Lease Terms for Irrigated Farmland in Eastern Washington

Paul W. Barkley
Gayle S. Willett
Amos Bechtel
LEASE TERMS FOR IRRIGATED FARMLAND IN EASTERN WASHINGTON*

by

Paul W. Barkley, Gayle S. Willett, and Amos Bechtel**

According to the 1987 Census of Agriculture, 34% of the farms in the state lease some farmland. Further, 46% of the farmland in Washington is leased. Due primarily to continuing increases in the capital required to remain competitive in agricultural production, the incidence of real estate leasing has increased over time and will likely get higher.

Landowners and the farmers who lease land from them are concerned about the amount of cash rent, dividing the commodities produced by the land, sharing production costs, and maintaining the long-term productivity of the land. Generally, both owner and operator have compatible goals, but lease conditions can easily prevent either or both from achieving these goals. Leases must be analyzed to determine their effects on economic efficiency and equity to both lessor and lessee.1

Study Objective

This study develops a profile of leasing arrangements for private irrigated agricultural land in selected counties of eastern Washington. More specifically, the study identifies lease terms on irrigated land leased from a nongovernment landowner to produce a crop other than tree fruits, grapes, or hops in 1991. The study area was limited to four eastern Washington counties: (1) Adams, (2) Franklin, (3) Grant, and (4) Walla Walla. Early in the planning phase, Benton County was examined as a possible study county, but difficulties in identifying operators of leased parcels and low response rates from those identified caused Benton County to be dropped from the study. Operators in the remaining counties were asked about length of lease, type of lease (cash or crop-share), crops produced on leased ground, type of irrigation system, ownership and maintenance of irrigation system, amount of rent, responsibility for production costs, handling of permanent improvements, and management responsibility.

---

*This study was partially funded by the Washington State Department of Natural Resources.

**Professor, Extension Economist, and Research Assistant, Department of Agricultural Economics, Washington State University, Pullman, WA.

1 See "Analyzing Your Land Lease Agreement," EB1367, WSU Cooperative Extension for help in analyzing cash and crop-share leases.
Study Procedures

The four-county area in eastern Washington was chosen because of its agricultural importance, heavy reliance on irrigation, and high incidence of farmland leasing (Table 1). The most recently published census data (1987) indicate the study area contains about 13% of all Washington farms and 20% of the farms with more than $10,000 of annual agricultural sales. About 29% of the state’s market value of agricultural products originates from the four-county study area. Also, due to low rainfall and the presence of water delivered by the Columbia Basin Irrigation Project in three of the counties, irrigation is practiced by about 72% of the farms in the region. Well over one-half of the farmland in the study area is leased, a figure above the state aggregate of 46% (Table 1).

Information about lease terms in the four-county study area was obtained by a mail survey. The Agricultural Stabilization and Conservation Service (ASCS) provided the names and addresses of 1,015 operators who, according to ASCS records, were leasing irrigated ground in the four-county area. Study resources limited the sample size to no more than 600 operators. Thus, questionnaires, accompanied by a cover letter explaining the reasons for the study and urging cooperation, were mailed to 534 randomly selected operators. A follow-up postcard to those who had not responded was mailed two weeks after the initial mailing.

Many farmers have several leases. To reduce the effort needed to complete a survey, respondents were asked to provide information on only one lease. Further, they were urged to select the lease that was negotiated or renegotiated most recently. Usable responses were obtained from 107 operators. The low response rate (20.0%) makes interpretation of some replies quite difficult. Usual statistical tools are of little value in developing inferences from data when averages are based on low numbers of responses. In view of this, caution should be exercised when drawing conclusions from the data presented here.

STUDY RESULTS

Cash rent was the most common lease arrangement in every county except Walla Walla (Table 2). Ninety-two (86%) of the 107 respondents indicated they leased land under a cash rent arrangement and only 13 (12%) had a crop-share agreement. Two operators reported having both a cash and crop-share lease on the acreage they had included. The Columbia Basin Irrigation Project in Adams, Franklin, and Grant counties included leased parcels operated by 77 of the 107 respondents.

<table>
<thead>
<tr>
<th>County</th>
<th>Number of Farms</th>
<th>Number of Farms with Irrigation</th>
<th>Number of Farms with Leased Land</th>
<th>Farms with Leased Land as a % of Total Farms</th>
<th>Leased Land as a % of Total Land in Farms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adams</td>
<td>805</td>
<td>409</td>
<td>478</td>
<td>59</td>
<td>57</td>
</tr>
<tr>
<td>Franklin</td>
<td>894</td>
<td>736</td>
<td>426</td>
<td>48</td>
<td>53</td>
</tr>
<tr>
<td>Grant</td>
<td>1,881</td>
<td>1,569</td>
<td>819</td>
<td>44</td>
<td>53</td>
</tr>
<tr>
<td>Walla Walla</td>
<td>759</td>
<td>425</td>
<td>395</td>
<td>52</td>
<td>67</td>
</tr>
</tbody>
</table>

Table 2. Number of Responses by County and Type of Lease.

<table>
<thead>
<tr>
<th>County</th>
<th>Cash Rent</th>
<th>Crop-Share</th>
<th>Both</th>
<th>All Leases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of Responses</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adams</td>
<td>9</td>
<td>2</td>
<td>0</td>
<td>11</td>
</tr>
<tr>
<td>Franklin</td>
<td>38</td>
<td>1</td>
<td>1</td>
<td>40</td>
</tr>
<tr>
<td>Grant</td>
<td>42</td>
<td>3</td>
<td>0</td>
<td>45</td>
</tr>
<tr>
<td>Walla Walla</td>
<td>3</td>
<td>7</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>All Four Counties</td>
<td>92</td>
<td>13</td>
<td>2</td>
<td>107</td>
</tr>
</tbody>
</table>

Years in Current Lease Agreement

The number of years included in the current lease agreement is reported in Table 3 by type of lease (cash or crop-share) and county.

Key points (Table 3):

- The average period of time covered by the current lease agreement was 5.4 years for cash and crop-share leases.
- There do not appear to be major differences among counties in the average length of cash leases.
- Significant variation occurs between individual leases in the length of the lease (e.g., 0-99 years for all leases).

Table 3. Number of Years in the Current Lease Agreement by County and Type of Lease.

<table>
<thead>
<tr>
<th>County</th>
<th>Cash Rent</th>
<th>Crop-Share</th>
<th>Both</th>
<th>All Leases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of Years</td>
<td>Mean Low High</td>
<td>No. of Years</td>
<td>Mean Low High</td>
</tr>
<tr>
<td></td>
<td>Responses</td>
<td>Mean</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Adams</td>
<td>9</td>
<td>3.9</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>Franklin</td>
<td>37</td>
<td>3.7</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>Grant</td>
<td>40</td>
<td>5.8</td>
<td>1</td>
<td>99</td>
</tr>
<tr>
<td>Walla Walla</td>
<td>2</td>
<td>3.5</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>All Four Counties</td>
<td>88</td>
<td>4.7</td>
<td>1</td>
<td>99</td>
</tr>
</tbody>
</table>

EB1759 • Page 4
Frequency of Lease Terms Negotiation

An indication of the frequency with which lessees have an opportunity to negotiate the terms of their lease with the landowner is reported in Table 4.

Key points (Table 4):

- Over one-half (54%) of the lessees report they have an opportunity to negotiate new terms for their lease either annually or anytime. The opportunity for more frequent negotiations was higher for crop-share than cash leases.

- Slightly more than one-third (35%) of the lessees with a cash rent agreement had a negotiation opportunity only every 3 or more years.

- Twelve percent of the respondents indicated negotiation of terms occurred only when the landowner decided to allow negotiation.

Table 4. How Often Lease Terms Can Be Negotiated by Type of Lease.

<table>
<thead>
<tr>
<th>Frequency of Possible Negotiations</th>
<th>Type of Lease</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cash Rent</td>
<td>Crop-Share</td>
</tr>
<tr>
<td>1 Year</td>
<td>35</td>
<td>5</td>
</tr>
<tr>
<td>2 Years</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>3 Years</td>
<td>14</td>
<td>0</td>
</tr>
<tr>
<td>4 Years</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>5 Years</td>
<td>13</td>
<td>1</td>
</tr>
<tr>
<td>6 Years</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Anytime</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>Landowner’s Decision</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>86</td>
<td>13</td>
</tr>
</tbody>
</table>

Total Acreage in Leased Parcel

The total acreage in the leased parcel is reported for cash rent and crop-share leases and by county in Table 5. Total acreage included irrigated land, dryland, and uncropped acreage. The 3,218-acre average size of cash rent parcels in Walla Walla County must be viewed with care.
The high acreage figure stems from the low number of observations (three) and the fact that one of the three parcels included over 9,500 acres.

Key points (Table 5):

- Average total acreage per parcel for all leases was 390. Individual leased parcels ranged from 15 to 9,579 acres.
- The average size of crop-share leases (604 acres) was considerably larger than cash leases (360 acres).
- Substantial differences exist between individual counties in the average total acreage per leased parcel. For example, a comparison of cash leased parcels in Franklin and Grant counties (where the number of respondents is higher and a more valid indication of size differences is therefore available) reveals the former has 3.4 times the acreage found in the latter.

<table>
<thead>
<tr>
<th>County</th>
<th>Type of Lease</th>
<th>All Leases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cash Rent</td>
<td>Crop-Share</td>
</tr>
<tr>
<td></td>
<td>No. of Responses</td>
<td>Acres</td>
</tr>
<tr>
<td></td>
<td>Mean Low High</td>
<td></td>
</tr>
<tr>
<td>Adams</td>
<td>9 227.4 20 750</td>
<td>2 1,850.0 700 3,000</td>
</tr>
<tr>
<td>Franklin</td>
<td>38 419.9 74 8,500</td>
<td>1 168.0 168 168</td>
</tr>
<tr>
<td>Grant</td>
<td>41 123.4 15 500</td>
<td>3 497.3 57 740</td>
</tr>
<tr>
<td>Walla Walla</td>
<td>3 3,218.0 20 9,579</td>
<td>7 356.9 30 765</td>
</tr>
<tr>
<td>All Four Counties</td>
<td>91 359.5 15 9,579</td>
<td>13 604.5 30 3,000</td>
</tr>
</tbody>
</table>

Irrigated Acreage in Leased Parcels

Irrigated acreage in the leased parcels is summarized by type of lease and county in Table 6.

Key points (Table 6):

- An average of 252 acres of irrigated ground per leased parcel was reported by 106 lessees from counties with both cash and crop-share leases. Thus, about 252 acres out of 390 total acres (about 65%) in the average leased parcel was irrigated.
- The average irrigated land per leased parcel was 480 and 216 acres for crop-share and cash rent leases, respectively.
As with total acreage, there were major differences among counties in the average irrigated acreage per parcel.

Table 6. Number of Irrigated Acres in Leased Parcels by County and Type of Lease.

<table>
<thead>
<tr>
<th>County</th>
<th>Type of Lease</th>
<th>All Leases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Cash Rent</td>
</tr>
<tr>
<td></td>
<td>No. of Responses</td>
<td>Acres</td>
</tr>
<tr>
<td></td>
<td>Mean Low High</td>
<td>Mean Low High</td>
</tr>
<tr>
<td>Adams</td>
<td>9 183.0 20 350</td>
<td>2 1,200.0 700 1,700</td>
</tr>
<tr>
<td>Franklin</td>
<td>38 208.9 74 1,400</td>
<td>1 168.0 168 168</td>
</tr>
<tr>
<td>Grant</td>
<td>41 118.8 15 490</td>
<td>3 424.0 57 695</td>
</tr>
<tr>
<td>Walla Walla</td>
<td>3 1,740.0 20 5,145</td>
<td>7 342.6 30 765</td>
</tr>
<tr>
<td>All Four Counties</td>
<td>91 216.2 15 5,145</td>
<td>13 479.9 30 1,700</td>
</tr>
</tbody>
</table>

Crop-Share Lease Terms

Although the terms of crop-share leases varied considerably, some patterns were identified. In Walla Walla County where most (7) of the crop-share leases were reported, winter wheat and green peas were common crops. Typically the lessee received 67% of the wheat crop and paid 67% of fertilizer and crop insurance costs. In a few cases, the lessee also shared in chemical costs at a rate corresponding to the crop share. Green pea leases typically gave the lessee 75-80% of the crop and the lessee paid 75-80% of the fertilizer and crop insurance costs. The lessee was generally responsible for all the other production expenses. The landowner paid land taxes and insurance on the irrigation equipment if owned by the lessor.

In Grant and Franklin counties, the lessee typically received 75-80% of the crop regardless of the crop enterprise. Also, the lessee was generally responsible for all production expenses, including fertilizer, chemicals, crop insurance, and irrigation system maintenance. The lessor paid for land taxes and property taxes and insurance on irrigation equipment and facilities.

Cash Rental Rates

Lessees were asked to report the cash rent they paid under 2 different circumstances: (1) when the rent did not vary with the crop, and (2) when the rent depended on the crop. An example of the first circumstance is when the lessee pays a prescribed amount of rent and has considerable flexibility in deciding what crop enterprise(s) will be produced on the leased ground. The second situation occurs when, for example, the landowner leases land to a producer for the sole purpose of growing potatoes. Rent paid was requested for the 1991 crop and, if known, for the 1992-1993 crop years.
A summary of cash rents by county and year when the rent did not vary with the crop appears in Table 7.

Key points (Table 7):

- Average 1991 cash rent paid by 75 lessees was $113 per acre and ranged between $19.25 and $400 per acre.

- There was considerable variation in the average rent paid between counties. The range was $55, Walla Walla County (3 lessees) and $131, Franklin County (31 lessees).

- Fifty lessees reported they would pay an average cash rent in 1992 of $117 per acre, which was about the same as the amount ($115) projected for 1993 by 30 lessees.

<table>
<thead>
<tr>
<th>County</th>
<th>Number of Responses</th>
<th>Mean</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adams</td>
<td>7</td>
<td>$115.89</td>
<td>$19.25</td>
<td>$200.00</td>
</tr>
<tr>
<td>Franklin</td>
<td>31</td>
<td>$130.67</td>
<td>50.00</td>
<td>400.00</td>
</tr>
<tr>
<td>Grant</td>
<td>34</td>
<td>$101.38</td>
<td>40.00</td>
<td>180.00</td>
</tr>
<tr>
<td>Walla Walla</td>
<td>3</td>
<td>$54.60</td>
<td>23.79</td>
<td>100.00</td>
</tr>
<tr>
<td>All Four Counties</td>
<td>75</td>
<td>$112.97</td>
<td>19.25</td>
<td>400.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>County</th>
<th>Number of Responses</th>
<th>Mean</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adams</td>
<td>5</td>
<td>$122.25</td>
<td>$19.25</td>
<td>$200.00</td>
</tr>
<tr>
<td>Franklin</td>
<td>21</td>
<td>$131.10</td>
<td>50.00</td>
<td>325.00</td>
</tr>
<tr>
<td>Grant</td>
<td>22</td>
<td>$105.73</td>
<td>40.00</td>
<td>160.00</td>
</tr>
<tr>
<td>Walla Walla</td>
<td>2</td>
<td>70.00</td>
<td>40.00</td>
<td>100.00</td>
</tr>
<tr>
<td>All Four Counties</td>
<td>50</td>
<td>$116.61</td>
<td>19.25</td>
<td>325.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>County</th>
<th>Number of Responses</th>
<th>Mean</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adams</td>
<td>2</td>
<td>$164.00</td>
<td>$135.00</td>
<td>$193.00</td>
</tr>
<tr>
<td>Franklin</td>
<td>15</td>
<td>$110.87</td>
<td>50.00</td>
<td>150.00</td>
</tr>
<tr>
<td>Grant</td>
<td>12</td>
<td>$112.42</td>
<td>50.00</td>
<td>160.00</td>
</tr>
<tr>
<td>Walla Walla</td>
<td>1</td>
<td>$100.00</td>
<td>100.00</td>
<td>100.00</td>
</tr>
<tr>
<td>All Four Counties</td>
<td>30</td>
<td>$114.67</td>
<td>50.00</td>
<td>193.00</td>
</tr>
</tbody>
</table>
In contrast to the rents reported in Table 7, there were 19 instances where the cash rent depended on the crop(s) produced on the leased land. A summary of the 1991 average cash rents paid by lessees according to the crop and by county appears in Table 8. Also indicated in Table 8 is the average acreage in the leased parcel and in the crop upon which the rent was based.

Key points (Table 8):

1. Although cash rent was paid for land to grow 10 different crops, only 4 crops, all in Franklin County, had more than one response.

2. Cash rent paid for four parcels to grow potatoes averaged $189 per acre, the highest among the crops. Potato rents ranged between $100 and $300 per acre. Also, although the rented parcel averaged 517 acres, potatoes were produced on only 167 acres of the rented ground.

3. Cash rent for wheat production averaged $124 per acre and ranged between $100 and $150 per acre among the four leases.

Table 8. Cash Rent per Irrigated Acre When Rent Depended on the Crop by County and Crop, 1991.

<table>
<thead>
<tr>
<th>County</th>
<th>Crop</th>
<th>Number of Responses</th>
<th>Mean Irrigated Acres in Parcel</th>
<th>Mean Irrigated Acres in this Crop</th>
<th>1991 Cash Rent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Franklin</td>
<td>Alfalfa Hay</td>
<td>3</td>
<td>573.3</td>
<td>356.7</td>
<td>$128.33</td>
</tr>
<tr>
<td></td>
<td>Potatoes</td>
<td>3</td>
<td>647.8</td>
<td>181.0</td>
<td>176.67</td>
</tr>
<tr>
<td></td>
<td>Corn</td>
<td>2</td>
<td>265.0</td>
<td>121.0</td>
<td>83.50</td>
</tr>
<tr>
<td></td>
<td>Wheat</td>
<td>4</td>
<td>525.9</td>
<td>96.1</td>
<td>123.75</td>
</tr>
<tr>
<td></td>
<td>Green Lima Beans</td>
<td>1</td>
<td>330.0</td>
<td>24.0</td>
<td>60.00</td>
</tr>
<tr>
<td></td>
<td>Hay</td>
<td>1</td>
<td>200.0</td>
<td>70.0</td>
<td>100.00</td>
</tr>
<tr>
<td></td>
<td>All Crops</td>
<td>14</td>
<td>487.6</td>
<td>166.7</td>
<td>124.07</td>
</tr>
<tr>
<td>Grant</td>
<td>Potatoes</td>
<td>1</td>
<td>126.0</td>
<td>126.0</td>
<td>225.00</td>
</tr>
<tr>
<td></td>
<td>Dry Beans</td>
<td>1</td>
<td>65.0</td>
<td>59.0</td>
<td>200.00</td>
</tr>
<tr>
<td></td>
<td>Sweet Corn</td>
<td>1</td>
<td>126.0</td>
<td>126.0</td>
<td>125.00</td>
</tr>
<tr>
<td></td>
<td>All Crops</td>
<td>3</td>
<td>105.7</td>
<td>103.7</td>
<td>183.33</td>
</tr>
<tr>
<td>Walla Walla</td>
<td>Onions</td>
<td>1</td>
<td>55.0</td>
<td>6.0</td>
<td>175.00</td>
</tr>
<tr>
<td></td>
<td>Snap Beans</td>
<td>1</td>
<td>55.0</td>
<td>41.0</td>
<td>100.00</td>
</tr>
<tr>
<td></td>
<td>All Crops</td>
<td>2</td>
<td>55.0</td>
<td>23.5</td>
<td>137.50</td>
</tr>
<tr>
<td>All Three Counties</td>
<td>Alfalfa Hay</td>
<td>3</td>
<td>573.3</td>
<td>356.7</td>
<td>128.33</td>
</tr>
<tr>
<td></td>
<td>Potatoes</td>
<td>4</td>
<td>517.4</td>
<td>167.3</td>
<td>188.75</td>
</tr>
<tr>
<td></td>
<td>Corn</td>
<td>2</td>
<td>265.0</td>
<td>121.0</td>
<td>83.50</td>
</tr>
<tr>
<td></td>
<td>Wheat</td>
<td>4</td>
<td>525.9</td>
<td>96.1</td>
<td>123.75</td>
</tr>
</tbody>
</table>
Three alfalfa hay leases averaged $128 per acre and ranged between $70 and $200 per acre.

Type of Irrigation System

The type of irrigation system used by cash rent lessees and the associated average 1991 cash rent is summarized by county in Table 9. Several lessees reported using more than one type of system.

Key points (Table 9):

- Center pivot was the most popular irrigation system, about 31% of the 101 systems and 48.5% of all irrigated acreage reported by respondents from all counties. Further, the average cash rent for these systems was $147 per acre--more than any other system.
- Wheel-line and furrow/rill systems were used by 27% and 26% of the respondents, respectively. Average cash rent for the wheel-line system was $97 per acre. The comparable figure was $88 per acre for the furrow/rill system.
- About 15% of the irrigation systems were hand lines with an average cash rent of $99 per acre.
- Marked differences exist between counties in the incidence of specific types of irrigation systems and in the average cash rent associated with a particular system.

Ownership and Maintenance of Irrigation System

Lessees were asked to indicate whether they and/or the landowner owned and maintained various components of the irrigation system. Responses for cash rent and crop-share leases are summarized by county for system ownership in Table 10 and for system maintenance in Table 11.

Key points (Tables 10 and 11):

- With the exception of siphon tubes, the landowner generally owned all of the components of the irrigation system, including the well, mainlines, laterals for all systems, and pump/motor. Therefore, the landowner will typically set rent high enough to compensate for depreciation and interest on the irrigation system investment, as well as property taxes and insurance on the systems. In 26 of the 34 leases, the lessee had sole ownership of the siphon tubes.
Table 9. Mean Irrigated Acreage in Parcel and 1991 Cash Rent per Acre by County and Type of Irrigation System.

<table>
<thead>
<tr>
<th>County</th>
<th>Irrigation System</th>
<th>Number of Responses</th>
<th>Mean Acreage in Parcel</th>
<th>1991 Cash Rent</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adams</td>
<td>Center pivot</td>
<td>2</td>
<td>305.5</td>
<td>$196.50</td>
<td>$193.00</td>
<td>$200.00</td>
</tr>
<tr>
<td></td>
<td>Wheel line</td>
<td>3</td>
<td>259.3</td>
<td>135.08</td>
<td>19.25</td>
<td>193.00</td>
</tr>
<tr>
<td></td>
<td>Furrow/rill</td>
<td>3</td>
<td>83.3</td>
<td>91.33</td>
<td>74.00</td>
<td>100.00</td>
</tr>
<tr>
<td></td>
<td>Flood</td>
<td>1</td>
<td>200.0</td>
<td>125.00</td>
<td>125.00</td>
<td>125.00</td>
</tr>
<tr>
<td></td>
<td>All systems</td>
<td>9</td>
<td>204.3</td>
<td>133.03</td>
<td>19.25</td>
<td>200.00</td>
</tr>
<tr>
<td>Franklin</td>
<td>Center pivot</td>
<td>15</td>
<td>192.3</td>
<td>167.08</td>
<td>50.00</td>
<td>400.00</td>
</tr>
<tr>
<td></td>
<td>Handset</td>
<td>10</td>
<td>205.9</td>
<td>109.43</td>
<td>80.00</td>
<td>156.25</td>
</tr>
<tr>
<td></td>
<td>Wheel line</td>
<td>17</td>
<td>191.3</td>
<td>95.17</td>
<td>50.00</td>
<td>150.00</td>
</tr>
<tr>
<td></td>
<td>Furrow/rill</td>
<td>6</td>
<td>185.7</td>
<td>91.94</td>
<td>58.00</td>
<td>130.00</td>
</tr>
<tr>
<td></td>
<td>Flood</td>
<td>1</td>
<td>74.0</td>
<td>80.00</td>
<td>80.00</td>
<td>80.00</td>
</tr>
<tr>
<td></td>
<td>All systems</td>
<td>49</td>
<td>191.5</td>
<td>119.39</td>
<td>50.00</td>
<td>400.00</td>
</tr>
<tr>
<td>Grant</td>
<td>Center pivot</td>
<td>13</td>
<td>171.5</td>
<td>125.08</td>
<td>75.00</td>
<td>180.00</td>
</tr>
<tr>
<td></td>
<td>Handset</td>
<td>3</td>
<td>285.7</td>
<td>85.33</td>
<td>75.00</td>
<td>100.00</td>
</tr>
<tr>
<td></td>
<td>Wheel line</td>
<td>7</td>
<td>169.4</td>
<td>84.56</td>
<td>50.00</td>
<td>125.00</td>
</tr>
<tr>
<td></td>
<td>Furrow/rill</td>
<td>17</td>
<td>88.6</td>
<td>85.88</td>
<td>40.00</td>
<td>150.00</td>
</tr>
<tr>
<td></td>
<td>All systems</td>
<td>40</td>
<td>144.5</td>
<td>98.35</td>
<td>40.00</td>
<td>180.00</td>
</tr>
<tr>
<td>Walla Walla</td>
<td>Center pivot</td>
<td>1</td>
<td>5,145.0</td>
<td>23.79</td>
<td>23.79</td>
<td>23.79</td>
</tr>
<tr>
<td></td>
<td>Handset</td>
<td>2</td>
<td>122.5</td>
<td>70.00</td>
<td>40.00</td>
<td>100.00</td>
</tr>
<tr>
<td></td>
<td>All systems</td>
<td>3</td>
<td>1,796.7</td>
<td>54.60</td>
<td>23.79</td>
<td>100.00</td>
</tr>
<tr>
<td>All Four Counties</td>
<td>Center pivot</td>
<td>31</td>
<td>350.7</td>
<td>146.74</td>
<td>23.79</td>
<td>400.00</td>
</tr>
<tr>
<td></td>
<td>Handset</td>
<td>15</td>
<td>210.7</td>
<td>99.35</td>
<td>40.00</td>
<td>156.25</td>
</tr>
<tr>
<td></td>
<td>Wheel line</td>
<td>27</td>
<td>193.2</td>
<td>96.85</td>
<td>19.25</td>
<td>193.00</td>
</tr>
<tr>
<td></td>
<td>Furrow/rill</td>
<td>26</td>
<td>110.4</td>
<td>87.91</td>
<td>40.00</td>
<td>150.00</td>
</tr>
<tr>
<td></td>
<td>Flood</td>
<td>2</td>
<td>137.0</td>
<td>102.50</td>
<td>80.00</td>
<td>125.00</td>
</tr>
<tr>
<td></td>
<td>All systems</td>
<td>101</td>
<td>221.7</td>
<td>110.35</td>
<td>19.25</td>
<td>400.00</td>
</tr>
</tbody>
</table>
Table 10. Ownership of Irrigation System Components.

<table>
<thead>
<tr>
<th>Component</th>
<th>Number of Responses</th>
<th>Number of Responses</th>
<th>Number of Responses</th>
<th>Mean % of Investment by Lessee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well</td>
<td>25</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Buried mainlines</td>
<td>69</td>
<td>7</td>
<td>1</td>
<td>35.0</td>
</tr>
<tr>
<td>Portable mainlines</td>
<td>34</td>
<td>7</td>
<td>1</td>
<td>20.0</td>
</tr>
<tr>
<td>Center pivot</td>
<td>37</td>
<td>5</td>
<td>2</td>
<td>61.0</td>
</tr>
<tr>
<td>Wheel line</td>
<td>31</td>
<td>4</td>
<td>7</td>
<td>47.9</td>
</tr>
<tr>
<td>Laterals</td>
<td>28</td>
<td>13</td>
<td>4</td>
<td>50.0</td>
</tr>
<tr>
<td>Pump/motor</td>
<td>63</td>
<td>10</td>
<td>1</td>
<td>67.0</td>
</tr>
<tr>
<td>Siphon tubes</td>
<td>6</td>
<td>26</td>
<td>2</td>
<td>35.0</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>0</td>
<td>12</td>
<td>10.8</td>
</tr>
</tbody>
</table>

Table 11. Responsibility for Maintaining Irrigation System Components.

<table>
<thead>
<tr>
<th>Component</th>
<th>Number of Responses</th>
<th>Number of Responses</th>
<th>Number of Responses</th>
<th>Mean % of Expense Paid by Lessee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well</td>
<td>19</td>
<td>10</td>
<td>1</td>
<td>75.0</td>
</tr>
<tr>
<td>Buried mainlines</td>
<td>31</td>
<td>42</td>
<td>1</td>
<td>25.0</td>
</tr>
<tr>
<td>Portable mainlines</td>
<td>8</td>
<td>27</td>
<td>3</td>
<td>58.3</td>
</tr>
<tr>
<td>Wheel line</td>
<td>4</td>
<td>35</td>
<td>3</td>
<td>58.3</td>
</tr>
<tr>
<td>Laterals</td>
<td>7</td>
<td>40</td>
<td>1</td>
<td>50.0</td>
</tr>
<tr>
<td>Pump/motor</td>
<td>27</td>
<td>41</td>
<td>5</td>
<td>55.0</td>
</tr>
<tr>
<td>Siphon tubes</td>
<td>1</td>
<td>34</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Variable cost of supervision</td>
<td>2</td>
<td>49</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Variable cost of labor to install system</td>
<td>7</td>
<td>38</td>
<td>1</td>
<td>25.0</td>
</tr>
</tbody>
</table>
In contrast to ownership patterns, the lessee was generally responsible for maintaining portable mainlines, wheel lines, laterals, and pump/motor. However, in 44% of the leases, pumps/motors were maintained solely by the landowner.

No clear practice existed for maintenance of buried mainlines, although in 57% of the leases the lessee was responsible for maintenance.

The landowner was responsible for maintaining the well in 63% of the leases.

Selected Expenses Paid by Cash Rent Lessee

Rent may depend on the costs incurred by the lessee and lessor of the leased acreage. If the lessee incurs more of the nonrent expenses relative to the landowner, the lessee's residual return to land will be less, suggesting a reduction in the lessee's ability or willingness to pay land rent. Similarly, when the landowner incurs more of the expenses relative to the lessee, the landowner will want a higher rent to compensate for those expenses. Consequently, additional perspective on cash rent information can be obtained by noting the expenses covered by the lessee and the landowner in farmland lease arrangements.

Cash rent lessees were asked to indicate whether they or the landowner were responsible for selected expenses. A summary of responses by county appears in Table 12. Over two-thirds of the 92 lessees from all counties indicated they paid 100% of electrical power, water charge, seed, fertilizer, chemicals, irrigation labor, other labor, machinery (fuel, oil, repairs), custom services, and crop insurance. About one-half (47%) paid insurance on irrigation equipment and 21% paid taxes on irrigation equipment. Very few lessees paid land taxes or taxes on improvements other than irrigation equipment.

Flexible Cash Rent

A more equal sharing of risk between the landowner and the lessee can be realized by allowing the cash rent to vary according to changes in commodity price and/or yield. Increased volatility in prices of selected commodities over the past 10-15 years has led to increased interest in flexible cash leases. However, when asked about flexible leases, only 11 of 103 lessees (11%) indicated their 1991 cash rent was flexed according to variation in yield and/or crop price. Further, only 15 lessees had even discussed flexible leases with the landowner.

Payment of Cash Rent

Most cash rent lessees (66%) indicated part of the rent is paid at the beginning of the crop year and part after harvest. Only 16% reported paying all of the rent after harvest and 14% made the entire payment in advance.
### Table 12. Expenses Paid by Cash Rent Lessee by County.

<table>
<thead>
<tr>
<th>Expense Item</th>
<th>Adams (9)</th>
<th>Franklin (38)</th>
<th>Grant (42)</th>
<th>Walla Walla (3)</th>
<th>All Four Counties (92)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land taxes</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Taxes on irrigation equipment</td>
<td>2</td>
<td>3</td>
<td>13</td>
<td>1</td>
<td>19</td>
</tr>
<tr>
<td>Taxes on other improvements</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>Insurance on irrigation equipment</td>
<td>2</td>
<td>21</td>
<td>19</td>
<td>1</td>
<td>43</td>
</tr>
<tr>
<td>Insurance on other improvements</td>
<td>2</td>
<td>9</td>
<td>6</td>
<td>1</td>
<td>18</td>
</tr>
<tr>
<td>Repairs on improvements except irrigation</td>
<td>2</td>
<td>15</td>
<td>16</td>
<td>1</td>
<td>34</td>
</tr>
<tr>
<td>Electrical power</td>
<td>3</td>
<td>35</td>
<td>22</td>
<td>3</td>
<td>63</td>
</tr>
<tr>
<td>Water charge</td>
<td>6</td>
<td>33</td>
<td>35</td>
<td>1</td>
<td>75</td>
</tr>
<tr>
<td>Seed</td>
<td>7</td>
<td>36</td>
<td>38</td>
<td>3</td>
<td>84</td>
</tr>
<tr>
<td>Fertilizer</td>
<td>7</td>
<td>35</td>
<td>39</td>
<td>3</td>
<td>84</td>
</tr>
<tr>
<td>Chemicals</td>
<td>7</td>
<td>36</td>
<td>39</td>
<td>3</td>
<td>84</td>
</tr>
<tr>
<td>Hired labor for irrigation</td>
<td>7</td>
<td>37</td>
<td>38</td>
<td>3</td>
<td>85</td>
</tr>
<tr>
<td>All other hired labor</td>
<td>7</td>
<td>37</td>
<td>35</td>
<td>3</td>
<td>82</td>
</tr>
<tr>
<td>Machinery (including fuel, oil, and repair)</td>
<td>7</td>
<td>37</td>
<td>37</td>
<td>3</td>
<td>84</td>
</tr>
<tr>
<td>Custom services</td>
<td>7</td>
<td>37</td>
<td>33</td>
<td>3</td>
<td>80</td>
</tr>
<tr>
<td>Crop insurance</td>
<td>6</td>
<td>33</td>
<td>32</td>
<td>2</td>
<td>73</td>
</tr>
</tbody>
</table>

### Permanent Improvements

Survey respondents were asked to list permanent improvements on the leased parcel and to indicate the percent of the improvement cost assumed by the lessee. Seventy-seven operators responded to this question. About half of the responses (38) were for control of noxious weeds and lessees paid an average of 97% of these costs. Eleven lessees indicated they paid an average of 93% of irrigation system costs. Other responses included all improvements (10), land leveling (6), and conservation practices (6). Lessees indicated they were paying for 100% of these improvement costs.
A lessee’s willingness to invest in permanent improvements depends highly on the immediate profitability of the investment and how the investment is handled if the lease is terminated. When asked how the lease agreement handled improvements upon lease termination, responses were received from 30 lessees. Twenty lessees indicated the landowner owns the improvement, 5 reported the lessee must remove the improvement, and 4 responded the improvement is owned by the lessee. Only 1 agreement called for compensation of the lessee according to the market value of the improvement when the lease is terminated. Since the lessee pays for most of the improvements, yet infrequently gains ownership of the improvement if the lease is terminated, many leases do not encourage investments in improvements by the lessee.

**Decision-Making Responsibilities**

To determine which party assumes decision-making responsibilities for managing the leased property, lessees were asked whether they and/or the landowner made selected key decisions. Over 87% of the decisions concerning government program participation, crop selection, cultural practices, and marketing of crops were made unilaterally by the lessee. No clear pattern emerged on long-term investment decisions, since the responsibility appeared to rest about equally with the lessee, landowner, or both.

**Landowner Characteristics**

The most common landowner was a retired farmer (35% of responses) as compared to an active farmer (10%), partnership or corporation (6%), institution (2%), or estate (1%). Responses as to whether the landowner lived within or outside of the community were about equally divided.

**Satisfaction with Lease**

Perhaps the success of a lease agreement can best be determined by asking whether one or both parties are satisfied with the agreement. Consequently, lessees were asked to indicate whether the lease was satisfactory or unsatisfactory, and if the latter, what aspects of the lease should be changed.

A high degree of lessee satisfaction existed among the 92 lessees who responded to this question as evidenced by 90% indicating they were satisfied with the lease agreement. Among the small number of complaints were lease payment dates, longer lease agreement, lower lease payment, and a desire to have a written agreement.