Andrew Jackson
Demonstration Farm

Annual Report
2001
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Andrew Jackson Demonstration Farm Purpose and Goals

The Andrew Jackson Demonstration Farm (AJDF) was established to provide a site to demonstrate new farming practices. Like the public, the AJDF Corporation is concerned with food safety and water quality, as well as keeping agriculture productive and profitable. The following goals help guide the AJDF Corporation in carrying out the various demonstrations and educational activities on the farm:

*To provide a link between researchers and farmers.

*To help farmers evaluate and adopt emerging technologies.

*To increase public awareness of food production practices.

The AJDF Board of Directors manages and oversees the operation of the farm. As part of this process, they solicit public and private organizations to develop demonstrations that address current issues in agriculture. Technical assistance is provided by Iowa State University Extension and the Natural Resource Conservation Service.

This booklet summarizes the current demonstration projects at the farm. The Andrew Jackson Demonstration Farm welcomes inquiries about the demonstration projects and educational activities. Please feel free to visit with the board of directors about the projects. Additional information can be obtained by contacting the AJDF Corporation, c/o ISU Extension, 201 West Platt, Maquoketa, IA 52060.

2001 Board of Directors

Dave Burmahl 03 – President
Joel Wilson 03 - Vice President
Brian Schwager 04 – Secretary
Steve Tubbs 02 - Treasurer
Charles Lane 02
Darcy Hankemeier 04
Gary Kunde 03

Eldon Hoerschelman, Coordinator
2001 Members

Robert Breeden  00  
David Burmahl  04  
Don Casteel  03  
Charles Cornelius  06  
John Dague  01  
Joe Daugherty  02  
John Fagerland  01  
Skott Gent  00  
Darcy Hankemeier  00  
Eldon Hoerschelman  04  
James Howell  06  
Harold Keil  03  
Bud Knake  06  
Gary Kunde  02  
Charles Lane  04  
Clyde Martin  03  
Mark Miller  01  
Floyd Peters  06  
M.O. Pitcher  03  
Mike Retallick  00  
Deborah Ritt  03  
Ross River  02  
Charles Schneckloth  00  
Brian Schwager  00  
Paul Schwager  00  
Erwin Stamp  00  
Tom Stewart  01  
Dale Stillmunkes  03  
Steve Tebbe  00  
Ed Tubbs  01  
Steve Tubbs  06  
Joel Wilson  04  

2001 Friends

Ray Bahr  97  
Glenn Berner  
Blaine Bock  
Bruce Burger  94  
Lowell Carlson  
Joel Cornelius  
Mike Delaney  98  
John Deppe  94  
Dave Dostal  98  
Bob Eggers  
J.C. Engel  94  
Bill Goettler  94  
Gene Grant  
Mark Grosskruger  
Loras Hartung  94  
Tony Harvey  
Larry Hingtgen  94  
Jerry Hora  
Larry Jepsen  94  
Warren Johnson 94  
David Kendall  
Wayne Kieffer  97  
Keith Kleis  94  
Leonard Klunder  97  
Eldon Koch  
Joe Kueter  94  
Tom Kueter  97  
Bill Kuper  97  
Dave Luett  94  
Melvin Manders  97  
David Manning  94  
Archie McNeil  94  
Norlin Mommsen  94  
Larry Myers  
Norman Nielsen  
Harris Penrose  94  
Gary Petersen  
Leroy Regenwether  97  
Don Reuter  97  
Virgil Schmitt  
Steve Schroeder  
Paul Seyfert  94  
Tim Sheehan  97  
Randel Sprenger  97  
Darold Stuhr  94  
Brian & David Tabor  94  
Leon Tebbe  98  
Jim Till  98  
Scott Tjaden  
Cletus Victor  97  
John Wilson  94  

2001 Financial Statement
Andrew Jackson Demonstration Farm

**Beginning Net Worth 12/1/00**

Assets:
- Checking Account: $251.04
- Corn (in bin) (1500 bu. @ $1.76): $21,364.00
- L.P. Gas (815 gal. @ $.50): $407.20
- Hay (54 large round @ $12.00)(42 large round @ $30.00): $1,908.00
- Livestock Equipment: $380.40
- Machinery: $3,601.25
- Education Area Equipment: $865.86
- Steers (20 head now sold): $18,836.11
- Steers (30 head @ $890.00): $26,700.00
- Accounts Receivable (Pasture & Organic): $2,141.88

Subtotal: $78,005.16

Liabilities:
- Custom Feed: $5,900.00
- Cattle Loan: $21,225.00

Net Worth: $50,880.16

**Ending Net Worth 11/30/01**

Assets:
- Checking Account: $1,554.70
- Corn (in bin) (7,300 bu. @ $1.93): $14,089.00
- Soybeans (in bin) (3,200 bu @ $4.25): $13,600.00
- L.P. Gas (815 gal. @ $.50): $407.50
- Hay (22 large round @ $45.00): $990.00
- Hay (250 small square @ $1.50): $375.00
- Livestock Equipment: $561.89
- Machinery: $4,977.50
- Education Area Equipment: $1,039.03
- Straw (150 small square @ $1.50): $225.00
- Steers (35 head now sold): $31,270.98
- Accounts Receivable (Pasture, Corn & Organic): $6,661.59

Subtotal: $75,752.26

Liabilities:
- Custom: $4,560.24
- Cattle Loan: $17,000.00

Net Worth: $54,192.02

**Change in Net Worth:**

- Beginning Net Worth: $50,880.16
- Ending Net Worth: $54,192.02
- Change in Net Worth: $3,311.86
Note: Assets do not include the following non-recoverable improvements made to the farm.
1991  Dozing $700.00
1991  Improvement of Cattle Facilities $2,070.06
1991  Well Plugging $483.00
1992  Fencing $4,140.00
1992  Water Hydrant $57.00
1993  Barn Roof and Repair $3,508.26
1993  Fencing $605.00
1994  Fencing $2,332.50
1995  Fencing and Waterline $3,085.66
1995  Dozing $130.16
1996  Fencing $3,135.00
1996  Corral $992.00
1996  Water System $1,536.00
1996  Building Repairs $3,162.92
1997  Outdoor Classroom $868.05
1997  Fencing $197.79
1997  Building Repairs $1,511.76
1998  Fencing $1,877.65
1998  Building Repairs $198.93
1999  Building Repairs $1,421.70
1999  Fencing $1,496.22
2000  Fencing $1,768.30
2000  Dozing $1,287.00
2000  Building Repairs $773.47
2001  Building Repairs $525.81
2001  Fencing $165.08

Total $33,866.64

Property taxes paid:
1995 $2,523 1999 $4,883
1996 $5,117 2000 $5,393
1997 $5,282 2001 $5,921
1998 $5,148

Annual 5% of profit contributions:

<table>
<thead>
<tr>
<th>Year</th>
<th>5% profit</th>
<th>Contribution</th>
<th>Contributee</th>
</tr>
</thead>
<tbody>
<tr>
<td>1992</td>
<td>$724.67</td>
<td>$750</td>
<td>Jackson County Country Cupboards</td>
</tr>
<tr>
<td>1993</td>
<td>$124.85</td>
<td>$125</td>
<td>Jackson County Historical Society</td>
</tr>
<tr>
<td>1994</td>
<td>$901.72</td>
<td>$986</td>
<td>Jackson County Cemetery Commission</td>
</tr>
<tr>
<td>1995</td>
<td>$0.00</td>
<td>$0</td>
<td>No contribution</td>
</tr>
<tr>
<td>1996</td>
<td>$173.49</td>
<td>$174</td>
<td>Jackson County Economic Development Commission</td>
</tr>
<tr>
<td>1997</td>
<td>$732.22</td>
<td>$2,500</td>
<td>Jackson County Economic Development Commission</td>
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<td></td>
<td></td>
<td>$1,000</td>
<td>Jackson County Country Cupboards</td>
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<td></td>
<td></td>
<td>$500</td>
<td>Jackson County Historical Society</td>
</tr>
<tr>
<td>1998</td>
<td>$0.00</td>
<td>$0</td>
<td>No contribution</td>
</tr>
<tr>
<td>1999</td>
<td>$0.00</td>
<td>$100</td>
<td>Iowa 4H Foundation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$1,000</td>
<td>Grazing Scholarship</td>
</tr>
<tr>
<td>2000</td>
<td>$402.20</td>
<td>$556</td>
<td>Jackson County Insane Asylum Stairs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$1,000</td>
<td>Grazing Scholarship</td>
</tr>
<tr>
<td>2001</td>
<td>$165.59</td>
<td>$185</td>
<td>Jackson County Insane Asylum Windows</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$1,000</td>
<td>Grazing Scholarship</td>
</tr>
</tbody>
</table>

Total $9,876
Business and Organizational Support

The board of directors would like to thank the following businesses and organizations for their support of the activities and demonstrations held on the farm this past year.

- Lampe True Value
- Jackson County Bankers
- Martin Ag
- NRCS
- Andrew Jackson Care
- Cornelius Seed Corn
- Swiss Valley Ag
- City of Bellevue
- Jackson County Solid Waste
- Leopold Center for Sustainable Agriculture
- Maquoketa Valley Producers
- Practical Farmers Of Iowa
- Jackson County Extension
- Jackson County Conservation Board
- Woodland Forestry Consulting
- Jackson County Supervisors
- Country Side Feed & Seed
- U.S. Lock and Dam 12
- Limestone Bluff RC&D

Andrew Jackson Demonstration Farm
Annual Report - Educational Program
AJDF Corporation and ISU Extension
AJDF 0101

Educational Activity

Organic Field Day

An organic farming demonstration field day was held June 27, 2001, at 6:30 p.m. at the Andrew Jackson Demonstration Farm to discuss techniques of organic vegetable production. Growing interest in organic vegetable production methods as well as season extenders such as the high arch tunnel greenhouse brought plenty of questions from the audience. The hoop structure is being used for tomatoes and green peppers in order to have produce ready for market earlier and extend the season in fall.

Garden Walk

The Andrew Jackson Demonstration Farm was one of the stops on the July 8, 2001 garden walk co-sponsored by the Andrew Gardening Club and the Jackson County Historical Society.

Field Day

The annual summer field day was held the evening of August 14, 2001, at 4:30 p.m. at the Andrew Jackson Demonstration Farm. People from the area attended the field day which highlighted demonstrations of the farm. The field day showcased the progress with a three year Leopold Center for Sustainable Agriculture grant investigating organic vegetable and medicinal herb production. The farm tour also focused on soil and crop productivity along with insect management in crop production. The farm’s ongoing intensive grazing demonstration was viewed by visitors featuring Laura’s Lean Beef, forages and manure sampling.
The spring started out with average temperatures and average rainfall. Above average rainfall and cooler temperatures in late May and June delayed crop development. Below average rain in July stressed crops somewhat. No killing frost helped good field drying.

### Average Rainfall versus Actual Rainfall

<table>
<thead>
<tr>
<th>Month</th>
<th>Average</th>
<th>Actual</th>
<th>Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>April</td>
<td>3.38</td>
<td>2.96</td>
<td>-0.42</td>
</tr>
<tr>
<td>May</td>
<td>3.85</td>
<td>5.41</td>
<td>+1.56</td>
</tr>
<tr>
<td>June</td>
<td>4.52</td>
<td>4.90</td>
<td>+0.38</td>
</tr>
<tr>
<td>July</td>
<td>3.72</td>
<td>2.58</td>
<td>-1.14</td>
</tr>
<tr>
<td>August</td>
<td>4.11</td>
<td>4.97</td>
<td>+0.86</td>
</tr>
<tr>
<td>September</td>
<td>3.88</td>
<td>4.15</td>
<td>+0.27</td>
</tr>
<tr>
<td>October</td>
<td>2.74</td>
<td>3.53</td>
<td>+0.79</td>
</tr>
<tr>
<td>Total</td>
<td>26.20</td>
<td>28.50</td>
<td>+2.30</td>
</tr>
</tbody>
</table>

### Average Temperature Versus Actual Temperature

<table>
<thead>
<tr>
<th>Month</th>
<th>Ave High</th>
<th>Actual Dev High</th>
<th>Ave Low</th>
<th>Actual Dev Low</th>
<th>Ave Temp</th>
<th>Actual Dev Temp</th>
</tr>
</thead>
<tbody>
<tr>
<td>APR</td>
<td>61</td>
<td>+3</td>
<td>38</td>
<td>+1</td>
<td>49</td>
<td>+2</td>
</tr>
<tr>
<td>MAY</td>
<td>72</td>
<td>+0</td>
<td>48</td>
<td>+3</td>
<td>60</td>
<td>+1</td>
</tr>
<tr>
<td>JUN</td>
<td>81</td>
<td>-3</td>
<td>58</td>
<td>-3</td>
<td>69</td>
<td>-3</td>
</tr>
<tr>
<td>JUL</td>
<td>85</td>
<td>+0</td>
<td>62</td>
<td>+2</td>
<td>73</td>
<td>+3</td>
</tr>
<tr>
<td>AUG</td>
<td>83</td>
<td>+2</td>
<td>60</td>
<td>+1</td>
<td>71</td>
<td>+2</td>
</tr>
<tr>
<td>SEP</td>
<td>75</td>
<td>-2</td>
<td>51</td>
<td>-2</td>
<td>63</td>
<td>-2</td>
</tr>
<tr>
<td>OCT</td>
<td>64</td>
<td>-3</td>
<td>40</td>
<td>-1</td>
<td>52</td>
<td>-2</td>
</tr>
</tbody>
</table>

Temperature data supplied by Lock and Dam 12, Bellevue, Iowa

### Crop Yield Goal Versus Actual Yield

Corn was planted April 29-May 6. Soybeans were planted May 12.

<table>
<thead>
<tr>
<th>Crop</th>
<th>Goal</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn</td>
<td>140 bu/a</td>
<td>114 bu/a</td>
</tr>
<tr>
<td>Soybeans</td>
<td>50 bu/a</td>
<td>56 bu/a</td>
</tr>
</tbody>
</table>

Yield checks were in the 170-200 B/a where the fields were clean, but were significantly hurt in areas where foxtail and wirestem muhly occurred.
Available Soil Moisture

<table>
<thead>
<tr>
<th>Soil Profile Level</th>
<th>Plant Moisture Available (inches of water)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4-15-01</td>
</tr>
<tr>
<td></td>
<td>11-1-01</td>
</tr>
<tr>
<td>0-1</td>
<td>1.8</td>
</tr>
<tr>
<td>1-2</td>
<td>1.5</td>
</tr>
<tr>
<td>2-3</td>
<td>1.4</td>
</tr>
<tr>
<td>3-4</td>
<td>1.3</td>
</tr>
<tr>
<td>4-5</td>
<td>2.3</td>
</tr>
<tr>
<td>Total (0-5 Feet)</td>
<td>8.3</td>
</tr>
</tbody>
</table>

Soil moisture samples are pulled to the five-foot depth (corn rooting depth) on November 1 and in April to assess the plant available moisture for the next crop. The soils on the Andrew Jackson Demonstration Farm are capable of holding about 11 inches of water in the top five feet; normal on both November 1 and April 15 is about 7.5 inches. The soil moisture in the spring was slightly above normal. The soil moisture in the fall of 2001 was somewhat below normal but should provide more than adequate moisture for growth well into the 2001-growing season. The fall 2001 levels are also better than found in most of Iowa.

Position: 42° 11.97’ N 90° 36.63’ W

Soil type: Downs

Growing Degree Days

<table>
<thead>
<tr>
<th>Month</th>
<th>Average GDD</th>
<th>Actual GDD</th>
<th>Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>April</td>
<td>165</td>
<td>132</td>
<td>-33</td>
</tr>
<tr>
<td>May</td>
<td>341</td>
<td>330</td>
<td>-11</td>
</tr>
<tr>
<td>June</td>
<td>586</td>
<td>497</td>
<td>-89</td>
</tr>
<tr>
<td>July</td>
<td>729</td>
<td>738</td>
<td>+9</td>
</tr>
<tr>
<td>August</td>
<td>667</td>
<td>664</td>
<td>-3</td>
</tr>
<tr>
<td>September</td>
<td>390</td>
<td>335</td>
<td>-55</td>
</tr>
<tr>
<td>October</td>
<td>217</td>
<td>102</td>
<td>-102</td>
</tr>
<tr>
<td>Total</td>
<td>3095</td>
<td>2798</td>
<td>-297</td>
</tr>
</tbody>
</table>

The total growing degree days for 2001 were below average, August warmth helped the crops to develop.

Andrew Jackson Demonstration Farm
Annual Report - Timber Projects
AJDF Corporation and Woodland Forestry Consulting
AJDF 0103

The AJDF timber project is divided into two different areas. The first area is a one acre walnut/spruce planting. The other area is approximately 5 acres and contains existing timber and a tree planting. A summary of each of these projects follows.

The small walnut/spruce tree planting located adjacent to the pond on the west side of the farm is 12 years old. Most of the walnut trees are doing well (10 feet) although they are not growing as well as they would on a better site. The spruce are growing very slowly.

The small forested area behind the pond is well established with many walnut trees. Many new young seedlings are growing in the open area. Many of the walnut are
excellent veneer quality trees. A small tree planting area was planted 10 years ago in the bottom area. This area has trees over 16 feet tall and they are of very good quality. This shows the difference of growing trees on a better site. Numerous walnut, red oak, and ash are growing in this area. Some of the larger trees suffered wind damage and were logged.

**Andrew Jackson Demonstration Farm**  
**Annual Report – Sludge Application**  
**AJDF Corporation and ISU Extension**  
**AJDF 0104**

The sludge application demonstration had been put on hold until the new sewage treatment plant went online at Bellevue. The new plant puts out a product that resembles compost. The sludge is bagged, dried and transported to the farm. The bags are emptied into a manure spreader and land applied to the pasture hillside near the coral. Testing of the sludge and soil will take place for an evaluation of this new product to decide the future of this demonstration.

**Andrew Jackson Demonstration Farm**  
**Annual Report - Nitrogen Tests**  
**AJDF Corporation and ISU Extension**  
**AJDF 0105**

**Overview**

The late spring soil test is a tool for managing nitrogen during corn production. The Iowa State University soil test consists of a late spring soil sample taken at a 1 foot depth, when the corn plants are 6 to 12 inches tall at the whorl. Current research indicates that a 25 ppm-N soil test result would be most appropriate. Studies have shown that on average it takes about 8 units of N per acre before planting to increase soil test nitrate-N by 1 ppm.

The end-of-season cornstalk test can identify situations where nitrogen fertilization was too low, appropriate, or too high for the present crop. It is useful to make adjustments on next year’s fertilization rates.

**Field Information**

<table>
<thead>
<tr>
<th>Field</th>
<th>Variety</th>
<th>N-Test ppm</th>
<th>Mois (%)</th>
<th>Yield (#2bu/a)</th>
<th>prev crop</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Spring</td>
<td>Fall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2H</td>
<td>C507</td>
<td>12</td>
<td>1860</td>
<td>17.4</td>
<td>202 soybeans</td>
</tr>
<tr>
<td>5D</td>
<td>C578</td>
<td>17</td>
<td>5550</td>
<td>16.4</td>
<td>186 corn</td>
</tr>
</tbody>
</table>

100 units of N were spring applied using anhydrous amonia on 2H, and 120 units to 5D. The late spring soil test shows that not enough nitrogen was present. But taken together with the stalk tests and the rates applied, more likely the nitrogen was not yet available at the time of the soil tests. The stalk tests taken in November show optimal rate for 2H and excessive for 5D.
Overview

The purpose of this demonstration is to gather information on production practices and economics of growing ginseng, Goldenseal, or other herb crops within the forest understory in a manner that is compatible with proper forest management. The intent is to develop a crop with a shorter term return to provide income to the landowner in the interval between timber harvests. In this initial demonstration, ginseng and Goldenseal were selected. Both of these species require a deep, well drained soil with 75-80% canopy cover.

Field Information

Two 4’ by 20’ beds were planted to ginseng and Goldenseal in October of 1994 within the forested area at the west end of the County Farm. One bed was planted with ginseng seed and one bed was planted using one, two, and three year old ginseng root transplants. In both beds, rows of Goldenseal root transplants were interspersed with ginseng rows at every fourth or sixth row. In September of 1996 approximately 200 more seeds were planted in the bed originally planted with seed.

Weed control and rodent damage has been a problem on both beds. In 2001 there are still some surviving ginseng and Goldenseal plants and there was some limited seed production. The beds will be harvested and evaluated in 2002.

Andrew Jackson Demonstration Farm
Annual Report – Intensive Grazing With Cow/Calf
AJDF, NRCS
AJDF 0107

This was the sixth year of the cooperative project with neighboring farmer, Paul Schwager. He leases the pasture and manages the movement of the cattle. The 63 acres of pasture with 12 paddocks is on the east and south sides of the farm.

Thirty-four cow/calf pairs were put out to pasture on May 14th and were removed on October 2nd. The cows gained 4740 pounds for an average of 135 pounds each. The calves gained a total of 11,280 pounds averaging 332 pounds or 2.35 pounds per day. The average weight of the calves on October 2nd was 497 pounds.

The pasture was leased by Paul for $.45 per day per cow/calf pair. Total cost for leasing the pasture was $2183. Paul put on commercial fertilizer in August and his cost for leasing the pasture and fertilizer was $.28 per pound of gain on the calves. Return to AJDF for lease of 63 acres was $34.65 per acre.
Good results were obtained in the renovation of two paddocks in 2000 after burn-down and reseeding with brome and legumes.

Paul is participating in the Cow Herd Improvement Program Services (CHIPS), a technical assistance program designed for Iowa cow-calf producers. CHIPS provides detailed technical assistance to cooperators through trained technicians who complete on-farm evaluations of available resources, including the existing cattle base. Management consultations are incorporated into three to five farm visits per year, addressing areas such as genetics, nutrition, ration development, forage and grazing management, herd health programs, retained ownership, and replacement heifer development. In 2001, a marketing component was also added in an attempt to improve the marketing options for CHIPS clientele and to improve cattle producer margins. A portable chute/scale is provided for weighing cattle to measure efficiency levels, nutritional needs and genetic improvement as changes are made.

Andrew Jackson Demonstration Farm
Annual Report – Nutrient Balancing Program
AJDF Corporation, Ed Andrews NRCS
AJDF 0108

This is the second year we have had manure samples analyzed from the cattle on pasture. This analysis gives an indication of the adequacy of the nutrient intake the cattle are receiving. Samples were taken the first week of June, July, and August. The first two samples were done while the cattle were grazing grass-legume mix pasture, the third while they were grazing standing corn. All of the samples showed adequate to excess protein. Energy intake was shown to be the limiting factor for performance on the May and June samples, but was more than adequate on the August sample when they were grazing the corn. The information is entered into a computer program called “nutrient balancer” that figures the limiting factor in the ration. The program, developed by Texas A&M University, has not been used in many herds in the Midwest and its applicability in our conditions is still being tested.

Andrew Jackson Demonstration Farm
Annual Report - Outdoor Environmental Education Area
AJDF Corporation, Ann Burns, JCCB Naturalist
AJDF 0109

2001 was the fifth full year of use by school and other groups. Area and regional schools continue to have high interest in using the outdoor classroom. Word of mouth seems to be our best form of spreading the word. One new school (Seaton School, Farley) visited the area this fall because they heard about the site from a Sacred Heart (Maquoketa) staff member. Another new school has scheduled a visit for next spring because they heard about the site from Seaton. The fine fishing available at the farm pond is a big draw for some of the schools. No matter what their main focus for visiting, each group, at a minimum participates in a discussion about the functions of a farm pond, and the specific projects that enhance the pond at the outdoor classroom. School groups visiting the site typically rotate through a series of activities led by their teachers and personnel from local resource management agencies. Topics for sessions include: forestry, soils, soil
conservation, habitat management, aquatic insects, rotational grazing, trail hikes, fish identification, fishing, journaling and art. The activities are designed so that several of the day’s activities involve the students utilizing several skills from across their curriculum (math, science, reading, and art.)

The pond was stocked in the fall of 1996. Groups that fished the pond during their visits in 2001 caught decent numbers of 6 inch and larger bluegills. Bass are all being released back into the pond. No large bass were caught during any of our field trips. If this situation continues, it may be worthwhile to request an age sampling by the Fisheries Department of the Iowa DNR. Groups are allowed to keep bluegills if they will clean and eat them.

The woodland trail continues to provide good access to the timber area and allows opportunities to see some forest management techniques, a variety of woodland plants and signs of some of the woodland life. Small logs were added along the trail to show niche habitats under rotting logs.

<table>
<thead>
<tr>
<th>Group Usage of Outdoor Classroom Area</th>
<th># of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bellevue Public School 4th grade</td>
<td>41 students</td>
</tr>
<tr>
<td>Sacred Heart, Maquoketa 6th grade</td>
<td>22 students</td>
</tr>
<tr>
<td>Preston Elementary kdg.</td>
<td>19 students</td>
</tr>
<tr>
<td>Hennesey School, Petersburg 4-6th grades</td>
<td>46 students</td>
</tr>
<tr>
<td>Seaton School, Farley 8th grade</td>
<td>36 students</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>5 groups</strong></td>
</tr>
<tr>
<td></td>
<td><strong>164 students</strong></td>
</tr>
</tbody>
</table>

Andrew Jackson Demonstration Farm  
Annual Report - Management Intensive Grazing Demonstration  
Marshall O. Pitcher, AJDF Board Member  
AJDF 0110

**Purposes**

- To show the potential production and economic outcomes for steers in an intensive rotational grazing system on highly erodible land.  
- To demonstrate management intensive grazing practices which enhance the competitiveness of a stocker grazing practice.  
- To implement a grazing scholarship program for one FFA student to learn the necessary procedures of management intensive grazing of stockers.

**Reasons**

Jackson County is the leading beef cow/calf county in Iowa and a greater portion of the land in the county should be utilized for grazing stockers. The grazing scholarship was initiated to bring forth a learning tool for potential cow men coming up through the ranks.
Summary

The cattle project at AJDF for 2001 was 70 head of Limousine cattle purchased through Charlie Peters. The cattle came from the same source as the previous year. The 35 steers and 35 heifers were purchased on March 12th. A maintenance ration of corn, hay and lick tank was given until April 21st when they were booster vaccinated, wormed, ear tagged and individually weighed. They were put on pasture the same day and they grazed until May 7th when they were split into two groups. It was obvious there would not be enough pasture and there was an unmanageable animal that had no regard for fences. Thirty-five of the heavier cattle were placed in the yard and the smaller cattle remained on the pasture. On July 30th all the cattle were weighed individually and the pasture cattle were turned into standing corn to graze and were moved daily into a portion of the corn that they would consume in 24 hours. They also had access to a lick tank of molasses, protein, vitamins and mineral. The heavier cattle in the yard were on ground corn, corn gluten, lick tank and hay.

The average daily gain for the 57 days in the standing corn was 1.28#. The average daily gain for the cattle in the yard was 1.26#.

Brad Till was the recipient of the $1000 grazing scholarship and received it when the last cattle were sold. He was excellent help and was quite adept at moving the cattle or feeding the yard cattle. I must admit that he was good at cutting multiflora rose and poisoning the stump with Tordon.
Here are the economics of feeding the cattle:

March 7 – purchased 70 head of Limousine cattle through Charlie Peters.

- 35 steers average 675# @ $96.90 per Cwt.  $22885.84  Ave. Cost  $653.88
- 35 heifers average 631# @ $93.52 per Cwt/  20639.86  Ave. Cost  589.70

Trucking  615.60

$44141.30

Expenses

- Labor – Eldon  $2140.52
- Brad Till  1573.37

Swiss Valley

- Corn gluten, Smart Lick & 2299.90
- Salt
- ICA dues – twice  120.00
- Interest  2850.16
- Dr. Yanda – med. etc  502.05
- Hay – small bales  815.00
- Hay – big bales  1400.00
- Property taxes  950.00

Total  $12651.00

Total expenses  $56,792.00

Corn (in bin)  2581 bu
Corn (standing)  598 bu (backfiguring the vlue of corn)

3179 bu @ $2.164 =  $6878.44

Cattle Sold

- 8-31  15 head  $13,167.30
- 10-12 20 head  19,232.16
- 12-5  10 head  8,355.62
- 12-26 1 head  884.00 (MO purchased)
- 1-8-02 24 head  22,031.36

Total 70  $ 63,670.44
**Purpose:** To explore the potential benefits of grid soil sampling and variable rate lime and fertilizer applications.

**Procedure:** The farm was sampled using geo-referenced 2.5 acre grids. Samples from each grid were tested for pH, organic matter, phosphorus, and potassium. Recommendations were then produced for variable rate lime, P, and K applications.

**Results:** The grid sampling showed a substantial amount of variation in pH as well as fertility across the entire farm. The cost of variably applying the lime according to recommendations was significantly less expensive than a conventional blanket application of 3 tons per acre. Per acre costs to VRT apply fertilizer was higher than conventional “crop removal” rates, but VRT recommendations intend to feed the crop plus build soil test levels above a typical “medium” level. Direct per acre cost comparisons also do not take into consideration the economics of overapplying poor or very poor testing areas within the field.

-----

**Potato Leafhopper Resistant Alfalfa**

Potato leafhoppers cause alfalfa growers greater economic damage than any other pest. Infestation often results in 15-40% yield loss. Potato Leafhopper Resistant Alfalfa works by creating minute sticky globules on the end of hairs on the leaves of the plant and by inherent tolerance to feeding by the potato leafhopper. This is a physical anomaly, not Bt that has been discovered in alfalfa and moved into commercially available cultivars. Other than the production of the globules and the tolerance to potato leafhopper feeding, the alfalfa is totally normal. It is safe to feed all species to which alfalfa is normally fed. Palatability should not be altered by this characteristic, and no pesticidal properties are involved.

The PLH tolerant alfalfa has thresholds much higher than the traditional alfalfa and that the traditional alfalfa would need more spraying than the PLH tolerant alfalfa.

Results at AJDF show a yield drag and less persistence than conventional varieties. This will probably change over time.
Steadfast Trefoil

A small sample of Steadfast trefoil was planted in 1999. Steadfast has not yet been released. Birdsfoot trefoil is generally not used because it does not establish as easily as red clover and generally only lasts a couple of years before root diseases wipe it out. Steadfast is rhizomous, so as disease wipes out one plant, new healthy plants will tend to fill in. This should be useful, especially in a pasture situation where everything tends to end up being grass after a while unless red clover is seeded in. Hopefully in the not too distant future, creeper alfalfa, kura clover, and/or Steadfast in a pasture mix will result in a grass - legume pasture that will retain legumes.

Creeping-Root Alfalfa

Spredor 3 from Northrup King was planted in the pasture near the transfer station in 1996. This is a somewhat rhisomatous, or "creeping", cultivar of alfalfa. The concept is that as some plants die due to disease or old age, new plants will be generated from adjacent alfalfa. The yield, spreading capability, and stand longevity are being evaluated in this demonstration.

Results have not been that great at AJDF. Some of the conventional varieties are showing more persistance.

Kura Clover

Kura clover is deep rooted, rhisomatous, potentially long-lived perennial for pasture mixtures and has the potential for hay, silage or pasture. The yield, spreading capability, and stand longevity are being evaluated in this demonstration in the pasture near the transfer station.

Results have been just as good or better with Kura clover as compared to red clover.

Eastern Gamagrass

Eastern gamagrass is a native, perennial, tall warm-season bunch grass. It has short, thick rhizomes and has high nutrition and palatability. It disappeared from most landscapes due to overgrazing. Eastern gamagrass is very sensitive to overgrazing or over harvesting. The yield, spreading capability, stand longevity and durability are being evaluated in this demonstration. 2001 is the fourth year of mid-summer rotational grazing. The stand is improving and appears more vigorous. White clovers were interseeded in the gamagrass in 1999 to see if any nitrogen produced would enhance the gamagrass. Results have been good.

Big Bluestem

Big bluestem is an erect, robust perennial bunchgrass. It produces foliage in late spring from buds at basal nodes and from short, scaly rhizomes. Growing points stay close to
the ground until late summer. Seed heads appear in August and September. The stand looks good and was interseeded with white clovers in 2000.

Big bluestem grows 3 to 6 feet tall and often reddish-purple at maturity. The seed head consists of two or three racemes which arise from a common joint of the seedstalk, resembling a turkey's foot. It is considered more palatable than switchgrass or Indian grass, especially after maturity.

The 1997 planting looks good and has been summer grazed for two years. The 2000 planting was a failure. No plants were observed by the end of summer. The cause has still not been determined.

Satin Orchard Grass

Satin orchard grass, a fine-leafed palatable variety is being evaluated as a grazing forage in the rotational grazing system and seems to be responding well.

Andrew Jackson Demonstration Farm  
AJDF Corporation, ISU Extension  
Annual Report – Pests  
AJDF 0112

From a pest (diseases, weeds, and insects) perspective, 2001 was another unusual year for the Andrew Jackson Demonstration Farm as well as most Jackson County producers. These also leave management implications for 2002.

INSECTS

Alfalfa Weevil  
In 2000, Alfalfa Weevils were generally at higher levels than observed in recent years. The insect feeds at the tops of plants, resulting in a frosted appearance of the plant and significant yield losses for first cutting hay. Numbers in 2001 were not as high. Some spraying was done in the area, but not at AJDF.

Potato Leafhopper  
While 200 did not produce potato leafhopper populations to match those of previous years, the insect did once again fly into Jackson County and achieve damaging levels in second and beyond cuttings of hay. The fields on the Andrew Jackson Demonstration farm were scouted using a sweepnet, as significant losses have already occurred if the producer waits until observing the characteristic V-shaped hopperburn on the leaves before treating. Spraying was not done at AJDF.

Bean Leaf Beetle  
Bean Leaf Beetles (BLB) can be found in nearly every soybean field sometime during the year. However, mild winters have allowed populations to rise to damaging levels at a rate heretofore unknown. None of the fields at the Andrew Jackson Demonstration Farm required spraying for this insect in 2001. Threshold for treatment are based on yield loss and do not consider the effects of Bean Pod Mottle Virus (BPMV), a fairly new disease
transmitted by the BLB. Thus, as more is learned about the rate and method of transmission of BPMV, the thresholds will undoubtedly change.

There is a new technique for management of BLB in reproductive stage soybeans. This technique involves scouting for BLB as the first true generation peaks in July. If levels are above the threshold then the field should later be sprayed for the second generation beetles at an earlier than normal time, assuming the beetles are still present at spraying time. This method allows a pre-emptive strike before incurring the normal losses as populations rise to threshold levels. Timing of scouting and spraying is based on Growing Degree Days (GGD).

DISEASES

Stewart’s Disease
As noted above, Stewart’s Disease is transmitted by the corn flea beetle and is a concern for a few susceptible hybrids, many susceptible inbreds, and many susceptible sweetcorn varieties, such as the sweetcorn on the Andrew Jackson Demonstration Farm in 2000. Three elements are needed for field diagnosis of Stewart's disease:

1. Yellow streaks, following leaf veins, that later develop reddish brown dead areas in the center;
2. As the infection rapidly progresses, the plant wilts, with newest leaves wilting first; and
3. The crown, or growing point, of the infected plant rots and turns soft and brown. (If the roots and mesocotyl are injured, other pathogens that can damage the crown may have entered the plant.)

Because of the potential for Stewart’s Disease in 2002, resistance to this disease should be part of selecting sweetcorn varieties and commercial corn hybrids for 2002.

Sudden Death Syndrome
Sudden Death Syndrome (SDS) in soybeans was found in a small area west of the asphalt road near the south side of the farm. SDS is a fairly new soybean disease in Iowa. It is most commonly found in low, wet areas of fields; where it was found on the farm fits that scenario. SDS is commonly found with Soybean Cyst Nematode (SCN), but SCN was not detected in soil collected from that area. The disease normally occurs in August, causing chlorosis and then necrosis between the leaf veins. If the disease is severe, yield losses can be substantial. Managing the disease includes:

1. Minimizing the spread of the disease (soil movement).
2. Selecting varieties more tolerant to SDS.
3. Planting late maturing varieties late.
4. Minimizing other stresses (insect, disease, weed, fertility, compaction, etc.).
5. Improving the drainage of the area and/or ridge tilling.
Crown and Stalk Rots
Crown and stalk rots in corn were pervasive in Jackson County, and on the Andrew Jackson Demonstration Farm, in 2001. Crown and stalk rots are caused by the same group of pathogens and normally successfully infect plants when the plants are under stress. In 2000, cold and wet weather in June allowed many successful crown rot infections to begin. In August, hot and dry weather facilitated new stalk rot infections as well as the movement of some of the earlier crown rots further up into the plant. The severity of the rots in 2001 cause concern for 2002, especially where 2001 corn will be followed by corn in 2002, because there is a tremendous amount of inoculum (spores) waiting to start infections in 2002. Whether or not rots will be a major problem in 2002 depends largely on the weather and, to a lesser degree, the presence or absence of other stresses. While we cannot influence the weather, there are other suggestions that will improve our odds.

1. Avoid corn on corn.
2. Avoid excessive N fertilization or excessive manure.
3. Lower stress by having good European corn borer and other insect control.
4. Lower stress by selecting hybrids with excellent leaf disease (anthracnose, eyespot, southern rust, common rust, and, to a lesser extent in Jackson County, gray leafspot) resistance.
5. Hybrids differ in stalk rot susceptibility and stress tolerance, such as drought stress. Partial resistance is available. Select hybrids with high stalk strength ratings, as much stress tolerance as possible, and as much resistance to stalk rots as possible without sacrificing yield.
6. Remember, differences among hybrids are not always consistent year-to-year or field-to-field.

Andrew Jackson Demonstration Farm
Annual Report - Organic Farming
AJDF Corporation and Limestone Bluffs RC&D
AJDF 0113

In 1999 the Andrew Jackson Demonstration Farm cooperated with the Limestone Bluffs RC&D and Iowa State University to initiate an organic farming demonstration. The project was located on 7.5 acres just east of the Care Facility. The purpose of the project was to demonstrate organic farming practices with emphasis on herbs and vegetable crops as an alternative niche for local producers.

For 2000, the project concentrated on the vegetable and herb crops on approximately 1 acre north of the Historic Limestone building. Crops included the Echinacea (cone flower) and St. John’s Wort, both medicinal herbs that were planted in 1999. In addition, a wide variety of vegetables were planted and harvested during the growing season. As an added demonstration, approximately 1500 grape cuttings obtained from Tabor Home Vineyard were planted in April.
2001 Crop Year

The focus for the 2001 crop year was on vegetable and herb crops that have market demand and do not require extensive labor for harvest and processing. In addition, the planning committee decided to include demonstrations for methods to extend the growing season for organic crops. This being the third year for organic production, the field was eligible for organic certification and an application was submitted to the State of Iowa Organic Program. Table 3 lists the crops planted for the vegetable and herb demonstration.

Table 3. 2001 Crops at the Andrew Jackson Demonstration Farm

<table>
<thead>
<tr>
<th>Crop</th>
<th>Variety</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pole beans</td>
<td>Fortex</td>
</tr>
<tr>
<td>Cabbage</td>
<td>Red Ruby Perfection</td>
</tr>
<tr>
<td>Carrot</td>
<td>Early Minicor</td>
</tr>
<tr>
<td></td>
<td>Scarlet Nantes</td>
</tr>
<tr>
<td>Sweet Corn</td>
<td>Golden Bantam Improved</td>
</tr>
<tr>
<td>Cucumbers</td>
<td>Lemon</td>
</tr>
<tr>
<td>Romaine lettuce</td>
<td>Winter Density</td>
</tr>
<tr>
<td>Lettuce</td>
<td>Black Seeded Simpson</td>
</tr>
<tr>
<td>Mache</td>
<td>Verte de Cambrai</td>
</tr>
<tr>
<td>Melon</td>
<td>Sugar Baby</td>
</tr>
<tr>
<td>Onion</td>
<td>Copra</td>
</tr>
<tr>
<td>Parsley</td>
<td>Gigante d'Italia</td>
</tr>
<tr>
<td>Peas</td>
<td>Lincoln</td>
</tr>
<tr>
<td>Peppers</td>
<td>New Ace</td>
</tr>
<tr>
<td>Peppers</td>
<td>Sunsational</td>
</tr>
<tr>
<td>Squash</td>
<td>summer Seneca Prolific</td>
</tr>
<tr>
<td>Squash</td>
<td>winter Burgess Buttercup</td>
</tr>
<tr>
<td>Tomato</td>
<td>early Oregon Spring</td>
</tr>
<tr>
<td>Tomato</td>
<td>Principe Borghese Cherry</td>
</tr>
<tr>
<td>Tomato</td>
<td>Oregon Spring</td>
</tr>
<tr>
<td>Tomato</td>
<td>Sunstart</td>
</tr>
<tr>
<td>Lemon balm</td>
<td>Mellissa</td>
</tr>
<tr>
<td>Calendula</td>
<td>Calendula Pacific Beauty</td>
</tr>
<tr>
<td>Yarrow</td>
<td>White Achillea millefolium</td>
</tr>
</tbody>
</table>

The first harvest of 2001 was the grape cuttings that were planted in 2000 and moved as transplants in April of 2001 to field vineyard locations. Approximately 1000 plants were dug using a potato digger attached to a tractor. The root system on the plants especially the Marachel Foch was extremely vigorous and some hand pulling was needed to supplement the digger. The transplants had an excellent survival rate at their new locations. Six plants are now established at the Neely-Kinyon LTAR site in Greenfield, Iowa.

Vegetable and herb crops were hand weeded and mechanically weeded using the multivator and a roto-tiller. Weed pressure was significantly less than the first year of the project. The crops were marketed though local subscription sales and farmers markets.
Lettuces and vegetables from the demonstration site were used at the "Iowa Wine and Food Festival" held in Maquoketa on June 30th and at the "Enjoy Our Harvest" local food banquet held on Sept. 19th. Both of these events were sponsored in part by the Leopold Center for Sustainable Agriculture and the Maquoketa Valley Producers, a non-profit corporation of alternative agricultural producers.

The best selling products from the demonstration in 2001 included: tomatoes, sweet corn, watermelon, winter squash, onions, parsley, peppers, cabbage, and cucumbers. At total of $968.75 of herbs and vegetables was sold from the demonstration site in 2001.

The *Echinacea* that was established in 1999 was weeded and mulched during the 2001-growing season. Market research did not identify a buyer, so the crop was left for harvest in 2002. Current markets for *Echinacea* are saturated due to increased world production and the estimated yield did not reach the 100 lb. dried volume required by a near by a local natural product company.

**Season Extenders:**
The new innovation demonstrated at the site in 2001 involved season extenders. In April, a 44-ft. x 13 ft. x 6.5-ft. high mobile high tunnel was constructed. The tunnel was built using 1 inch PVC pipe glued together in panels and attached at the bottom to bridge planks partially buried in the soil. The frame was covered with a 6-ml plastic greenhouse cover. The soil was roto-tilled inside the tunnel, and covered with plastic mulch. Drip irrigation lines were placed under the plastic mulch. Tomatoes and green peppers were planted in the greenhouse as transplants on May 10th.

As a comparison, tomato transplants were established in the field using floating row covers with and without plastic mulch. The row covers were held in place with wire frames originally designed for corncribs.

The plants in the high tunnel had considerable more growth by mid-June than the field grown plants due in part to the below normal temperatures in late May. Plants in the high tunnel produced tomatoes ahead of field plants, but experienced a high incidence of blossom end rot on the first fruits. Fruit on tomatoes with row covers and/or black plastic mulch ripened sooner than plants on bare ground. It should be noted that plants in the high tunnel received routine irrigation, while field plants relied on rainfall. The plants growing in the black plastic mulch wilted sooner in August and would need supplemental irrigation if the plastic would be used in the future.

The high tunnel was still producing tomatoes and green peppers into November of 2001.

Two field days were held at the demonstration farm in 2001. The first was held on June 27th to show the early results of the high tunnel season extender. The 2nd field day was held on August 14th as part of the annual AJDF tour. Approximately 50 people attended each event.
Bellevue Herald-Leader 4-26-01
Andrew Jackson Demonstration Farm has 41 acres of hay ground for rent.

Bellevue Herald-Leader 6-21-01
Among the initiatives underway in Jackson County is this look at farm built season extenders at the Andrew Jackson Demonstration Farm. The growing interest in both early and late season production of specialty produce prompted trial this year.

Maquoketa Sentinel-Press 6-23-01
Limestone Bluffs RC&D will be hosting an Organic Farming Demonstration Field Day at the Andrew Jackson Demonstration Farm on June 27, beginning at 6:30 p.m. The Andrew Jackson Demonstration Farm will be hosting their Annual Field Day on Tuesday, August 14, at 4:30 p.m.

Bellevue Herald-Leader 7-26-01
During the organics field tour at the Andrew Jackson Demonstration Farm techniques were described to an interested group of eastern Iowa residents during the recent vegetable production tour. The event is one of several during the year hosted by demonstration farm staff as a way of transferring the latest technology from university research to practical farm applications.

Contributors to this Annual Report:

AJDF Board of Directors

M. O. Pitcher, AJDF Treasurer

Eldon Hoerschelman, AJDF Coordinator

Warren Johnson, Limestone Bluffs RC&D

Virgil Schmitt, ISU Extension Field Specialist, Crops

Ann Burns, Jackson County Conservation Board Naturalist

Ed Andrews, Natural Resources Conservation Service, District Conservationist

Skott Gent, Swiss Valley Ag, Agronomist
## 2002 Andrew Jackson Demonstration Farm Budget

<table>
<thead>
<tr>
<th></th>
<th>Corn After Corn</th>
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<th>Corn After Soybeans</th>
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<tr>
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<tr>
<td>Acre:</td>
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<td>$294.00</td>
<td>$16,728.60</td>
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| **Expense:**         |                 |       |                      |       |
| Preharvest Custom:   | $29.90          | $1,043.51 | $22.55             | $1,283.10 |
| Seed:                | $42.55          | $1,485.00 | $27.80             | $1,581.82 |
| Nitrogen:            | $27.86          | $972.31  | $16.45             | $936.01  |
| Phosphate:           | $12.58          | $439.04  | $12.58             | $715.80  |
| Potash:              | $13.90          | $485.11  | $13.90             | $790.91  |
| Lime:                | $-              | $-      | $-                 | $-      |
| Herbicide:           | $33.00          | $1,151.70 | $30.58             | $1,740.00 |
| Insecticide:         | $-              | $-      | $-                 | $-      |
| Insurance:           | $5.00           | $174.50  | $5.00              | $284.50  |
| Miscellaneous:       | $10.00          | $349.00  | $10.00             | $569.00  |
| Harvest Custom:      | $35.52          | $1,239.65 | $35.52             | $2,021.09 |
| Drying $.09/bu:      | $12.60          | $439.74  | $12.60             | $716.94  |
| Interest:            | $13.37          | $466.77  | $11.22             | $638.35  |
| **Total Expense:**   | $236.28         | $8,246.33 | $198.20            | $11,277.51 |
| **Net Return:**      | $57.72          | $2,014.27 | $95.80             | $5,451.09 |
## 2002 Andrew Jackson Demonstration Farm Budget

<table>
<thead>
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<th>Total</th>
<th>Acre</th>
<th>Total</th>
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<td>5,676.00</td>
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### Expense:

- Preharvest Custom: $22.55  $412.67  $23.50  $620.40
- Seed: $27.80  $508.74  $26.30  $694.32
- Nitrogen: $ -  -  $ -  -
- Phosphate: $12.58  $230.21  $ -  -
- Potash: $13.90  $254.37  $ -  -
- Lime: $ -  -  $ -  -
- Herbicide: $33.00  $603.90  $20.17  $532.49
- Insecticide: $ -  -  $ -  -
- Insurance: $5.00  $91.50  $10.00  $264.00
- Miscellaneous: $10.00  $183.00  $10.00  $264.00
- Harvest Custom: $35.52  $650.02  $29.90  $789.36
- Drying $.09/bu: $12.60  $230.58  $ -  -
- Interest: $10.38  $189.90  $7.19  $189.87

**Total Expense:** $183.33  $3,354.88  $127.06  $3,354.44

**Net Return:** $110.67  $2,025.32  $87.94  $2,321.56
## 2002 Andrew Jackson Demonstration Farm Budget

### Alfalfa After Corn

#### Income:

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<th>Total</th>
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<tbody>
<tr>
<td>Acre</td>
<td>1.0</td>
<td>16.9</td>
</tr>
<tr>
<td>Tons</td>
<td>2.5</td>
<td>42.25</td>
</tr>
<tr>
<td>Price</td>
<td>$70.00</td>
<td>$70.00</td>
</tr>
</tbody>
</table>

**Gross Return:** $175.00  $2,957.50

#### Expense:

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preharvest Custom</td>
<td>$28.85</td>
<td>$487.57</td>
</tr>
<tr>
<td>Seed</td>
<td>$60.00</td>
<td>$1,014.00</td>
</tr>
<tr>
<td>Nitrogen</td>
<td>-$</td>
<td>-$</td>
</tr>
<tr>
<td>Phosphate 50</td>
<td>$11.35</td>
<td>$191.82</td>
</tr>
<tr>
<td>Potash 200</td>
<td>$26.00</td>
<td>$439.40</td>
</tr>
<tr>
<td>Lime</td>
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<td>-$</td>
</tr>
<tr>
<td>Herbicide</td>
<td>$15.00</td>
<td>$253.50</td>
</tr>
<tr>
<td>Insecticide</td>
<td>-$</td>
<td>-$</td>
</tr>
<tr>
<td>Insurance</td>
<td>$5.00</td>
<td>$84.50</td>
</tr>
<tr>
<td>Miscellaneous</td>
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<td>$169.00</td>
</tr>
<tr>
<td>Harvest Custom</td>
<td>-$</td>
<td>-$</td>
</tr>
<tr>
<td>Drying $.09/bu</td>
<td>-$</td>
<td>-$</td>
</tr>
<tr>
<td>Interest</td>
<td>$9.37</td>
<td>$158.39</td>
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</tbody>
</table>

**Total Expense:** $165.57  $2,798.17

**Net Return:** $9.43  $159.33