

Alternative Arrangements for Transitioning to Organic Crops

Current situation: About 15,000 acres in crop share leases; about 2000 acres of corn each year in four-year rotation; remaining acres in alfalfa, grains, sugar beets, beans, and sunflowers. About 10,000 acres in cash rent and 500 acres vegetables. Corn and sugar beets are biggest money-makers for POS. Cash rent is about 25% of total revenues.

1. Current Crop Share Lease Method: POS pays 100% of seed costs, and $\frac{1}{2}$ of fertilizer & pesticides.
POS gets $\frac{1}{2}$ of gross receipts after harvest.
2. Cash rent: fixed rent payment. (Current is about \$28/ac.; may be for pasture) Avg. rent for Iowa corn is about \$150 per acre for 2001-2010.
3. Risk sharing alternatives for corn:
 - a. Direct compensation: payment to transitioning farmers for revenue loss compared to current base revenue for transition three years.
 - b. Flexible lease agreements: reduced base rental rate with a percent of gross revenues paid to POS.
 - c. Crop insurance subsidized by POS: farmer's transition crop is insured for 70% of county average at convention crop harvest price. After transition, the farmer's yield history is used for compensation (70%) and a harvest price for organic corn of \$10 is guaranteed.

Below, we illustrate these alternatives.

Note that Direct Compensation can be used for three years followed by flexible lease arrangements and/or crop insurance. Alternative to crop share agreements for input purchase can be provided by a low cost loans repaid after harvest. Crop insurance may be subsidized only for transition period or there may be premium-sharing afterwards.

The advantage of crop insurance is that it provides for multiple perils (hail, drought, etc.) . Also. Insurance agents are trained in making actuarial judgements to avoid moral hazard.

2010 Situation for Corn based on POS Information, per acre basis

Basic Data for Chemical Farming Production from POS chart:

\$622 total revenue (twice the indicated Gross \$/A)

103 bu/ ac (\$622 total revenue/\$6 harvest price)

\$222 cost of seed, fertilizer, pesticides (twice the indicated Gross – Net per acre)

- a. Base Case Per acre: Current Cost Share Situation with Conventional Harvest Price \$6/ bu

<u>Farmer</u>	<u>BCPOS</u>
\$622 total revenue	
-\$111 ½ cost of chem.&seed	-\$111 ½ cost of chem. &seed
<u>-\$311 ½ rev. share to BCPOS</u>	<u>\$311 ½ rev. share for land</u>
\$200 net return/ac to labor&mgmt.	\$200 net rev./ ac

- b. After transition: organic farmer with fixed land rent of \$200, price premium of \$10, & 20% yield reduction: 80 bu/ac; cost of seed & fert. \$111 is half of conventional.

- (i) Harvest Price of \$10/ bushel (organic premium)

<u>Farmer</u>	<u>BCPOS</u>
\$800 revenue	\$200 rev./ ac
-\$111 seed and fert.	
<u>-\$200 land rent</u>	
\$489 return to labor/mgmt.	

- (ii) Price of \$6 per bushel

<u>Farmer</u>	<u>BCPOS</u>
\$480 revenue	\$200 rev./ ac
-\$111 seed and fert.	
<u>-\$200 land rent</u>	
\$169 return to labor/mgmt	

Note that organic farmer is better off with the price premium than in the base case; however farmer is worse off if the price premium is not received. BCPOS has same revenue.

- c. In transition to organic, crop Insurance uses a harvest price of \$6/ bu (conventional) and a guarantee of 70% of county avg. conv. yield of 135 bu = 94.5 bu/ac. Assume farmer has 80 bu/ac during transition. Compensation is based on $(94.6-80) \times \$6 = \87 .

After three years of transition to organic, farmer's own yield history and price of \$10 are used; assume yield increases to 90 bu/ac after transition. However, payment is made if yield falls below 63 bu/ac due to hail, insects, etc. County may pay the premium of \$65/ac. in all years, with a premium cost of \$130,000 per year regardless of harvest price. Or, county may pay for insurance only for transition period.

- (i) Harvest Price \$6 for three year transition period

<u>Farmer</u>	<u>BCPOS</u>
\$480 revenue	
-\$111 seed&fert.	
-\$200 base rent	\$200
<u>\$87 insurance payment</u>	<u>-\$65</u>
\$256 ret. to labor/mgmt	\$135 net rev./ ac.

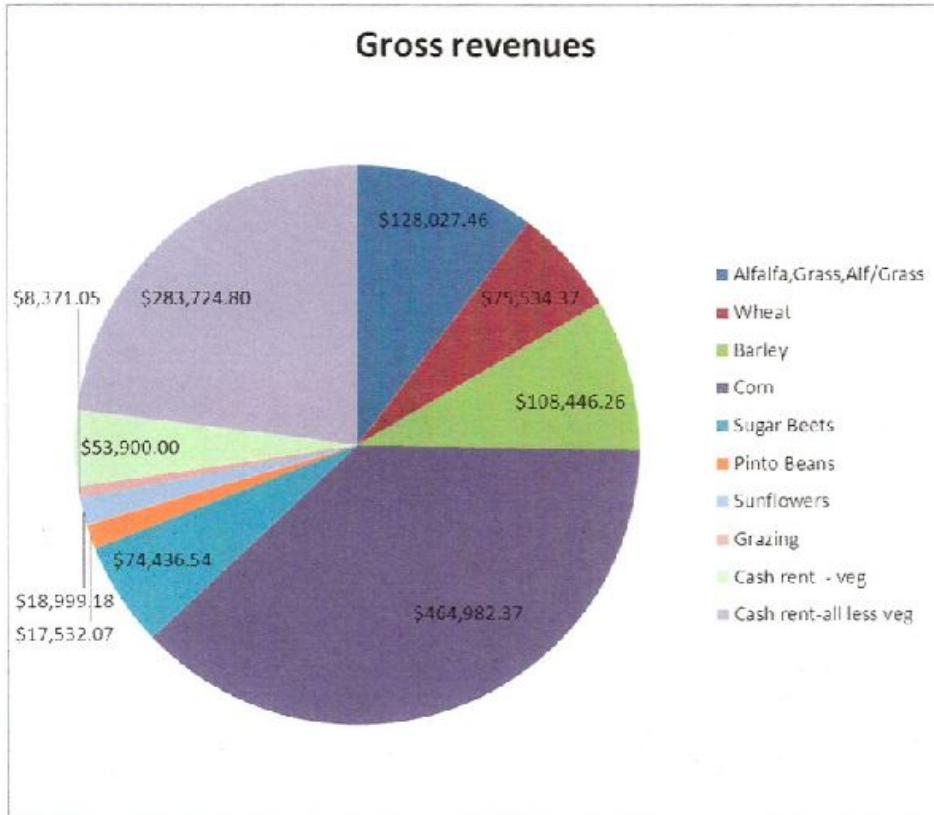
- (ii) After three year transition period, assume farmer avg. yield of 90 bu/ac and harvest price of \$10

<u>Farmer</u>	<u>BCPOS</u>
\$900 revenue	
-\$111 seed&fert.	
-\$200 base rent	\$200
\$0 insurance payment	-\$65
\$589 return to labor/mgmt	\$135 net rev./ ac

- (iii) If harvest price of \$6 because of marketing issues, insurance payment is received for price below \$10: $\$4 \times .7(90) = \252

<u>Farmer</u>	<u>BCPOS</u>
\$540 revenue	
-\$111 seed&fert.	
-\$200 base rent	\$200
<u>\$252 insurance payment</u>	<u>-\$65</u>
\$481 ret. to labor/mgmt	\$135 net rev./ ac

2010



Crop	Gross revenues	Acres	Gross \$/A	Net \$/Acre
Alfalfa, Grass, Alf/Grass	\$128,027.46	2699	\$47.44	\$15.00
Wheat	\$75,534.37	1124	\$67.20	\$35.00
Barley	\$108,446.26	947	\$114.52	\$77.00
Corn	\$464,982.37	1494	\$311.23	\$201.00
Sugar Beets	\$74,436.54	200	\$372.18	\$214.67
Pinto Beans	\$17,532.07	135	\$129.87	\$91.00
Sunflowers	\$18,999.18	413	\$46.00	\$10.10
Grazing	\$8,371.05	3305	\$2.53	\$2.53
Cash rent - veg	\$53,900.00	539	\$100.00	\$100.00
Cash rent-all less veg	\$283,724.80	9936	\$28.55	\$28.55
TOTAL	\$1,233,954.10	20,792		

Cost / 1000 seed
 1/2 of fert, herb, insect pests