MINUTES OF THE MEETING
AGRICULTURE, LIVESTOCK AND IRRIGATION
MONTANA STATE SENATE

March 22, 1985

The Agriculture, Livestock and Irrigation Committee meeting was called to order on the above date, in Room 415 of the State Capitol Building, at 1:00 p.m., by Chairman Boylan.

ROLL CALL: Senators Galt and Hammond excused. All other members present.

HJR 28: Representative Rapp-Svrcek, HD 51, Thompson Falls. This Resolution addresses the state of agriculture in the State of Montana and the nation. The Resolution tries to address the problem calling for specific measures in the national farm bill being decided on by Congress.

PROPONENTS: Terry Murphy, Montana Farmers Union recommended the committee give approval to the Resolution. He said we badly need stability in the agricultural economy and pricing structure for all segments of Montana including the business community and State budget. They think the Resolution makes a number of points that Congress should consider and a Legislative endorsement would be helpful.

John Ortwein, Montana Catholic Conference, in support. Exhibit #1. The Resolution has the support of Bishop Curtiss, Helena Diocese and Bishop Murphy, Great Falls Diocese. They are very concerned about this, as well.

Margaret MacDonald, Northern Plains Resource Council, told the committee they support the Resolution. It affects every community and small business on main street. The federal farm policy is crucial. We need to ask the Legislature and State to take a strong stand in support of family owned and operated agriculture.

Ralph Peck, Montana Department of Agriculture, urged passage of the Resolution.

Jo Brunner, Montana Grange Association, in support.

Cathy Campbell, MT Association of Churches, in support. Exhibit #2. The churches supporting the Resolution and their denominations are listed on the letterhead.

Tom Asay, HD 27, Rosebud, supported the Resolution because it calls attention to the past policies of the federal government which have contributed greatly to many of the problems we have today. He pointed out line 17, p. 1, some of the federal tax laws that encouraged speculation in agriculture with outside agriculture interests. He said we need a long time food and fiber policy in this country that agriculture people can count on every year and not just from administration to administration. He would like the programs more market oriented.

OPPONENTS: None.

Committee questions: Senator Aklestad to Representative Rapp-Svrcek. On page 2, lines 20 through 22, where you are talking about the support of parady of at least 90%, what are you thinking about? Rapp - 90% of agricultural products. Aklestad - How do you wish to obtain that? Rapp - It would have to be the resolve of producers to demand it. It is difficult because the nature of the farm sector is very diverse and varied. It's a matter of fairness in receiving a fair price for what you produce. Cooperation between producers and governmental entities that set these policies would be the way. Senator Aklestad said he couldn't support something we have been trying for 25 years and have not been successful at yet. He said 90% of parady would put us out of the market with third world countries. Rapp - You can look at every one of these clauses and say they have been attempted to be achieved in the past without 100% success but that has not diminished their importance. It boggled his mind that a farmer goes out and works 16 - 18 hours a day to produce something that is one of the basic commodities we require, food, and yet he receives next to nothing for his product. Someone who manufactures TVs gets a price allowing him to buy food at any price. He called attention to the meal served downstairs earlier in the week where producers got 51 cents for each meal. If you were to buy it someplace else, it would cost from $8 to $10. He thought that was a strong arguement for leaving parady in.

Senator Lybeck asked Terry Murphy how he felt about this. Murphy - The Resolution calls for a goal of 90% of the parady. It has been found to be, over many years, from that level and up, that the agricultural community can profit in a way that leads to healthy agricultural towns and business districts. Looking at things the way they are now, the Resolution only calls for a sense of direction here. In 1973, the free world market was bringing the soy bean producers more than a 100% of parady. The president of the US embargoed that and knocked the crops out from under the price. In 1974, the world free market was producing more than 100% of parady for wheat producers. The president, at that time, knocked the crops out from under that with export restrictions. In 1973, also, feeder cattle were running at 100% of parady and a price freeze by the administration destroyed the cattle market and it hasn't totally recovered yet. Foreign policy considerations and domestic considerations must all be considered. It is a target issue. It isn't something they can guarantee for tomorrow and do away with all the past damage on the long term 90% parady to keep agricultural products from dropping.

Senator Kolstad - It has been mentioned by many of the witnesses testifying here today why we should be doing this. It is directed for one purpose and that is to help the farm situation. He was surprised there is nowhere in the Resolution where it mentions trying to promote and encourage more active participation in world export markets. He feels that is the only answer we have as we can't eat ourselves out of the surplus. We raise approximately 30% more than we can get rid of. He felt that some place in the Resolution it should include promoting exports.

Rapp, in closing, thought the committee knew the importance of the establishment of the national farm policy. In a recent survey which he had read, the number one problem was that the producers weren't getting a price which would allow them to continue to operate. That is mentioned very high up in the Resolution. As Representative Asay mentioned, the federal tax laws enacted to help agriculture seemed to have backfired. With regard to Senator Kolstad's feeling about the world market, he had no objections in amending the Resolution to indicate that. He said he likes to have things balanced so if we are going to mention the world market policy he would like to see some mention of the consideration of a supply policy because he feels if we emphasize market to the detriment of everything else, that drives prices down also.

HB 506: Representative Hal Harper, Helena. This is an act to set up a noxious weed management trust fund. Instead of raising property taxes in the big weed bill that Representative Thoft carried or this bill, they are going to count on the trust fund for some of the counties that have such a low taxable valuation that they are at their maximum 2 mills now and just can't go anywhere else. These counties would be one of the eligible parties to receive money under this trust fund. This bill sets up a trust fund that will be funded by a one cent a dollar tax on herbicides sold in either 10 pounds or gallon containers or larger. This is not on home use stuff. This would raise about $250,000 a biennium. Weeds are number one on the RIT program for at least a million dollars, both in Representative Brown's and Senator Blalock's bills. Chances look good for some of that money going into this trust fund. With that money we can create a trust fund and we are going to shoot for 2 1/2 million dollars. Before we reach that limit we are going to spend half of the money going into the trust fund because we have immediate weed problems right now which we have to address. When the trust fund reaches 2 1/2 million dollars we can spend all the money after that on weed control or innovative projects. This bill creates the Advisory Council and you can see on the last page of the Resolution that the representation of that Council has been amended. That Council is to make recommendations to the Department without the final say as to which one of these projects are made from the trust fund. If you have a real innovative project you may be high on this Council's list, but if you come in and show that you have a substantial amount of community money and community support so you are matching on the cost share basis some of the money from this trust fund, you may have a better chance. If the trust fund is ever disbanded, the money will be equally dispersed throughout the counties. There is a weed emergency provision so if there is a new or potentially very harmful weed in the State, we can go to the trust fund and make war on this weed.

PROPONENTS: Ralph Peck, Montana Department of Agriculture, presented testimony from Keith Kelly, Director, Department of Agriculture. Exhibit #3.

Jo Brunner, Montana Grange, MT Cattle Feeders, MT Cattlemen and Farmers Union, in support. Exhibit #4.

Dave Donaldson, MT Association of Conservation Districts, said this bill is a vehicle for getting the weed problem on its way to control.

Lavina Lubinus, WIFE, and MT Cowbelles, asked to go on record as supporting HB 506, especially the formation of the Weed Council as they feel it is a step forward in controlling the weeds in the State.

Margie MacDonald, Northern Plains Resources Council, rose in support.

George Oberst, farmer and agricultural consultant from western Sanders County. He proposed an amendment that only counties who fund their own weed programs to the 80% level would be eligible for non emergency funding under this. He thought there were some very prosperous counties, particularly in the eastern part of the State that are not funding their weed programs more extensively because they don't need to. The farmers and range owners who are using the land are managing their own weeds and using the land in such a way as not to require a more extensive funding program, whereas other counties are funding up to a quarter of a million dollars worth of weeds and not making a dent in their weeds. In both of these circumstances there might be projects and situations that would be in the best interests of all agriculture to fund projects in these areas. While they wouldn't qualify for an emergency invasion situation they would qualify in other respects but would be prohibited from getting this funding.

Stuart Doggett, MT Stockgrowers, and MT Association of Grazing Districts, proposed an amendment on page 7, line 19 - changes from an 8 to a 9 member council. He suggested adding one at large member from the agricultural community. He felt this problem affected agriculture in particular and we should have a person from agriculture on the Council.

Mike Micone, Western Environmental Trade Association. They have, for a number of years, had a strong policy regarding weeds in Montana. They are in the business to promote economic development of jobs in Montana. They believe weeds affect all segments of the economy and could have a serious impact if they aren't controlled in regard to our wildlife and the tourist industry in Montana.

OPPONENTS: None.

Committee questions: Senator Aklestad to Representative Harper - Page 2, line 8, if the process doesn't work the distribution of money would go as to population and participation. Will that distribution take into consideration the counties where they sold the most herbicides? Harper - That would be a fair way to do it. He thought the Department would have to adopt rules if that ever came about. He agreed it would be an appropriate way to do that.

Senator Bengtson - What about compensation for the Advisory Council? Is that determined by the Department. Gary Gingerly - The intent is to put it under the section of the codes that deal with advisory councils. Each council has a 2 year life. The pay would be as accorded to all councils under State law.

Senator Aklestad to Representative Harper - What is the correlation between HB 716 and this one? Harper - I had the Weed Association bill, Representative Thoft had a small rewrite of the present county weed laws. The subcommittee in the House put the two together. In my bill there was up to 3 mills to fund these. We took the mills out in Thoft's bill and the tenth of a mill in this bill is on a hunch that we can get an agreement that the RIT would kick in some money out of the trust fund so we wouldn't have to raise people's taxes. In the other bill the only extra money you have for weeds comes by the "either or" clause. Right now you can either spend general fund money or your 2 mills but you can't use them both. So that bill eliminated that and gave more flexibility.

Senator Bengtson - If you just end up with the trust fund and nothing from the legacy program then what would happen? Harper - It's not going to hurt the way it is written. According to this fiscal note we would be able to use $125,000 a year because we can use half of what goes in. If the legacy is delayed, Representative Harper recommended passing this bill and collecting the herbecide money because any pennies we get will do something to it. When the legacy money comes into swing we have Legislative intent from last time that none of the RIT money be spent for ongoing program expenditures. If we delay this for a year we are contridicting that statement.

Representative Harper, in closing, said to draw a line through property tax any place you see it.

Senator Boylan asked Representative Harper about the amendment the gentleman offered. Harper - Suppose an area that wasn't levying 1.6 mills had a particularly good project they wanted in that area but weren't up to that point. The gentleman may have a point because you wouldn't be able to fund them under sub 3. Sub 2 tells one way they will allocate these grants in counties over 1.6 or more. Then sub 3 says the Department can't expend the funds without the restrictions in sub 2 for the following purposes, new or innovative weed projects, but it must be made on a cost share basis. If one county hasn't reached the 1.6 and has an excellent project and can't come up with a cost share, it would be excluded the way the bill is written. The other thing he is talking about are the counties that are up past that point. Oberst - There are counties that are funding less than a .5 mill because things are going well for them and they have been taking care of their own weed problems. They may be getting 4-H kids together, involving community support to check fire lines, etc. Where they spend less, we should make sure if they do fall into an emergency they are covered.

Mr. Gingerly - The Weed Control Association are the ones who asked this cut off point be established for those counties who have gone out and tried to do a good job and need this extra input into their programs and to help these other counties establish better programs because counties that have their own budgets had a very poor weed program. It doesn't have to be just a mill levy. It can be a combination of mill levy, general fund, etc.

HJR 34: Representative Tom Asay, HD 27, gave the Committee a booklet he said gave an idea of what we are after. Exhibit #5. HJR 34 points toward federal tax programs that encourage non agricultural money coming into agriculture. The incentive for sod busting in our State has gone on for several years. Keep in mind we are not making reference to normal farming practices. These are not affected. Money has been invested in agriculture under various schemes by buying land not necessarily classified as agriculture intended and it should be left as sod. Due to tax incentives, large tracts are purchased at low prices and the costs of breaking up the sod is deductable. They can raise crops for two years and are then eligible for all the farm programs, price supports, crop insurance, etc., without regard to husbandry practices or the effect on the overall supply of crops. It is done for a tax writeoff. After 5 or so years, the land can be sold at a profit and, in some cases, these farms or ranches are exchanged back and forth and they can afford to take a good loss and still save money on their income tax. It does not help the agriculture community. It only helps those in higher brackets and is a detriment to those of us in agriculture trying to use the program properly as far as market oriented programs.

PROPONENTS: Proponents testified on March 20 and none were present to testify today.

Committee questions: Senator Kolstad to Representative Asay - In regard to the tax incentives and capital gains, what do you propose to ask them to do, remove the capital gains advantage? Asay - No. Capital gains does not mean a stock in trade. It is things you have invested in and capitalized out. Tax incentives would not come into play if other tax incentives had not been there to begin with. Senator Kolstad - In regard to the farm program, itself, how do you anticipate excluding these people from participation in farm programs? Asay - Using the crop years of 1983-85, if I had broken up 10,000 acres in 82, I'd have 10,000 into this year which would nulify anything you have done as a bona fide agriculture person to bring your production somewhere in behind. Kolstad - How can you exclude them? Asay - Not have that base history so close behind. Kolstad - One of the ways you are trying to control them is to have limits on them. Asay - No, not control, just the incentive. By removing the incentive, it would make it more difficult.

Senator Aklestad - Using capital gains to get to a very few people, aren't you getting to other people. A rancher who has been at this a long time and has bought at a low price, when he goes to sell this land he is going to be taxed to death on this land because of those capital gains. Asay - He isn't restricted because he has been involved in that property for an extensive period of time. Aklestad - I think these people would be hurt. Your bill doesn't go into that much detail. There would be a lot of difference in capital gains in that.

Senator Bengtson - What about sod busting and the economics of the situation where the sod would take care of itself in the long run anyway. Asay - When you plow up ground, the difference is in the scope of operations. Some have no justification for being plowed at all. I'm talking about great huge tracts of grassland.

Senator Severson - You are trying to put broken ground back into ranch land. Asay - Trying to make certain that when it is done, it is done for the proper reasons and not to take advantage of tax programs and destroying any good result that might come from participation in an agricultural program.

Senator Boylan - How are you going to implement this without hurting the legitimate farmer? Asay - It wouldn't hurt them. You shouldn't encourage non agriculture to come in in this manner. How much has it done to date? None of us in agriculture have been helped one bit by this. We are just talking about taking away the tax incentives for doing this.

Senator Kolstad felt Representative Asay had made a sincere effort to do something about a bad problem. He moved HJR 34 BE CONCURRED IN.

Senator Lane suggested we wait until the full committee is present to vote on this.

Senator Kolstad WITHDREW his motion at Senator Lane's request.

DISPOSITION OF HB 506: Senator Aklestad moved HB 506 be amended on p 7, line 19, following "member", insert "from the agricultural community". Motion carried.

Senator Aklestad had a question regarding p 3, lines 3 through about 5 where the Department may expend in the fiscal year not more than 1/2 the annual proceeds. Peck - The idea was that when they collect 1/2 would go into the trust fund and the other 1/2 spent until the trust fund reached 2 1/2 million dollars. Aklestad - The Department can spend money on administrative costs, etc. I would like to see more money going into the trust fund for killing weeds. Peck - The administrative costs are on p 5, lines 11 through 13. Aklestad - This doesn't prohibit the Department from expending 1/2 of the assessment on other things beside administrative costs. John MacMaster - The Department may spend as provided in section 5, subsection 2 and 3 on page 4, lines 13, which state they can spend money for weed programs, while the other half stays in the trust fund.

Senator Lane moved HB 506 as amended BE CONCURRED IN. Motion carried. Senator Lane will carry the bill on the Senate floor.

HJR 40: Senator Boylan told the committee that Representative Spaeth's father is ill and he couldn't be present today for his bill. He asked if any proponents were present to give testimony. There were none. The committee will hear HJR 40 on Monday, March 25.

HJR 28: Senator Kolstad wanted an amendment in the Resolution to encourage exports and asked John MacMaster to work something up for this.

There being no further business, the meeting adjourned.

Paul F. Boylan

PAUL F. BOYLAN, Chairman

ROLL CALL

AGRICULTURE, LIVESTOCK & IRRIGATION COMMITTEE

49th LEGISLATIVE SESSION -- 1985 Date 3/22/85

| SENATE SEAT # | NAME | PRESENT | ABSENT | EXCUSED |
|---|---|---|---|---|
| 1 | SENATOR GARY AKLESTAD | ✓ | | |
| 27 | SENATOR ESTHER BENGSTON | ✓ | | |
| 35 | SENATOR JACK GALT | | | |
| 34 | SENATOR H. W. (SWEDE) HAMMOND | | | |
| 10 | SENATOR ALLEN KOLSTAD | ✓ | | |
| 38 | SENATOR LEO LANE | ✓ | | |
| [illegible]8 | SENATOR RAY LYBECK | ✓ | | |
| 31 | SENATOR ELMER SEVERSON | ✓ | | |
| 39 | SENATOR BOB WILLIAMS | ✓ | | |
| 29 | SENATOR MAX CONOVER, V. CHMN. | ✓ | | |
| 50 | SENATOR PAUL BOYLAN, CHAIRMAN | ✓ | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Each day attach to minutes.

COMMITTEE ON AGRICULTURE

DATE 3/22/85

VISITORS' REGISTER

| NAME | REPRESENTING | BILL # | Check One: Support | Check One: Oppose |
|---|---|---|---|---|
| Lavina Lubinus | WIFE | HB506 | ✓ | |
| Ralph Peck | Dept of Agriculture | HB506 | ✓ | |
| George Oberst | self | HB506 | ✓ | |
| Jim Rogers | Visitor | | | |
| John Ortwein | Mt Catholic Conf | HJR 28 | ✓ | |
| Dave Donaldson | Mt Assoc. of Cons Dist. | HB506 | ✓ | |
| Ray Beck | CDD/DNRC | HB506 | ✓ | |
| Cathy Campbell | Mt Assn Churches | HJR 28 | ✓ | |
| Margaret MacDonald | NPRC | HJR28 | ✓ | |
| Jo Brunner | Ag Leg Wash | HB506 | ✓ | |
| Stuart Doggett | mt Stockgrowers / mt Ass State Grazing District | HB506 / HB 40 | ✓ | |
| Mike Micone | WETA | HB506 | X | |
| Terry Murphy | Mt Farmers Union | HJR 28 / HB 506 / HJR 34 | X | |
| Eric Feaver | MEA | HJR40 | ✓ | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

(Please leave prepared statement with S...

Exhibit #1

# Montana Catholic Conference

March 22, 1985

CHAIRMAN BOYLAN AND MEMBERS OF THE SENATE AGRICULTURE COMMITTEE:

I am John Ortwein representing the Montana Catholic Conference.

I am here today to speak in behalf of House Joint Resolution 28.

This society is embarked upon a policy and practice of agriculture which inevitably leads to resource depletion and concentration of wealth. We are a society enamored with efficiency with which we equate bigness, power and wealth. But our efficiency formulae do not include human costs. In a society in which the economy is the ultimate determinant, such human factors literally do not compute.

The National Catholic Rural Life Conference reports that whenever seven family farms cease operations, one small business shuts as well. Rural banks have been failing at a higher rate than any time since the Depression and the rate of failures is expected to spiral even further.

Bishop Maurice Dingman of Des Moines, Iowa stated recently, "We know there is a budget crisis...We know that the budget must be balanced. Yet are not our food producers as important as the defense budget? Is not internal security and solidarity as crucial to a nation's defense budget?" "Or is our dream as a free and equal people dead?"

I urge this committee's support of House Joint Resolution 28.

Tel. (406) 442-5761 P.O. BOX 1708 530 N. EWING HELENA, MONTANA 59624

Exhibit #2.

# Montana Association of Churches

MONTANA RELIGIOUS LEGISLATIVE COALITION • P.O. Box 745 • Helena, MT 59624



March 22, 1985

MR. CHAIRMAN AND MEMBERS OF THE SENATE AGRICULTURE COMMITTEE:

I am Cathy Campbell, representing the Montana Association of Churches and testifying in support of HJR 28.

The family farmer has often demonstrated a genuine commitment to stewardship of human and land resources. We feel it is God's will for people to be good stewards of all that has been entrusted to them.

We support efforts to protect the family farmer and we encourage changes in tax laws as a means of doing this. We need tax laws which will help protect prime agricultural lands and inhibit speculation.

We view the deterioration of the family farm system with alarm. We urge your adoption of HJR 28 as a way to address some of the problems being experienced by family farmers.

Exhibit #3
HB 506

TESTIMONY OF MONTANA DEPARTMENT OF AGRICULTURE
DIRECTOR KEITH KELLY FOR
THE SENATE AGRICULTURE, LIVESTOCK AND
IRRIGATION COMMITTEE ON
HB 506
HELENA, MONTANA
MARCH 22, 1958

Noxious weed infestations impact the entire state of Montana through loss to agricultural producers, loss of valuable wildlife habitat and forage and decrease in value of many recreation sites in Montana. Only through a coordinated statewide weed management program that includes integration of all weed control practices will this problem be solved.

The Weed Trust Fund has been designed to encourage development of long-term weed management efforts at the local level and to involve all local land managers, including private landowners and state and federal agencies. Trust Fund monies will be available to public or private local, state or federal organizations for the development, implementation or demonstration of new and innovative weed management techniques. Money will also be available for cost share projects and eradication and containment programs for newly introduced and potentially harmful weed species. Communities with an active weed program and local support of coordinated planning will receive funding preference.

Proposed financing for the Trust Fund is through a combination of a 1% herbicide surcharge and hopefully the use of legacy funds. Income generated the first biennium will be:

| | | |
|---|---|---|
| herbicide surcharge | $ 500,000 | (1% estimated $25 million |
| Legacy | 1,000,000 | annual retail sales x2 |
| TOTAL | $1,500,000 | years) |

The following years $250,000 will be generated per year from the herbicide surcharge.

Trust Fund expenditures in the biennium (86-87) will be $250,000 from the herbicide tax and $500,000 from the legacy program (interest earned will be credited to the trust Fund)

Years 4-8

| | | |
|---|---|---|
| Income generated herbicide surcharge | | $250,000 |
| Expenditures | | |
| Trust Fund | $125,000 | |
| Grants, advisory council, indirect costs | $125,000 | |

Assuming 9% interest as the Trust Fund Builds, it is expected to reach $2.5 million in 8.5 years.

Year 9 - Future

Income per year

| | |
|---|---|
| Herbicide surcharge | $250,000 |
| Interest from $2.5 m Trust | 225,000 |
| Total | $475,000 |

Expenditures per year

| | |
|---|---|
| Grants, advisory council, indirect costs | $475,000 |

An advisory council must be appointed to aid the Director in administration of this act.

Exhibit #4

*Jo Brunner*

AGRICULTURE LEGISLATIVE WORK

NAME Jo Brunner COMMITTEE Senate Ag.

ADDRESS 1469 Kodiak Road, Helena DATE 3/22/85

REPRESENT Montana Grange, Cattlefeeders, & M Cattlemen BILL NO. HB 506

SUPPORT X OPPOSE AMEND

Mr. Chairman, members of the committee for the record my name is Jo Brunner and I am representing the Montana Grange, the Montana Cattlefeeders and the Montana Cattlemen here today.

Mr. Chairman, Our organizations wish to go on record as being in support of HB 506.

We realize the necessity of good legislation concerning the growing menace of weeds in our state. While we do not believe that the problem is caused soley by agriculture, or that it should be the sole responsibility of agriculture to provide the means to alleviate the problem,we also recognize that we do have a responsibility and we are willing to tax ourselves, through the herbicide surcharge. We are well aware that the consumers will probably pick up most, if not all of that tax.

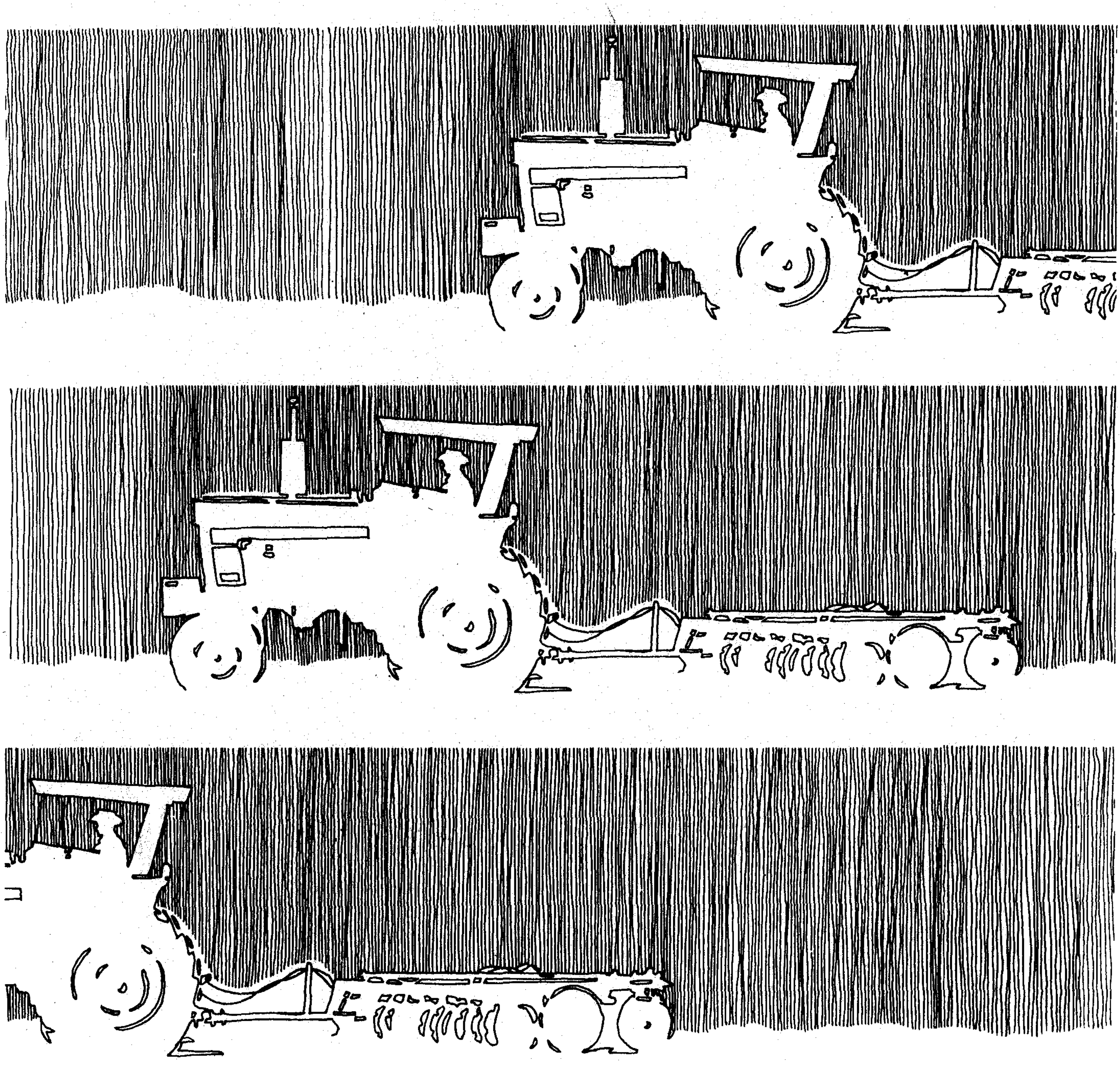
We are especially supportive of the formation of an advisory council to the Director of Agriculture, and through him to our local weed control boards. We feel that such a council is necessary and we approve of the members listed who would be appointed to that council.

We hope that you will take a look at the Statement of Intent on page 3,---lines 3 through 12 concerning the person who would serve as a weed coordinator to help implement this weed program and others such as HB 716. Again we believe this position is a necessary portion of any weed control program, and while HB 506 and HB 716 could stand alone, it is through the coordinator that a more concentrated, viable effort for weed control will be implemented.

We ask you do concur with HB 506.

Exhibit #5
HJR 34
3/22/85

# Economic Incentives for Converting Rangeland to Cropland



Cooperative Extension Service
Montana State University, Bozeman

Bulletin 1302
Nov. 1983

ECONOMIC INCENTIVES FOR

CONVERTING RANGELAND TO CROPLAND

by

Myles J. Watts, Lloyd D. Bender and James B. Johnson *

## Introduction

Converting traditional grazing lands to cropland has aroused emotions in Montana and several other western states. Reasons for this conversion by farm and ranch managers and other investors vary from alternative enterprise profitability to speculation. Some farm and ranch managers may have expected a crop such as wheat to be more profitable than livestock, and converted rangeland to cropland. Some farm and ranch managers and other investors may expect benefits from current and future farm programs to increase net returns and the value of the new cropland. Additionally, investors in higher marginal income tax brackets may have benefited from selected Federal income tax provisions.

---

* The authors are Assistant Professor of Farm and Ranch Management, Montana Agricultural Experiment Station, Montana State University; Economist, EDD, ERS, USDA stationed at Montana State University; and Farm Management Specialist, Montana Cooperative Extension Service, Montana State University, Bozeman, Montana; respectively.

This report evaluates how farm program and selected Federal tax provisions provide incentives for investors to convert rangeland to cropland for re-sale and to indicate the differing values of these provisions among investors. The economic impacts of an enhanced wheat price, as an indicator of the benefits of all farm program provisions, during the period the investor owns the land, and the economic impacts of capital gains, investment credit, accelerated depreciation, and depreciation recapture Federal income tax provisions are evaluated.

## The Base Case

A hypothetical conversion of 2,000 acres of Eastern Montana rangeland, purchased for $100 per acre, to cropland over a five-year period is used to illustrate the effects of the farm program and tax provisions considered on the breakeven price for cropland. Breakeven prices are expressed in real terms (1983 dollars) with all tax provisions and the farm program in effect for a "base case". Then each major provision is suspended to illustrate the contributions of individual tax provisions and the farm program.

The breakeven prices indicate those prices (for different provisions in effect) that will make investors as well off as they were at the time of the initial investment. The sale of the cropland is assumed to occur after the investor has held it for five years. Sales prices could easily be considerably different from the breakeven prices. Sales prices above breakeven prices would result in additional capital gains. Under current capital gains provisions, the investor in the 50 percent marginal tax bracket would incur an additional tax liability of 20 percent of the difference between the sale price and the breakeven price (additional capital gains income multiplied by 40 percent subject to taxation, multiplied by the 50 percent marginal tax rate).

The hypothetical conversion is scheduled as follows:

Year 1 -- Rangeland is purchased the first year and the sod is turned in late summer.

Year 2 -- Fallow and land preparation activities are conducted prior to fall planting of winter wheat on the entire 2,000 acres.

Year 3 -- Weed control activities are conducted prior to harvest of the winter wheat crop of 13 bushels per acre. A tool bar cultivation is performed after harvest.

Year 4 -- Operations are identical to the second year.

Year 5 -- Operations are identical to the third year. The yield increases to 26 bushels per acre. The land is sold as cropland after the investor has held it for a full five years.

## The Economic Model

The breakeven price of cropland is the price at which the net present value of all cash flows equals zero. The breakeven price includes the value of the all cash flows, including the tax benefits, such as capital gains, that investors would tie up until the re-sale at the end of year five. The breakeven price takes account of all operating costs, and includes interest charges and tax benefits of each year.

The breakeven prices in the following tables are presented in current (or time 1) dollars. First, net cash flow is calculated for each of the five years of the operation using the budgets and operations in Appendix Tables A-1, pages 22-23, and A-2, pages 24-25, and the value of any tax advantages for that year. Inflation is assumed to be 5 percent per year. Cash outflows in the first year include purchases of land and machinery, discing and tillage costs, and cash costs for real and personal property taxes. Cash inflows include the value of tax benefits from investment credit and the depreciation allowance. The net cash flow is negative in the first year. Fallow and planting costs result in a negative cash flow the second year. Cash flows the third year include inflows of cash from the sale of wheat and value of the tax benefits. Outflows cover such cash costs as harvesting, other field operations and real estate and personal property taxes. The fourth year is similar to the second year and also results in a negative cash flow. In the fifth year, the cash inflows include the land sale and sale of machinary, and wheat. Cash outflows include the capital gains tax, cash operating costs, and real estate and personal property tax.

The present value of each year's net cash flow is calculated by discounting at an assumed interest rate of 12 percent. Discounting incorporates the time value of money such that cash flows appearing at different points in time can be compared.

## Provisions of Federal Income Tax That Apply to Rangeland Conversion

Several Federal income tax provisions apply to land conversion. Of these, capital gains and investment credit are the most important.

### Capital Gains

Farmland sold after one year of ownership may qualify the seller to pay taxes on any profit (above the basis price) as capital gains. The maximum effective tax on capital gains is 20 percent, compared to an ordinary income tax rate that may be as high as 50 percent for Federal income taxes.[1] Therefore, the higher the ordinary income marginal tax rate, the greater the benefit treating income as capital gains.

The tax treatment of rangeland conversion costs contrasts with that of certain soil and water conservation improvement costs. Part of the costs of soil and water improvements (that above allowable amounts) must be added into the basis (acquisition price

----------

1. Income qualifying as capital gains is first reduced by 60 percent, then the remaining 40 percent is taxed as ordinary income. Thus, the effective tax on capital gains for a taxpayer in the 50 percent marginal tax bracket is 20 percent--40 percent of the capital gains income multiplied by the 50 percent ordinary income tax rate.

of land plus capital improvements) for calculating profits on land sales when the property is sold, and cannot be charged as an expense to reduce income taxes on current ordinary income.[2] In contrast, it is assumed that all of the rangeland conversion costs would qualify for deductions against current ordinary income, and would not affect the basis of the land.

### Investment Credit

Farm machinery qualifies for an investment credit of 10 percent of the purchase price. The tax liability for the year the credit is taken is reduced by the amount of the investment credit. An investment credit of 10 percent on $10,000 reduces that year's taxes by $1,000.

## Provisions of the Farm Program

The current Act allows for these offers to wheat producers:

1. A specified loan rate;
2. Deficiency payments expressed as the difference between target price and loan rate;
3. Diversion payments to compensate producers for a portion of their wheat bases put into conserving use;
4. Payments for storage; and

----------

2. The allowable annual amounts and the practices that qualify vary.

5. Payments-in-kind to compensate producers for a portion of their wheat bases put into conserving uses.

The levels of each of these forms of compensation have varied from year to year.

To be eligible, the wheat producer must have established a wheat base. A wheat base could be established under the current Act according to specific criteria. The criterion applied varies from year to year, but was one of the following:

1. The base could be the acres planted the prior year;
2. The base could be the average of the wheat planted the two prior years; or
3. The base could be the higher of the prior year planted acreage, or the average of the two prior years.

The exact level of benefits that would accrue to a wheat producer with new cropland would depend on what year a base was established and which provisions of the program were elected.

In this analysis, a $0.50 per bushel higher wheat price is used as a proxy for all benefits a wheat producer with new cropland could have realized from farm program participation.

## The Combined Value of These Selected Federal Tax Provisions to Investors Converting Rangeland to Cropland

The combined effect of the selected Federal income tax provisions is more valuable to investors in high marginal tax brackets than to those in low brackets (Table 1). [3] The breakeven price declines as marginal tax rates increase. Those facing a 50 percent marginal income tax rate can break even by selling their converted rangeland for $134 per acre. On the other hand, investors facing a 10 percent marginal tax rate must receive $192 per acre to break even. It is expected that investors facing the higher marginal tax rates are those who have found and will find the purchase, plowout and re-sale of converted rangeland most profitable.

The combined value of income tax provisions to investors at each marginal tax rate is the difference between the value at the zero tax rate ($219.06 per acre) and the value for each incremental tax rate--a difference of $84.92 for the investor at the 50 percent marginal tax rate who can break even by selling converted cropland for $134.14 per acre (Table 2). [4]

The advantages for the conversion of rangeland to cropland by investors could be passed on to farmers who buy the converted

----------

3. Rounded marginal tax rates are used throughout this report for purposes of comparison.

4. Subsequent analysis shows that background assumptions affect the level but not the pattern of these differences greatly.

Table 1: Breakeven Prices With Different Tax Provisions and at Different Tax Rates [a]

| | Marginal tax rates [b] | | | | | |
|---|---|---|---|---|---|---|
| Tax provisions | 0 | 10 | 20 | 30 | 40 | 50 |
| | --dollars per acre-- | | | | | |
| Base Case | | | | | | |
| All 1983 tax provisions | 219.06 | 192.00 | 177.01 | 162.39 | 148.11 | 134.14 |
| Excluding: | | | | | | |
| Capital gains | 219.06 | 199.58 | 191.81 | 184.00 | 176.02 | 167.61 |
| Investment credit | 219.06 | 203.52 | 188.40 | 173.66 | 159.27 | 145.00 |

[a] See section "Provisions of Federal Income Tax That Apply to Rangeland Conversion" for definitions.
[b] Percentages of taxable income.

Table 2: Combined Value of the Selected Federal Tax Provisions at Different Marginal Income Tax Rates

| Marginal tax rates [a] | | | | | |
|---|---|---|---|---|---|
| 0 | 10 | 20 | 30 | 40 | 50 |
| ---dollars per acre difference--- | | | | | |
| 0 | 27.06 | 42.05 | 56.67 | 70.95 | 84.92 |

[a] Percentages of taxable income.

land. The farm manager who is taxed at a relatively low marginal tax rate, rather than purchasing and converting rangeland to expand a farm operation, might have less invested in cropland by buying cropland from an investor who can take advantage of the tax benefits. Investors who specialize in converting rangeland to cropland can take advantage of tax benefits. Profits from the sale of cropland are realized only if the investor can sell the converted cropland at a price above the breakeven price. The price that investors eventually get for converted cropland depends upon the supply of converted and other cropland and the demand for cropland.

Investors who purchased rangeland and converted it to cropland have contributed to the supply of cropland. How great the increase in cropland supply due to investors making use of farm program and income tax provisions is not known. Likewise, these investors' contribution to the increase in agricultural output, and the decrease in crop prices due to cropland expansion, is not known.

## The Value of Capital Gains and Investment Credit Federal Income Tax Provisions

### Capital Gains

If the sale of converted rangeland were excluded from capital gains treatment, it would have the effect of increasing the breakeven prices for investors at all nonzero marginal tax rates (Table 3). In the illustrative base case, the breakeven price after land conversion for taxpayers at the 50 percent marginal tax rate would be $167.61 if the capital gains treatment were not unavailable. Loss of capital gains treatment increases the breakeven price for the taxpayer in the 50 percent bracket by 25 percent.

Table 3: Value of Selected Federal Income Tax Provisions at Each Marginal Income Tax Rate

| | Marginal tax rate [a] | | | | | |
|---|---|---|---|---|---|---|
| | 0 | 10 | 20 | 30 | 40 | 50 |
| | ---dollars per acre--- | | | | | |
| Capital gains | 0 | 7.58 | 14.80 | 21.61 | 27.91 | 33.47 |
| Investment credit | 0 | 11.52 | 11.39 | 11.27 | 11.16 | 10.86 |

[a] Percentage of taxable income.

The value of the capital gains tax provision to investors at each marginal tax bracket is shown (Table 3). If the capital gains provision were to be altered, the breakeven prices for converted cropland would be higher--reducing the incentive for converting rangeland to cropland. The largest increases would occur at the higher marginal tax rates.

## Investment Credit

The availability of investment credit to investors who convert rangeland to cropland is more important than might first be apparent. Investors who can take advantage of investment credit are those having tax liabilities from other income sources. The investment credit reduces these tax liabilities on a dollar-for-dollar basis. The investment credit provision allows a value equal to 10 percent of the investment in machinery and equipment in the first year of use to be used to directly offset tax liabilities on other income. [5]

Eliminating investment credit would increase the breakeven prices above the base case for all investors except those who have no tax liability against which to offset the credit. The value of the investment credit is essentially the same across all non-zero marginal tax rates (Table 3).

## The Value of Farm Program Provisions

The farm program might have two possible effects on investors converting rangeland to cropland. The first could be increased revenues from the farm program during the period in which the investor owns the land. Payments for farm program participation take on several forms (diversion payments, deficiency payments, guaranteed loan rates, etc.). In this analysis, it is presumed the investors acquire a wheat base and that all farm program participation benefits during the five year conversion/ownership period are reflected in an enhanced product price.

----------

5. The equipment must be owned for a full five years in order to prevent a partial refund of the credit because of an early sale.

The base case assumes investors would benefit from farm program participation during the five year conversion and re-sale period. Program benefits are represented by an enhanced wheat price of $4.15 per bushel. Breakeven prices of the cropland for investors who benefit from farm program provisions are lower than those for investors who do not qualify for farm program benefits. Investors who received farm program benefits during the five year period do not need to receive as much for their cropland to break even (Table 4). The favorable effects of the farm program on cropland breakeven price vary by marginal income tax bracket.

Table 4: Breakeven Prices and Changes in Breakeven Prices Under Different Wheat Prices

| | Marginal tax rates [a] | | | | | |
|---|---|---|---|---|---|---|
| Wheat price | 0 | 10 | 20 | 30 | 40 | 50 |
| | ---dollars per acre--- | | | | | |
| Wheat $4.15 per bu. | 219.06 | 192.00 | 177.01 | 162.39 | 148.11 | 134.14 |
| Wheat $3.65 per bu. | 240.82 | 212.02 | 195.24 | 178.76 | 162.53 | 146.52 |
| Change | +21.76 | +20.02 | +18.23 | +16.37 | +14.42 | +12.38 |

[a] Percentage of taxable income.

The increase in breakeven price for cropland, due to an investor's ineligibility for farm program benefits or a decline in farm program benefits for eligible participants (shown as a lower per bushel price in this analysis) is greater for investors at the lower marginal income tax rates.

The second effect of farm programs on cropland prices is a higher selling price for cropland if the land is expected to qualify for future farm programs. The expected increased net returns would be reflected in increased selling prices.

## Sensitivity of Cropland Breakeven Prices to Purchase Prices for Rangeland and Rangeland Conversion Costs

Breakeven prices are sensitive to the rangeland purchase prices and rangeland conversion costs. The sensitivity of the breakeven prices for cropland was illustrated by changing purchase price and conversion cost assumptions. The following assumptions were made:

Rangeland prices were assumed to be $200 rather than $100 per acre.

Conversion costs were assumed to be $23.91 per acre rather than $13.45 per acre.

The breakeven prices calculated under these assumptions are shown (Table 5).

Table 5: Breakeven Prices With Different Rangeland Prices and Conversion Costs, at Different Tax Rates

| | Marginal tax rates [a] | | | | | |
|---|---|---|---|---|---|---|
| Background assumptions | 0 | 10 | 20 | 30 | 40 | 50 |
| | _dollars per acre_ | | | | | |
| Base case | 219.06 | 192.00 | 177.01 | 162.39 | 148.11 | 134.14 |
| Rangeland price double | 357.15 | 325.03 | 304.88 | 284.97 | 265.24 | 245.62 |
| Conversion costs double | 233.50 | 204.83 | 188.28 | 172.15 | 156.40 | 140.99 |

[a] Percentages of taxable income.

## Possible Policy Options

The capital gains feature of the current Federal income tax provisions appears to be a major incentive for converting rangeland to cropland. The capital gains incentive is much greater for taxpayers at the higher marginal tax rates than for those at lower marginal rates. To realize capital gains, assets must be sold. Therefore, the capital gains feature provides greater incentives to those at higher marginal tax rates who are not going to retain cropland for production but who are going to take capital gains as soon as other tax advantages are dissipated. In order to expense conversion costs the first year, the investor must have a tax liability on ordinary income from other sources.

The capital gains and investment credit tax features outweigh the higher wheat price effect on breakeven prices for cropland for investors at the higher marginal tax rates (Table 6).

Table 6: Summary of Percentage Increases in Breakeven Prices for Converted Cropland Due to the Deletion of Selected Tax Provisions and Lower Wheat Prices

| | Marginal tax rate [a] | | | | | |
|---|---|---|---|---|---|---|
| | 0 | 10 | 20 | 30 | 40 | 50 |
| | ---percent increase--- | | | | | |
| Capital gains | 0 | 3.95 | 8.36 | 13.31 | 18.84 | 24.95 |
| Investment credit | 0 | 6.00 | 6.43 | 6.94 | 7.53 | 8.10 |
| \$3.65 per bu. wheat versus \$4.15 wheat | 9.93 | 10.42 | 10.30 | 10.05 | 9.74 | 9.23 |

[a] Percent of taxable income.

Various features of the current Federal income tax system could be altered to reduce the tax incentives for converting rangeland to cropland. Changes in existing provisions could be patterned after earlier tax provision changes that were made for similar reasons. Some of these include:

(1) The length of time that rangeland converted to cropland must be held before capital gains could be taken on the sale could be extended. That provision of the Federal income tax code currently applies to tree and fruit farms;[6]

(2) Converting rangeland to cropland may be defined simply as `treating earth' or `conditioning land to permit its use as farming land' under current tax regulations.[7] That change would prohibit the initial plowup costs from being deducted as an operating expense to effectively reduce the level of taxable ordinary income. Plowup costs would be considered preproduction expenses that have to be capitalized rather than expensed as is the rule for beginning pistachio tree farms.[8] Alternatively, the conversion costs could be treated similar to soil and water conservation measures that can be deducted as operating expenses over a period of years but in amounts not exceeding 25 percent of a taxpayers gross farm income in any one year.[9]

----------

6. See Code Sec. 278(a):Regs. PP1.278-1(a).

7. See Code Sec.182(c)(1);Regs. PP1.182-3(a).

8. See Regs. PP1.162-12.

9. Code Sec. 175(a).

(3) Allowing agricultural expenses to be used to offset income earned from other sources could be suspended. This could affect taxpayers with farming as the principal source of income but with outside sources of taxable income, and taxpayers whose principal source of income is elsewhere but who are purchasing rangeland for conversion to cropland and re-sale.

There are several bills currently before the U.S. Congress to limit the eligibility for farm program benefits. Senate Bill S.663, commonly referred to as the Armstrong Bill, is designed to prohibit the payment of certain agriculture incentives to persons who produce certain agricultural commodities on highly erodible land. [10]

In the Bill "highly erodible land" means land classified by the Soil Conservation Service of the U.S. Department of Agriculture as class IVe, VIe, VII or VIII under the Land Capability Classification System. Any person who produces an agricultural commodity on "highly erodible" land brought into crop production after the passage of this Bill would be ineligible for:

1. Any type of price support assistance for the commodity produced;
2. A loan for the construction or purchase of a facility for storage of such commodity;
3. Crop insurance for such commodity under the Federal Crop Insurance Act;

----------

10. S.663. 98th Congress, 1st Session.

4. Any disaster payments for such commodity; and
5. Any loan from the Farmers Home Administration.

Exempt from such restrictions under this Bill would be any agricultural commodity produced after enactment that was produced on newly-developed "highly erodible" cropland using a conservation system which had the approval of a soil conservation district, and which was based on the technical standards set forth in the Soil Conservation Service technical guide for the soil conservation district.

## Summary

Federal tax provisions provide a major economic incentive for investors who do not plan to retain ownership of converted land to convert rangeland to cropland. Capital gains treatment of the increased value of converted cropland is the most important of the tax incentives evaluated followed by investment credit. [11] These two overshadow the value of other tax features to investors and the value of additional realized returns for wheat attributable to farm program provisions during the period the investor owns the new cropland.

----------

11. The costs of clearing land to make it suitable for farming is generally a capital expense. Included is conditioning "land to permit its use as farming land." (Code Sec. 182(c): Reg P 1, 182-3(a). We assume these provisions do not apply in this analysis.

The value of capital gains is greatest for investors in the higher marginal tax brackets. Capital gains benefits are captured only upon sale of land. Investment credit can be used only if matched against an existing Federal tax liability.

The farm program has two possible effects on the investor who converts rangeland to cropland. The first is increased revenue from farm program benefits during the period the investor owns the land. This analysis has shown that farm program benefits received by the investor during the investor's ownership period will reduce the breakeven price for cropland. These farm program benefits (measured as a higher wheat price) allow for greater reductions in the breakeven price for cropland by investors at the lower marginal tax rate than for investors at higher marginal tax rates. The second probable effect is a higher selling price for cropland if the land is expected to qualify for future farm program provisions. This effect was not estimated in this analysis.

## APPENDIX A-Method of Illustrating the Value of Tax Provisions

A simulation of the conversion over a 5-year period of 2,000 acres of Eastern Montana rangeland to cropland is used to illustrate the benefits to investors from selected Federal tax provisions. Rangeland purchased in the first year is plowed out in the late summer.[12] The cost of the plowout in the first year is the operating costs of machinery (including labor) used in the conversion.[13]

The second year assumes fallowing and land preparation until winter wheat is seeded in the fall on all 2,000 acres. Only 13 bushels of wheat (half the historical average yield for the area) is assumed to be harvested the third year, after which the soil is cultivated once. Fallow operations in the fourth year are the same as the second year; winter wheat is planted in the fall. The wheat is harvested the fifth year and the soil cultivated once before sale of the land and machinery.[14]

----------

12. Operations budgets and total cash outlays for each year are presented in Appendix Tables 1 and 2, and machinery and equipment investments, repair costs, and used equipment salvage values are presented in Appendix Table 3.

13. Several definitions of plowout costs could be used. All costs incurred over the period of years needed to bring land into full productive capacity, including perhaps conservation practices, could be used, for instance.

14. A full five years of ownership qualifies the taxpayer for investment credit, without recapture, on farm machinery and equipment.

## The Base Case

A "base case" is one standard of comparison for other results for which assumptions vary from the base case. The assumptions of the base case (other than the technical budgets and costs contained in Appendix Tables 1-3 and in tax codes [15]) are as follows:

| | |
|---|---|
| Purchase price of rangeland | $100 per acre |
| Inflation rate | 5 percent per year |
| Interest rate, nominal | 12 percent per year |
| Depreciation (ACRS) rate | Tax Recovery Act of 1981 |
| Depreciation recapture | Tax Recovery Act of 1981 |
| Investment credit | Tax Recovery Act of 1981 |
| Capital gains | 40 % of ordinary tax rate |
| Wheat price | $4.15 per bushel |
| Wheat yield first crop | 13 bushels per acre |
| Wheat yield second crop | 26 bushels per acre |

## Breakeven Price

The results are presented as breakeven prices reported for each marginal tax bracket. The breakeven prices are expressed in real terms as if the sale were made by the investor in year 1 for delivery under contract at the end of year 5 at cost. Breakeven prices for cropland expressed in real terms adjusts for the fact that some funds for production costs are tied up for short periods of time while other funds for conversion and production costs are committed for longer periods and returns are received at various times during the five year period.

----------

15. See U. S. Department of Treasury, "Farmers Tax Guide" Publication 225 (Rev. Oct. 1982). Wash. D. C.:Internal Revenue Service.

Table A-1 : Annual Total Variable and Cash Fixed Costs for the Years 1 through 5, on a 2,000 Acre Plowup Operation in Eastern Montana

| | Total |
|---|---|
| | __Year 1__ |
| | dol. |
| Fuel | 9,678 |
| Lube | 1,452 |
| Repair | 6,701 |
| Labor [a] | 2,566 |
| Labor Overhead (20%) | 513 |
| Real Estate Taxes | 3,000 |
| Ins. Pers. Prop. Lisc. | 3,000 |
| TOTAL YEAR 1 | 26,910 |
| | __Year 2__ |
| Seed, 50 lbs./Ac.@.08 | 8,000 |
| Nitrogen, 16 Lbs./Ac.@.25 | 8,000 |
| Phosphate, 35 lbs./Ac.@.20 | 14,000 |
| Crop Insurance, @5.00/Ac. | 10,000 |
| Fuel | 10,934 |
| Lube | 1,640 |
| Repair | 6,667 |
| Labor [a] | 3,151 |
| Labor Overhead (20%) | 630 |
| Real Est. Taxes ($1.50/Ac.) | 3,000 |
| Ins. Pers. Prop. Lisc. | 3,000 |
| TOTAL YEAR 2 | 69,023 |
| | __Year 3__ |
| Fuel | 5,520 |
| Lube | 828 |
| Repair | 5,644 |
| Labor [a] | 630 |
| Labor Overhead (20%) | 126 |
| Spray, $3.75/Ac.cust. | 7,500 |
| Harvest, $14/Ac.cust. | 28,000 |
| Hauling, $0.01/bu./mi. over 5 mi.[b] | 3,900 |
| Binning, $0.12/bu.cust. | 3,120 |
| Real Est. Taxes ($1.50/Ac.) | 3,000 |
| Ins. Pers. Prop. Lisc. | 3,000 |
| TOTAL YEAR 3 | 61,269 |

Table A-1: Annual Total Variable and Cash Fixed Costs
Years 1 through 5,
Continued

| | Year 4 |
|---|---|
| Seed, 50 lbs./Ac.@.08 | 8,000 |
| Nitrogen, 16 Lbs./Ac.@.25 | 8,000 |
| Phosphate, 35 lbs./Ac.@.20 | 14,000 |
| Crop Insurance, @5.00/Ac. | 10,000 |
| Fuel | 10,934 |
| Lube | 1,640 |
| Repair | 6,667 |
| Labor [a] | 3,151 |
| Labor Overhead (20%) | 630 |
| Real Est. Taxes ($1.50/Ac.) | 3,000 |
| Ins. Pers. Prop. Lisc. | 3,000 |
| TOTAL YEAR 4 | 69,023 |

| | Year 5 |
|---|---|
| Fuel | 5,520 |
| Lube | 828 |
| Repair | 5,644 |
| Labor [a] | 630 |
| Labor Overhead (20%) | 126 |
| Spray, $3.75/Ac.cust. | 7,500 |
| Harvest, $14/Ac.cust. | 28,000 |
| Harvest, $0.12 over 20 | 1,440 |
| Hauling, $0.01/mi./bu. over 5 mi. [b] | 7,800 |
| Binning, $0.12/bu.cust. | 6,240 |
| Real Est. Taxes ($1.50/Ac.) | 3,000 |
| Ins. Pers. Prop. Lisc. | 3,000 |
| TOTAL YEAR 5 | 69,729 |

[a] Field hours less 200 @ $5.50/hr.
[b] Grain haul assumed to be 20 miles.

Table A-2: Field Operations, Years 1 through 5, for Conversion of Rangeland to Cropland on 2,000 Acres in Eastern Montana

| Year and operation | Machine width | Field speed | Field efficiency | Acres covered | Total time |
|---|---|---|---|---|---|
| | ft. | mph | percent | per hour | hours |
| | | | Year 1 | | |
| Plowup Operation | | | | | |
| Disc in July | 25.00 | 5.00 | 75.00 | 11.36 | 176 |
| Disc in Aug | 25.00 | 5.00 | 75.00 | 11.36 | 176 |
| Cultivate in Sept. | 36.00 | 5.00 | 80.00 | 17.45 | 115 |
| Harrow (tandem) | 36.00 | | | 0 | |
| Rod weeder (tandem) | 36.00 | | | 0 | |
| Total Field Time | | | | | 467 |
| SUMMARY | | | | | |
| Total Tractor Fuel, gal. | | | (gal./hr. 9.45) | | 4,409 |
| Total Pickup Fuel, gal. | | | (@10 mi./gal., 20,000mi.) | | 2,000 |
| Total Truck Fuel, gal. | | | (@6mi./gal/, 8,000 mi.) | | 1,333 |
| Total Fuel Cost, dol. | | | (dol./gal.=$1.25) | | 9,678 |
| Total Lube Cost, dol. | | | (fuel $x15 percent) | | 1,452 |
| Total Fuel and Lube, dol. | | | | | 11,130 |
| | | | Year 2 | | |
| Fallow-Plant Operation | | | | | |
| Cultivate | 36.00 | 5.00 | 80.00 | 17.45 | 115 |
| Harrow (tandem) | 36.00 | | | | |
| Rod weeder (tandem) | 36.00 | | | | |
| Cultivate | 36.00 | 5.00 | 80.00 | 17.45 | 115 |
| Harrow (tandem) | 36.00 | | | | |
| Rod weeder (tandem) | 36.00 | | | | |
| Cultivate | 36.00 | 5.00 | 80.00 | 17.45 | 115 |
| Harrow (tandem) | 36.00 | | | | |
| Rod weeder (tandem) | 36.00 | | | | |
| Cultivate | 36.00 | 5.00 | 80.00 | 17.45 | 115 |
| Harrow (tandem) | 36.00 | | | | |
| Rod weeder (tandem) | 36.00 | | | | |
| Drill | 36.00 | 5.00 | 80.00 | 17.45 | 115 |
| Total Field Time | | | | | 573 |
| SUMMARY | | | | | |
| Total Tractor Fuel, gal. | | | (gal./hr. 9.45) | | 5,414 |
| Total Pickup Fuel, gal. | | | (@10 mi./gal., 20,000mi.) | | 2,000 |
| Total Truck Fuel, gal. | | | (@6mi./gal.,8,000mi.) | | 1,333 |
| Total Fuel Cost, dol. | | | (dol./gal.=$1.25) | | 10,934 |
| Total Lube Cost, dol. | | | (fuel $x15 percent) | | 1,640 |
| Total Fuel and Lube, dol. | | | | | 12,574 |

Table A-2: Field Operations, Years 1 through 5, Continued.

| | | | Year 3 | | |
|---|---|---|---|---|---|
| arvest Operation | | | | | |
| Spray-Custom | | | | | 0 |
| Harvest-Custom | | | | | 0 |
| Cultivate-Spike | 36.00 | 5.00 | 80.00 | 17.45 | 115 |
| Total Field Time | | | | | 115 |

SUMMARY

| | | |
|---|---|---|
| Total Tractor Fuel, gal. | (gal./hr. 9.45) | 1,083 |
| Total Pickup Fuel, gal. | (@10 mi./gal., 20,000mi.) | 2,000 |
| Total Truck Fuel, gal. | (@6mi./gal.,8,000mi.) | 1,333 |
| Total Fuel Cost, dol. | (dol./gal.=$1.25) | 5,520 |
| Total Lube Cost, dol. | (fuel $x15 percent) | 828 |
| Total Fuel and Lube, dol. | | 6,348 |

| | | | Year 4 | | |
|---|---|---|---|---|---|
| Fallow-Plant Operation | | | | | |
| Cultivate | 36.00 | 5.00 | 80.00 | 17.45 | 115 |
| Harrow (tandem) | 36.00 | | | | |
| Rod weeder(tandem) | 36.00 | | | | |
| Cultivate | 36.00 | 5.00 | 80.00 | 17.45 | 115 |
| Harrow (tandem) | 36.00 | | | | |
| Rod weeder(tandem) | 36.00 | | | | |
| Cultivate | 36.00 | 5.00 | 80.00 | 17.45 | 115 |
| Harrow (tandem) | 36.00 | | | | |
| Rod weeder(tandem) | 36.00 | | | | |
| Cultivate | 36.00 | 5.00 | 80.00 | 17.45 | 115 |
| Harrow (tandem) | 36.00 | | | | |
| Rod weeder(tandem) | 36.00 | | | | |
| Drill | 36.00 | 5.00 | 80.00 | 17.45 | 115 |
| Total Field Time | | | | | 573 |

SUMMARY

| | | |
|---|---|---|
| Total Tractor Fuel, gal. | (gal./hr. 9.45) | 5,414 |
| Total Pickup Fuel, gal. | (@10 mi./gal., 20,000mi.) | 2,000 |
| Total Truck Fuel, gal. | (@6mi./gal.,8,000mi.) | 1,333 |
| Total Fuel Cost, dol. | (dol./gal.=$1.25) | 10,934 |
| Total Lube Cost, dol. | (fuel $x15 percent) | 1,640 |
| Total Fuel and Lube, dol. | | 12,574 |

| | | | Year 5 | | |
|---|---|---|---|---|---|
| Harvest Operation | | | | | |
| Spray-Custom | | | | | 0 |
| Harvest-Custom | | | | | 0 |
| Cultivate-Spike | 36.00 | 5.00 | 80.00 | 17.45 | 115 |
| Total Field Time | | | | | 115 |

SUMMARY

| | | |
|---|---|---|
| Total Tractor Fuel, gal. | (gal./hr. 9.45) | 1,083 |
| Total Pickup Fuel, gal. | (@10 mi./gal., 20,000mi.) | 2,000 |
| Total Truck Fuel, gal. | (@6mi./gal.,8,000 mi.) | 1,333 |
| Total Fuel Cost, dol. | (dol./gal.=$1.25) | 5,520 |
| Total Lube Cost, dol. | (fuel $x15 percent) | 828 |
| Total Fuel and Lube, dol. | | 6,348 |

Table A-3: Machinery Investment and Repair Schedule
Based on 2,000 Acre Wheat-Fallow Operation
Eastern Montana

| Machine | New Cost | Repair Cost Factor | Annual Repair | Fixed Cost Factor | Annual Fixed Cost | Used Five-Yr. Value |
|---|---|---|---|---|---|---|
| | dol. | %list | dol. | %list | dol. [a] | dol. |
| Tractor, 4-WD, 175 HP, Diesel | 73,900 | 4.50 | 3,326 | 10.40 | 7,686 | 33,120 |
| Disc, 25Ft. | 16,375 | 6.00 | 983 | 10.40 | 1,703 | 5,334 |
| Cultivator, 36 Ft. | 15,500 | 6.00 | 930 | 11.40 | 1,767 | 5,049 |
| Harrow, 36 Ft. | 2,050 | 0.20 | 4 | 11.40 | 234 | 668 |
| Rod Weeder, 36 Ft. | 2,375 | 6.00 | 143 | 11.60 | 276 | 774 |
| Drill, 36 Ft. | 25,650 | 3.70 | 949 | 11.60 | 2,975 | 8,355 |
| Auger, 8 In. @1,000 bu./hr. | 2,200 | 3.30 | 73 | 11.60 | 255 | 717 |
| Truck, 2 1/2 Ton | 19,000 | 3.20 | 608 | 11.60 | 2,204 | 6,189 |
| Pickup, 1/2 Ton | 12,000 | 5.90 | 708 | 11.60 | 1,392 | 3,909 |
| TOTAL | 169,050 | | 7,722 | | 18,491 [a] | 64,114 |
| SUMMARY OF REPAIR EXPENSES | | | | | | |
| Year 1 | | | 6,701 | | | |
| Year 2 | | | 6,667 | | | |
| Year 3 | | | 5,644 | | | |
| Year 4 | | | 6,667 | | | |
| Year 5 | | | 5,644 | | | |

[a] This is an accounting entry not used for income tax purposes. Tax depreciation is figured differently from this calculation.
Sources: See Delwin M. Stevens and Douglas E. Agee, Using Farm Machinery Efficiently," Wyoming Agr. Exp. Sta. Bul. B 482 R, May, 1979 for efficiency rates.
Used value functions are from AGRICULTURAL ENGINEERS YEARBOOK 1979, p. 253.