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# Cropshare Lease Arrangements for Intensive Dryland Cropping Systems

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# Cornhusker Economics

## Cooperative Extension

Institute of Agriculture & Natural Resources  
Department of Agricultural Economics  
University of Nebraska – Lincoln

### Cropshare Lease Arrangements for Intensive Dryland Cropping Systems

Market Report	Yr Ago	4 Wks Ago	9/24/99
<b><u>Livestock and Products,</u></b>			
<b><u>Average Prices for Week Ending</u></b>			
Slaughter Steers, Ch. 204, 1100-1300 lb Omaha, cwt. . . . .	\$59.25	\$65.55	\$66.01
Feeder Steers, Med. Frame, 600-650 lb Dodge City, KS, cwt. . . . .	72.88	84.97	81.64
Feeder Steers, Med. Frame 600-650 lb, Nebraska Auction Wght. Avg. . . . .	*	86.32	89.54
Carcass Price, Ch. 1-3, 550-700 lb Cent. US, Equiv. Index Value, cwt. . . . .	93.93	102.19	103.49
Hogs, US 1-2, 220-230 lb Sioux Falls, SD, cwt. . . . .	30.48	34.25	33.63
Feeder Pigs, US 1-2, 40-45 lb Sioux Falls, SD, hd. . . . .	*	22.06	*
Vacuum Packed Pork Loins, Wholesale, 13-19 lb, 1/4" Trim, Cent. US, cwt. . . . .	97.10	100.85	102.85
Slaughter Lambs, Ch. & Pr., 115-125 lb Sioux Falls, SD, cwt. . . . .	70.50	81.25	72.00
Carcass Lambs, Ch. & Pr., 1-4, 55-65 lb FOB Midwest, cwt. . . . .	165.00	182.00	164.00
<b><u>Crops,</u></b>			
<b><u>Cash Truck Prices for Date Shown</u></b>			
Wheat, No. 1, H.W. Omaha, bu. . . . .	2.69	2.73	2.90
Corn, No. 2, Yellow Omaha, bu. . . . .	1.67	1.59	1.66
Soybeans, No. 1, Yellow Omaha, bu. . . . .	5.05	4.28	4.35
Grain Sorghum, No. 2, Yellow Kansas City, cwt. . . . .	2.96	3.07	2.92
Oats, No. 2, Heavy Sioux City, IA, bu. . . . .	*	1.09	1.08
<b><u>Hay,</u></b>			
<b><u>First Day of Week Pile Prices</u></b>			
Alfalfa, Sm. Square, RFV 150 or better Platte Valley, ton. . . . .	*	97.50	92.50
Alfalfa, Lg. Round, Good Northeast Nebraska, ton. . . . .	57.50	65.00	32.50
Prairie, Sm. Square, Good Northeast Nebraska, ton. . . . .	70.00	55.00	*
* No market.			

Changes in U.S. agricultural policy implemented following the 1996 Farm Act have allowed producers to consider different cropping systems without restrictions on farm program payment eligibility. As a result, planting decisions have been shifting in response to market prices, conservation compliance and production goals. Some dryland crop producers are using more intensive dryland crop rotations to potentially increase farm income levels. In the past three years, Western Nebraska has seen a decrease in the number of acres planted to wheat, and an increase in the number of acres planted to sunflowers, proso millet, dryland corn and other specialty crops.

Presently 47 percent of the agricultural land in Nebraska is leased each year and cropshare leasing is the primary leasing arrangement throughout most of the state for the crop acres. Dryland crop acreage in the northwest region of Nebraska is nearly exclusively leased on a cropshare basis. Although cropping systems are changing, cropshare lease arrangements have been slow to follow. Currently the standard cropshare percentage arrangement in the area is a 2/3 - 1/3 tenant-landowner share comprising over 75 percent of the lease arrangements in 1996. Under a traditional wheat - fallow rotation using a conventional tillage approach the 2/3 - 1/3 cropshare arrangement has been equitable, with the allocation of costs similar to the allocation of revenues. With the changes in production practices and cropping systems, there may be an imbalance of costs, returns and risk with the traditional 2/3 - 1/3 share arrangement. As research in dryland cropping systems continues to show benefits in grain yield, fallow efficiency, water use efficiency and soil erosion associated with the reduction of tillage, and increasing the number of years in crop, the cropshare arrangements need to be adjusted to reflect these changes in technology.

The cropping systems considered include: winter wheat-fallow using conventional tillage (WF CT), winter wheat-fallow using an eco-fallow or reduced tillage system (WF RT), winter wheat-proso millet-fallow (WMF), winter wheat-dryland corn-fallow (WCF), winter wheat-sunflower-fallow (WSF), winter wheat-dryland corn-proso millet-fallow (WCMF), winter wheat-dryland corn-sunflower-fallow (WCSF), winter wheat-dryland corn-proso millet (WCM), and winter wheat-proso millet (WM).



Although the differences in returns on a per acre basis are small, the cropshare arrangements need to be adjusted for the number of years that the land is in crop and fallow. The two year rotations of winter wheat and fallow, both in a conventional tillage and a reduced tillage system, should continue to be leased on 2/3 - 1/3 basis with the landowner purchasing a share of the fertilizer. As the rotation becomes more intensive and the tenant takes on additional risk and management responsibilities, while the landowner continues to provide only the land and a share of the fertilizer, the fair cropshare arrangement should reduce the amount of the crop allocated to the landowner.

The two crops in three years (WCF, WMF and WSF) and three crops in four years (WCMF and WCSF) systems should be changed to a 3/4 tenant share and a 1/4 landowner share to retain a fair allocation of costs and equitable returns. The results suggest that as long as the system retains at least one year of fallow within a four year period, the 3/4 - 1/4 cropshare will be equitable to both parties.

The two continuous systems (WCM and WM) should be changed to a 4/5 tenant and a 1/5 landowner share agreement to more proportionately distribute the costs and returns. The 4/5 - 1/5 arrangement presents greater than 3.5 percent return to the landowner in both systems while allocating the costs on a 80 percent and 20 percent share.

The present economic climate, changes in the U.S. farm policy, increases in viable crops and advancements in technology are having an impact on the cropping systems being used throughout the region. As these cropping systems change, it appears that the lease agreements in the region need to be revised, to remain equitable to both tenants and landowners.

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**Table 1. Returns to Operating, Machinery, Management (Tenant) and to Land (Landlord).**

Rotation	Return to Investment and Management (\$/acre)						
	Total Return	2/3 -1/3 share		3/4 - 1/4 share		4/5 - 1/5 share	
	\$/Acre	Tenant	Landlord	Tenant	Landlord	Tenant	Landlord
WF (CT)	27.54	13.63	13.90	-----	-----	-----	-----
WF (RT)	28.49	13.01	15.48	18.39	10.10	21.63	6.86
WCF	25.85	6.35	19.50	12.74	13.11	16.58	9.28
WMF	31.63	12.18	19.45	18.56	13.08	22.38	9.25
WSF	28.52	9.47	19.05	15.74	12.77	19.51	9.01
WCMF	29.58	7.60	21.98	14.61	14.97	18.81	10.77
WCSF	28.09	6.36	21.73	13.31	14.79	17.48	10.62
WCM	28.84	3.98	24.86	11.71	17.13	16.35	12.50
WM	35.69	11.26	24.43	18.88	16.81	23.46	12.24

Shaded blocks represent recommended cropshare arrangements.

**Table 2. Percent Return to Operating, Machinery, Management (Tenant) and to Land (Landlord).**

Rotation	Return to Investment and Management (%)						
	Total Return	2/3 -1/3 share		3/4 - 1/4 share		4/5 - 1/5 share	
		Tenant	Landlord	Tenant	Landlord	Tenant	Landlord
WF (CT)	5.64%	9.69%	4.00%	-----	-----	-----	-----
WF (RT)	5.92%	9.76%	4.45%	13.76%	2.91%	16.15%	1.98%
WCF	4.93%	3.63%	5.57%	7.24%	3.76%	9.39%	2.66%
WMF	6.25%	7.67%	5.60%	11.65%	3.77%	14.04%	2.67%
WSF	5.32%	5.03%	5.48%	8.34%	3.68%	10.32%	2.60%
WCMF	5.54%	4.12%	6.29%	7.88%	4.30%	10.13%	3.09%
WCSF	5.06%	3.09%	6.22%	6.43%	4.24%	8.43%	3.05%
WCM	4.95%	1.72%	7.10%	5.03%	4.91%	7.00%	3.58%
WM	6.29%	5.15%	7.01%	8.61%	4.83%	10.68%	3.52%

Shaded blocks represent recommended cropshare arrangements.

**Table 3. Allocation of Total Costs to Tenant and Landlord under Specified Cropshare Arrangements.**

Rotation	Allocation of Costs (%)					
	2/3 -1/3 share		3/4 - 1/4 share		4/5 - 1/5 share	
	Tenant	Landlord	Tenant	Landlord	Tenant	Landlord
WF (CT)	66.16%	33.84%	-----	-----	-----	-----
WF (RT)	66.34%	33.66%	72.59%	27.41%	76.88%	23.12%
WCF	70.23%	29.77%	76.09%	23.91%	80.02%	19.98%
WMF	67.70%	32.30%	73.77%	26.23%	77.92%	22.08%
WSF	69.51%	30.49%	75.36%	24.64%	79.32%	20.68%
WCMF	69.91%	30.09%	75.77%	24.23%	79.72%	20.28%
WCSF	70.72%	29.28%	76.47%	23.53%	80.33%	19.67%
WCM	71.55%	28.45%	77.20%	22.80%	80.98%	19.02%
WM	69.40%	30.60%	75.28%	24.72%	79.26%	20.74%

Shaded blocks represent recommended cropshare arrangements.