining to agricultural programs. While technically, a bill is a legislative item that has not received Congressional approval, the agricultural community has normally used this phrase to describe the legislation under review as well as the legislation passed by Congress and signed by the President.

1930s - Depression

Congress entitled the 1936 Soil Conservation and Domestic Allotment Act and subtitled it "an Act to provide for the protection of land resources against soil erosion and for other purposes." These other purposes were to raise the purchasing power of the American farmer. Soil conservation was a justifiable public expenditure. By providing rural Americans with conservation funding in the late 1930s the administration was able to increase the quality of life and economic security that was shattered by the Great Depression.

1940s - Wartime

World War II brought a hungry world market to American producers. High demand led to higher prices and the government developed great surpluses to ensure national security. Conservation was put on the back burner as producers scrambled to cash in on high prices. This was a period of turf wars, where the Soil Conservation Service, Land Grant Colleges, Farm Bureau, extension, the Department of the Interior, and others attempted to shape their roles in conservation programs. There developed a sense that SCS, as the keeper of the conservation flame, had the mandate and mission to plan and execute a national program of soil and water conservation. Conservation was defined as what the SCS decided to do. After World War II, the SCS was project oriented, conducting activities like the Small Watershed Program and Great Plains Conservation Program. These were often seen as public works programs that usually were funded to benefit the home district of a congressional representative.

1950s - Dealing with Surpluses

The war ended, demand shrank, and surpluses grew. Farm Bills in '49 and '54 did little to control surpluses and less for conservation. The Agricultural Act of 1956 created the Soil Bank,

which took 29 million acres out of production. By transferring these acres into conserving practices, the government could decrease surplus supply as well as deal with, as stated in the act, 'the stifling effects of erosion that threatened the welfare of every American and disrupted markets and commerce on the whole.' These acres were to be diverted into soil, water, forest and wildlife conservation programs in exchange for government rental payments for 10 years.

Land retirement programs had several objectives: reducing erosion, supporting farm incomes, and reducing commodity price support payments by reducing the supply and thereby raising market prices (Helms). This period started a trend that would be followed until the early 80's; the idea that the biggest problem with soil loss was lost productivity. Several important lessons would be learned about land retirement programs by the failures of the Soil Bank; such as limiting retirement on a per county basis, as to not devastate local economies, and the importance of a bid system rather than fixed payments. The acreage reserve ended in 1958 under criticism of its high cost and failure to reduce production.

1960s - Targeting Surplus Commodities

Surpluses were still the norm in the 1960's, and the government continued the fight for supply control. Conservation payments through the ACP were being used for lime and drainage, which improved soil quality but also increased yields. In 1962, 38 percent of funds were spent on fertilizer and lime. These major outlays were starting to be questioned as a driving force behind producing further surpluses. Farm productivity grew by 49 percent between 1950 and 1970. The Emergency Feed Grain Act of '61 attempted to take additional corn and grain sorghum

out of production by paying farmers to replace production acreage with conservation areas. The 1965 act established a cropland adjustment program, giving the Secretary of Agriculture authority to make 5 to 10 year contracts with producers who agreed to convert cropland into uses which would conserve water, soil, wildlife, or forest resources; or establish or protect open spaces, natural beauty, or wildlife or recreational resources; or prevent air or water pollution. Payments could not exceed 40% of the value of the crop that would have been planted on that land.

1970s – Fence Row to Fence Row

The Russians were running out of food and the Secretary of Agriculture told farmers to “plant fence row to fence row” in order to produce enough crops to meet world demand. The Russian grain purchases ensured prices and demand was high. American farmers were more than willing to answer the call to produce more. In retrospect, this attitude was very detrimental to the gains that conservation programs had made during the previous 40 years. Farmers tilled up their conservation acreage and went back to their old ways. A 1977 Congressional study found that 26 percent of farmers in the Great Plains Conservation Program had plowed up their newly established grasslands for wheat production after their contracts had expired (Doering, 1997). This emphasizes the difficulty of maintaining conservation practices long-term, especially in land retirement programs.

The language used in the ‘77 Farm Bill shows the USDA was starting to take a harder look at sources and solutions for point and non-point farm pollution, including animal wastes. The administration began looking not only at water pollution from sediment runoff, but the overall quality of water supplies in rural America. This also led to increased targeting, putting money where it was deemed most beneficial for water quality, instead of in the hands of any and all farmers.

1980s - Conservation Policy that has Conservation Implications

The 1980’s farm policy shows a change in environmental concern. Conservation programs started to focus on conservation, not supply control or rural development. This swing in motives can be attributed to the demands of environmental lobby who found it was easier to make environmental changes in agriculture through farm bills than through environmental legislation (Doering, 1999). The ‘85 farm bill was the first to have a specific title devoted to conservation. The true break-through of the ‘85 bill can be found in the change in language it uses to describe the importance of soil conservation for reasons other than productivity gains. It also added new programs; Sodbuster, Swampbuster, Conservation Compliance, and the Conservation Reserve Program (CRP).

These programs were actually enforced early on, causing a political uproar and turning neighbors and SCS employees into soil cops. The majority of funding went to putting 36.4 million acres into the CRP. CRP was intended to conserve not only highly erosive lands, like soil banks had in the past, but also conservation of other biologically sensitive and important areas. The programs implemented by this farm bill had the potential to make great impacts in conservation, but it would take the SCS a few years to put the actual infrastructure together to make these programs a reality.

1990s – Keep Conservation Rolling

Farm bills passed during the 1990s continued the advancements in conservation that were made in 1985. 1990 witnessed the establishment of the Wetland Reserve Program (1 mil acres) and the Ag Water Quality Protection Program (10 mil acres). The ‘90 conservation title addressed ground water pollution, water quality, and sustainable agriculture; and allowed for the use of easements, as well as amending existing programs. This period also highlighted the importance of natural systems larger

than individual farms: landscapes, watersheds, and ecosystems (Zinn).

The language of the 1996 bill began to reflect a change from “targeting the ACP program to specific practices in all counties” to targeting EQIP to “maximize environmental benefits per dollar expended” with less regard to making certain all counties participated. Programs were targeted to special “conservation priority areas,” which functioned to restrict the flow of conservation dollars away from the general farming public into areas deemed environmentally critical. While focusing upon maximizing environmental benefits was an ambitious step forward, the 1996 farm bill was only marginally successful in altering the distribution of resources and there was still substantial targeting of funds for reasons other than environmental efficacy.

2000s – Going Green

The 2002 Farm Security and Rural Investment Act continued to emphasize conservation by increasing EQIP funding from less than \$200 million to \$1.3 billion over several years and establishing a new Conservation Security Program (CSP). Environmental enhancement now took priority over other benefits, like productivity and supply control. The 2002 Bill also removed restrictions that limited the ability of USDA to assist larger farmers (Lovejoy and Doering). The CSP offers payments for enhancing natural resources, rewards those farmers and ranchers who are model conversationalist and provides incentives for other producers to meet those same high standards of environmental performance. This “green payment” program openly recognized that farmers who had strived for conservation and environmental enhancement also deserved some financial assistance. While the lack of CCC funding has delayed the introduction of the CSP program, it has not eliminated the initiative.

The program allows for approximately 12 % of the 2119 watersheds in the United States to be included every year, so over the course of eight

years every producer should have the opportunity to apply for a contract. In 2004, a pilot program was initiated with a total of 2,188 CSP contracts were approved (all farms that applied were accepted) covering 1,885,400 acres in 18 watersheds at a cost of \$35 million. Of the 27,300 farms in the 18 pioneer watersheds, only 8% of farms applied and received contracts, comprising 14% of the 14 million eligible acres.

The Farm Security and Rural Investment Act increased funding for environmental programs by 8 times over the 1996 farm bill, but recent increases in defense and homeland security spending have made getting money to these programs difficult. The '02 Bill shows a fundamental change in the process of environmental spending. Congress and the USDA would no longer attempt to simply maximize the number of acres in conserving uses, but rather maximize the environmental benefits for the expended funds in all of the

conservation titles, (e.g. the maximum environmental bang for the buck) (Lovejoy and Doering).

Future of Farm Bill Conservation Programs

What will conservation programs of future farm bills look like? Let's get out the crystal ball. Green payments, such as the CSP program, hold real potential for environmental benefit while retaining producer income support. The upside to such a policy would be increased environmental protection and reaching compliance in the World Trade Organization. The down side to such programs is the cost associated with them. In a green payment system such as the CSP, almost every producer would be entitled to payments, not just those growing specific crops. Moving to such payments could decrease productivity, essentially driving up food prices. They require more planning and input from agencies like the NRCS, cost more money and

further intrude on the farmers' independence. It will be interesting to see where the trade-offs will be made among Americans' desire for a healthy environment, low taxes, cheap food, a profitable agricultural sector and a dynamic rural economy.

References

- Doering, Otto C. "An Overview of Conservation and Agricultural Policy: Questions From the Past and Observations About the Present". *Agriculture and Conservation Policies, A Workshop in Honor of Norman A. Berg*. Conference: Feb. 7, 1997
- Helms, J. Douglas. "The Evolution of Conservation Payments to Farmers", *Compensating Landowners for Conserving Agricultural Land*. Community Studies Extension, U.C. Davis. Conference: Dec, 2003.
- Lovejoy, Steve and Otto Doering. "Conservation and Environmental Enhancement in the 2002 Farm Bill". Purdue University Cooperative Extension Service, Publication *CES-344*. May 2002.
- Zinn, Jeffery A. "CRS Report: IB96030: Soil and Water Conservation Issues". Aug. 20, 2001.

PURDUE
UNIVERSITY

COLLEGE OF AGRICULTURE
Department of Agricultural Economics

Gerald A. Harrison
Krannert Building
403 W State Street
West Lafayette, IN 47907-2056

Non-profit Organization
U.S. Postage
PAID
Purdue University