FARM Assistance Focus

AgriLIFE EXTENSION
Texas A&M System

Panhandle Model Farms - 2011 Case Studies of Texas High Plains Agriculture

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Farm Assistance Focus 2011-1
January 2011

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Texas agricultural producers frequently need realistic examples of crop and livestock operations. Case studies are often the best way to explain agricultural industry concerns to local and state officials as well as commodity associations. To encourage communication between different interest groups, the Texas AgriLife Extension Services' risk management specialists and county agricultural agents developed region-specific model farms through the FARM Assistance program. Focus groups were conducted and the FARM Assistance producer database was utilized to develop representative operations. These operations attempt to illustrate production agriculture in five distinct regions of the Northern Texas Panhandle.

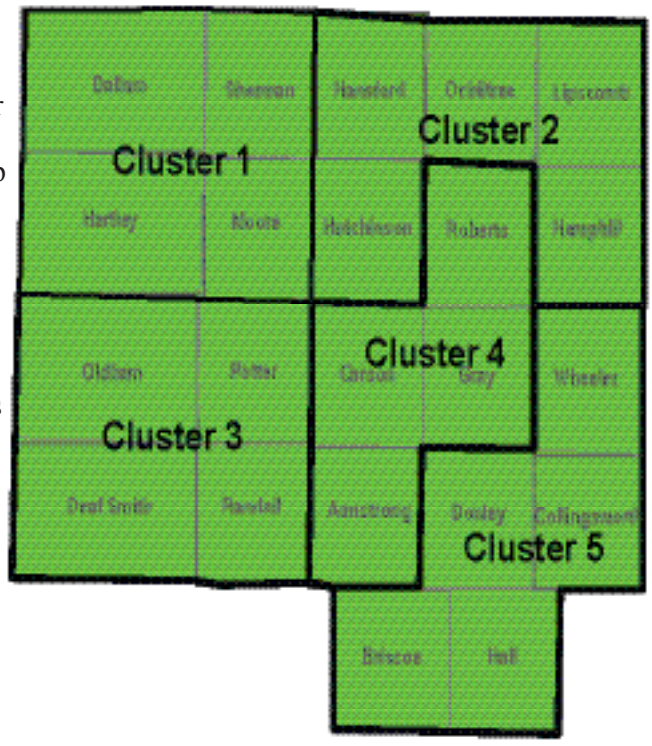
Financial and Risk Management (FARM) Assistance is a highly specialized Extension effort aimed at helping farmers and ranchers with strategic planning and risk management. The program is a computerized decision support simulation model that uses both farm-level information supplied by participating producers and market price forecasts from the Food and Agricultural Policy Research Institute (FAPRI) at the University of Missouri. It provides a 10-year financial forecast of the individual farm or ranch. An added program benefit is that by using actual participant data, risk management specialists are also able to conduct research on important industry issues such as state tax and federal farm policies. Additional work has focused on identifying the characteristics of successful versus struggling producers.

Model Farm Overview

The model farm process attempts to illustrate production agriculture in the Northern Texas Panhandle. Texas AgriLife Extension District 1 consists of 22 counties in this region. Characteristics vary greatly by county group, reflecting the diversity of Northern Panhandle agriculture. For purposes of this study, the counties are grouped into five clusters, representing similar crop and livestock production systems (Figure 1). Risk management specialists conducted eight focus group discussions with 55 participants, consisting of county agents, area producers, and agribusiness representatives. In these discussions, participants were asked to describe the structure and characteristics of a realistic operation in their respective areas. Model farms consist of both crop and livestock operations. Five different crops were analyzed (both dryland and irrigated). These included corn, cotton, wheat, sorghum, and peanuts. Many operations also incorporated leased stockers, owned stockers, and/or cow-calf herds. All analyses also assumed a specific equipment replacement strategy during the 10-year projection period.

Cluster 1. The Northwest Texas Panhandle model consists of a 2,500 acre crop farm and stocker operation. The farm is 60% owned and 40% share leased. The crop share lease agreement is 1/3 on corn and wheat and 1/4 on cotton, with the landlord paying a percentage of fertilizer, chemicals, irrigation, and harvest (irrigated only). The analysis indicates an emphasis on corn and wheat production (1,000 acres each), followed by sorghum (300 acres) and cotton (200 acres). All crops are operator sprayed and harvested. The operation takes in 400 head of stockers annually at a lease rate of $0.43 per pound of gain. The stockers graze for approximately 105 days with an average daily gain of 1.75 lbs.

Figure 1. Texas AgriLife Extension Service District 1 - Panhandle



Clusters 1 and 2 exhibit strong financial performance in all categories. Of the five clusters, Cluster 3 has the weakest financial performance in all categories.

Table 6. Average Financial Performance of Cluster Farms

	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5
Net Cash Farm Income	$568,060	$509,030	$139,440	$256,680	$250,760
Real Net Worth	$2,997,070	$2,256,130	$1,166,260	$1,559,650	$1,518,820
Government Payments	$65,610	$37,540	$14,950	$66,880	$51,000
Working Capital	$1,039,990	$910,760	$188,850	$295,390	$401,890
Probability of Negative Capital	3.70%	8.20%	19.10%	18.50%	12.90%
Debt to Asset Ratio	19.30%	17.10%	22.50%	21.50%	18.30%
Return to Assets (ROA)	13.10%	14.94%	6.23 %	9.66%	10.49%
Expense to Receipts Ratio	64%	62%	74%	77%	82%
Net Farm Income to Receipt Ratio	22%	24%	9%	12%	11%

Cluster 1 exhibits strong financial performance in all categories. In terms of profitability, Cluster 1 has the highest annual NCFI at $568,060. Profit margin, as measured by income to receipts ratio is satisfactory at 22%. Real net worth is also highest for Cluster 1 at $2.99 million. Solvency and liquidity are desirable, with an average working capital of $1.04 million and an average debt-to-asset ratio of 19.3%, meaning there is $0.19 of debt for every $1.00 in assets. Cluster 1 has a slight liquidity risk early in the analysis as indicated by an 8% chance of a negative working capital in 2011 (Figure 2). Return to assets is acceptable at 13.1%. Cluster 1's operating expense to receipts ratio indicates 64% of revenues are used on operating expenses.

Cluster 2 also exhibits strong financial performance, with the second highest profitability ($509,030 NCFI), and equity ($2.26 million RNW). Working capital is also second amongst the 5 clusters at $910,760. Profit margin, as measured by income to receipts ratio, is 24%. The debt-to-asset ratio is the lowest of the five clusters at 17.07% while the return to assets ratio is the highest of the five clusters at 14.94%. Cluster 2's operating expense to receipts ratio indicates 62% of revenues are used on operating expenses. It is the most efficient operation in terms of expense management.

Cluster 3 has the lowest profitability ($139,440 NCFI) among all clusters analyzed, but keeps a relatively strong average equity position of $1.17 million. Profit margin, as measured by income to receipts ratio, is marginal at 9%. Working capital is acceptable, but lower than the other Clusters at $188,850. Cluster 3 exhibits moderate liquidity risk for the first year of the analysis, with a 27% chance of a negative working capital in 2011 (Figure 2). This measure decreases to 17% by 2020 as cash levels rise and debt levels fall. The debt-to-asset ratio for Cluster 3 is the highest of all clusters at 22.46%, but still within normal ranges. Return to assets is the lowest of the five groups at 6.23%. Cluster 3 has less expected government payments than the other four clusters, averaging $14,950 over the analysis period. Cluster 3's operating expense to receipts ratio indicates 74% of revenues are used on operating expenses.

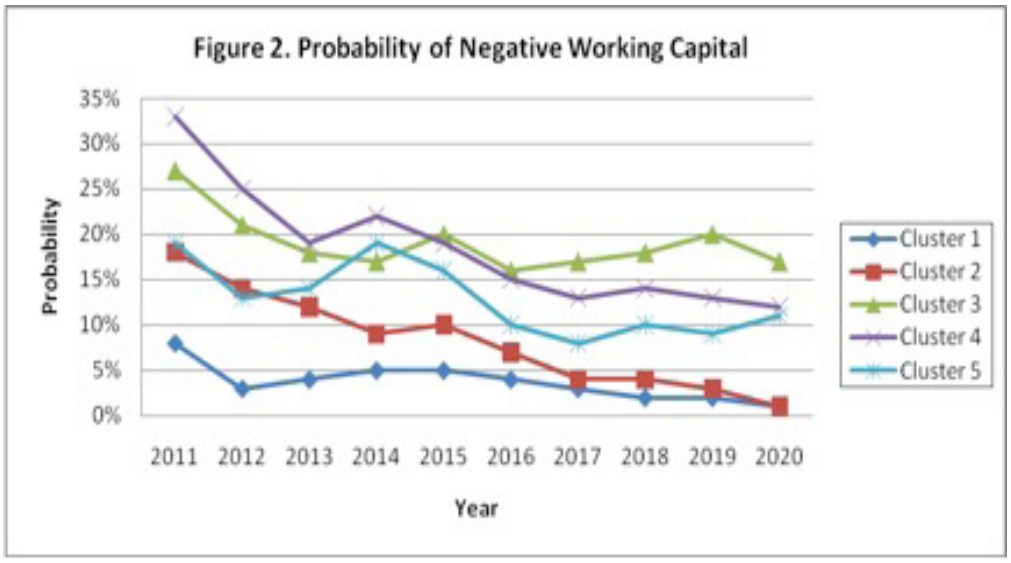
Cluster 4 projects a lower profitability level ($256,680 NCFI) than Clusters 1 and 2 but higher than Clusters 3 and 5. It has an acceptable equity ($1.56 million RNW) and an adequate return on assets (9.66%). While Cluster 4 shows a desirable average working capital of $295,390, it does indicate considerable liquidity risk in the initial years of analysis. This is exemplified by a 2011 probability of a negative working capital of 33%. Profit margin, as measured by income to receipts ratio is within normal ranges at 12%. It is important to note that Cluster 4 receives the highest level of government payments of the five cluster groups and would likely experience an income reduction if payments fall below projected levels. Cluster 4's operating expense to receipts ratio indicates 77% of revenues are used on operating expenses.

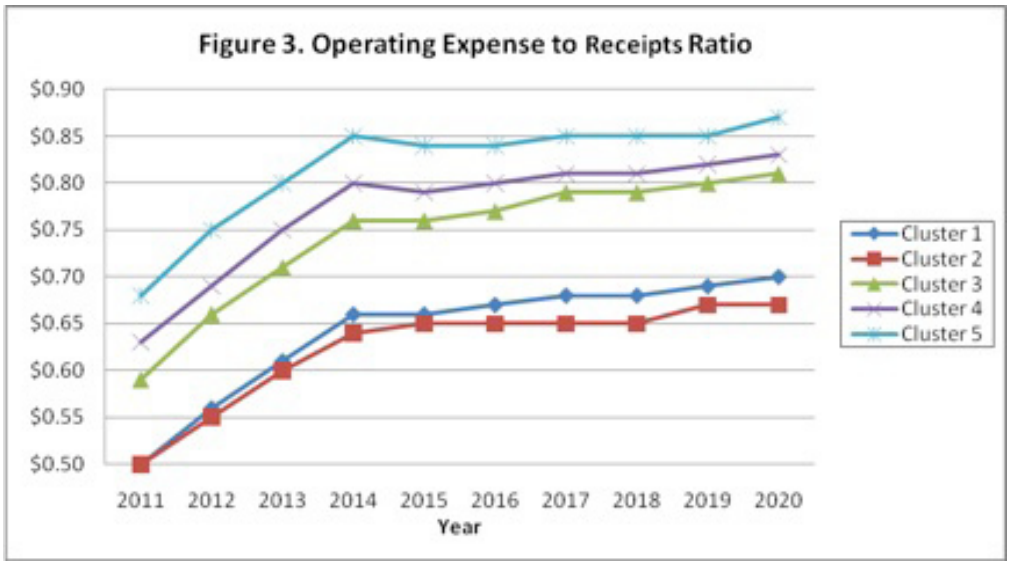
Cluster 5 is neither the lowest nor highest performer of all the clusters, as indicated by an average net cash farm income of $250,760 and average working capital of $401,890. Real net worth is $1.52 million over the 10-year analysis period. Cluster 5 shows an acceptable debt-to-asset ratio (18.33%) and an average return on assets (10.49%). The probability of negative working capital ranges from 19% in 2011 to 11% in 2020. Profit margin, as measured by income to receipts ratio is marginal at 11%. Additionally, Cluster 5 also receives a significant amount of government payments and would likely experience an income reduction if payments fall below projected levels. Cluster 5's operating expense to receipts ratio indicates 82% of revenues are used on operating expenses, which makes it the least efficient model in terms of expense management.

A conclusion can be drawn that operations with a higher percentage of irrigated crops fared better than dryland entities.

Summary

Case studies for 22 Northern Texas Panhandle counties were developed in an effort to facilitate communication between agricultural producers and their local officials. Based on focus group model farm characteristics and FARM Assistance analyses, the Northwest and Northeast Texas Panhandle farms (Clusters 1 & 2) have the strongest financial performance. These clusters project high profitability, equity, and financial efficiency, accompanied by low debt levels. The Eastern and Southwest Texas Panhandle (Clusters 4 & 5) indicate moderate financial performance, while the Western Texas Panhandle (Cluster 3) shows the least attractive financial position. A conclusion can be drawn that operations with a higher percentage of irrigated crops fared better than dryland entities. It is important to note that these model farms are based on the input of focus group participants. While they appear to be good indicators of regional production, they do not, and are not intended to portray all producers within each region.





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