



2006 FARM Assistance Texas Livestock Producers Report

Data collection and analysis of Texas livestock producers was conducted in partnership with CSREES, Southern Region Risk Management Education Center, and Texas and Southwestern Cattle Raisers Association



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Table of Contents

2006 FARM Assistance Texas Livestock Producers Report

Steven L. Klose,
Melissa K. Jupe,
Jason H. Morris,
Greg H. Kaase,
Dustin Gaskins,
Diana L. Jones,
Jeff Pate,
Will Phinizy,
Wade Polk
Jay Yates,
Mac Young,
and
Natalie A. Outlaw

<i>Executive Summary.....</i>	<i>1</i>
<i>Program Description</i>	<i>2</i>
<i>The FARM Assistance Process.....</i>	<i>4</i>
<i>The FARM Assistance Projection.....</i>	<i>5</i>
<i>The FARM Assistance Analysis</i>	<i>6</i>
<i>Texas Livestock Production</i>	<i>7</i>
<i>Analysis of 3 groups of Success.....</i>	<i>9</i>
<i>Comparisons Considering Financial Success.....</i>	<i>13</i>
<i>Analysis by Producer Type</i>	<i>14</i>
<i>Cow-Calf Operations</i>	<i>15</i>
<i>Stocker Operations</i>	<i>18</i>
<i>Large Sheep/Goat Operations.....</i>	<i>19</i>
<i>A Final Comment</i>	<i>21</i>



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Executive Summary



The year 2006 has certainly been an unfriendly reminder of the risk and uncertainty that Texas agricultural producers face. With one of the worst droughts in decades and ever-increasing production costs, farmers and ranchers must carefully weigh the risk and potential impacts of their management decisions. In response to this ever-present need, Texas Cooperative Extension specialists offer a whole farm and ranch computerized decision support system, known as Financial And Risk Management Assistance (FARM Assistance), that provides individual agricultural operations an objective assessment of the risks and potential returns associated with their strategic planning

decisions. For example, producers can compare their cash flow risk under various plans, and view estimates of their plan's impact on net worth (wealth), 10 years down the road—will they be worse off or better off?

Over the past few years the FARM Assistance program, in cooperation with the Texas and Southwest Cattle Raisers Association and supported by the Southern Region Risk Management Education Center and CSREES, has targeted livestock operations for this service. This effort resulted in over 75 individual analyses being conducted across the state representing 263,000 acres. This report is intended to illustrate

the livestock industry's range of operational activities as well as the results developed by FARM Assistance analyses. The results include not only the improved decision information received by individual participants, but also the collective information gained through the evaluation of the group's financial characteristics and outlook.

The data included in this FARM Assistance report is a collection of 71 livestock producer participants. Data results indicate that both financial success and financial stress are evident across the range of operational size and type.



Program Description

In 1997, Texas Cooperative Extension was provided funds from the 75th Texas Legislature to develop a risk management education program to address increased financial and marketing risk, as well as the already high level of risk associated with production agriculture in Texas.

The program, referred to as the Texas Risk Management Education Program (TRMEP), was designed to assist Texas farmers and

ranchers in better identifying the sources of risk in the operation, to inform producers of how to use available tools and/or strategies for managing risk, and to help producers quantify the financial impacts of alternative risk management strategies. As a part of TRMEP, the FARM Assistance program was born.

FARM Assistance is best described as a computerized decision support system. The com-

puter model itself was built on a foundation of 20 plus years of research. Agricultural economists with the Texas A&M University System have developed and perfected methods in risk analysis and in simulating the financial future of an agricultural production firm. Through FARM Assistance, these capabilities have been extended to provide farmers and ranchers in Texas with sound decision-making information.

The FARM Assistance Team

While FARM Assistance is technically a “computerized decision support system” founded on the capacities of a financial projection model, the real backbone of the service is the individual specialist who conducts the analysis and delivers the information to the program subscriber in a professional format. FARM Assistance is not software; rather it is a service provided by an economic analyst.

To find out more or to sign up for the FARM Assistance program, visit us on the web at:
farmassistance.tamu.edu

Or contact the FARM Assistance specialist near you:

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Serving Texas Agriculture

The broad objective of the FARM Assistance program is to improve decision-making in and for the agricultural industry of Texas. To that end, FARM Assistance focuses on both the individual producer and the entire agricultural economy of Texas.

Serving the Individual Producer

One of the two main functions of the FARM Assistance program is to provide individualized analytical service for agricultural producers in Texas. The FARM Assistance system provides the decision-maker(s) of an agricultural operation with a 10-year financial projection of the entire operation. It is a one-of-a-kind tool, unique in that it includes all of the following features:

1. The FARM Assistance projection includes the reality of risk associated with agricultural production and prices.
2. The FARM Assistance projection is specific to an individual operation.
3. FARM Assistance provides a long-range (10-year) financial outlook.
4. A professional analyst conducts and delivers the FARM Assistance program.

The system works to help farmers and ranchers plan for their fi-

nancial future and the risks they may face. Unfortunately, many producers operate their farm or ranch year after year not knowing if their business is sustainable over a long period of time. By using the FARM Assistance system, a producer can gain valuable insights into the feasibility, profitability, and overall viability of their operation. A formal financial outlook can also ease or prompt valuable communication among the manager and family members, partners, or creditors.

The system also has a powerful ability to provide decision-making information. Farmers and ranchers face a risky business environment on a daily basis and must make critical and complex decisions that affect their financial stability and the future viability of their business and family. Unfortunately, the information that producers typically use to make these critical decisions is

inadequate. For years, farm and ranch managers have based decisions on tradition, instinct, advice from neighbors, or generic advice from experts. While these factors should not be ignored, they also should not be the sole basis for critical business decisions. Some managers have the skills to “pencil out” a particular decision with accounting, finance, and economic concepts. Even in these situations, it is difficult to evaluate the full implication of strategic decisions and plans over multiple years. More importantly, these analyses do not consider the risk in future prices and production.

FARM Assistance fills the information gap, by narrowing down the effect of an alternate plan or strategy to the bottom-line cash flow, profit, and equity impacts. By using the FARM Assistance decision support system, producers have more and better information than they have ever had





The FARM Assistance Process



Extension specialists work with producers one-on-one, so the entire FARM Assistance analysis is an individualized process. Before the process begins, program subscribers are asked to do a little homework by gathering some paperwork. Often the information needed has already been compiled in order to obtain financing. The producer's cost of the FARM Assistance analysis includes the time spent gathering data, the time spent with the extension specialist, and a subscription fee of \$250.

The analysis begins with an initial data collection meeting and can typically be finalized in two subsequent meetings. The information collected in the initial meeting is used to develop a preliminary baseline projection for the operation. In the second meeting, the extension specialist and the subscriber review the input data, verify preliminary results, and develop any alternative strategies to be analyzed. Finally, in a third meeting, the extension specialist will deliver and explain the FARM Assistance

analysis report.

The total time required for this process depends on the complexity of the operation, the completeness of a subscriber's information, the subscriber's schedule, and the specialist's schedule. While everyone is different, the typical time subscribers spend in session with the specialist is 3-5 hours for the initial meeting, 2-3 hours for the review, and 1-2 hours for the final report delivery.

The FARM Assistance Projection

The core of the FARM Assistance decision support system is a 10-year financial and economic projection of the farm or ranch assuming a specific strategic plan of action (long-term plan of operation). The initial projection is called the “baseline.” The baseline is intended to give the subscriber a sense of where the business may be headed financially, and to uncover potential strengths and weaknesses in the operation. The baseline also provides a benchmark against which to compare projections of alternative strategic actions.

The process begins with information provided by the subscriber describing the activities and current situation of the farm or ranch being input into the computer program. The program then generates an economic environment in which the farm or ranch oper-

ates over the next ten years. The economic environment consists of specific factors such as prices, yields, inflation, interest costs, etc. In no way are we suggesting that we know exactly what the economic conditions will be for the next ten years. However, a great deal of scientific research and expertise are gathered annually by the Food and Agricultural Policy Research Institute (FAPRI) and the Agricultural and Food Policy Center (AFPC) research teams to develop projections specifically for agriculture over the next ten years.

This single projection is only one of the many possible outcomes that could happen over the next ten years. Simply put, the future is risky. The unique advantage of the FARM Assistance projection is that it illustrates the risk associated with the future finan-

cial success of the business. The process of simulating the operation’s strategic plan over the next ten years is actually repeated 100 times. During each repetition the operation faces a different set of prices and yields. The 100 different possible futures are developed using tested statistical methods so that the risk reflects the past conditions experienced by the farm or ranch and the forecasting expertise of the FAPRI / AFPC projection.

The result is 100 potential financial outcomes. In this sense, the FARM Assistance projection is not a single projection, rather it is a picture of the range of possible outcomes that a farm or ranch could expect to face over the next ten years. Using this range, the analysis describes the risk in the financial future of a farm or ranch.





The FARM Assistance Analysis

A key objective of the FARM Assistance analysis is to compare and contrast the expected outcomes of different strategic actions for a farm or ranch by conducting a “what if” type of analysis. This type of analysis is often referred to as investment analysis or capital budgeting. The idea is that the farm or ranch manager has an investment, a set of capital resources, and opportunities at his disposal. The key question is: What is the best plan to follow given my current situation as well as the opportunities and risks that I face?

An investment analysis is typically focused on two main issues, financial profitability and financial feasibility. The first is the issue of which plan is more profitable or beneficial, that is, which will lead to more net worth in the end. A more profitable plan can also be one that provides for a greater standard of living along the way. Second is the issue of whether the plan is feasible. Will it cash flow or is it likely to fail? Finally, the risk associated with both of these measures is a critical factor the producer should consider when making a strategic decision.

The projected change in the financial position of a business is a significant indication of the plan's profitability. For this reason the analysis will often focus



on the change in real (inflation adjusted) net worth over the time period and compare the projected ending real net worth of each alternative. Pointing out the annual cash position and the probability of cash shortages highlights the feasibility of each plan.

Again, this analysis is intended to provide information to support the decision-making process. It is not intended to make a decision for the subscriber. Because the FARM Assistance analysis compares the ranges of possibilities for different strategic actions, it is not always clear that one plan is better than another. It may be that one plan is expected to generate more net worth, but it is less feasible in terms of cash flow. In other cases, an alternative plan may have a higher average net worth but more downside risk. Each subscriber must also weigh other factors in their de-

cision such as the level of work or stress associated with a particular strategic plan. One of the primary benefits of the FARM Assistance program is the individual consultation and explanation provided by the extension specialist. The specialist is able to provide insight into the financial health of an operation that provides better decision-making and peace of mind.

The FARM Assistance analysis will make no recommendations. The decision made is up to the individual and will depend on personal preferences and the level of risk each individual is willing to take. The purpose of the FARM Assistance program is to objectively present the information that will be the most valuable to subscribers as they make their business decisions.

Texas Livestock Production

As mentioned previously, the FARM Assistance program serves in a broader capacity than the individual analyses performed each year. The data collected not only serves to answer questions regarding the impact of state and federal policies on the agricultural industry, but also to provide valuable insights into the differences that exist among agricultural producers in Texas. In its simplest terms, the database allows all producers in the state of Texas to benefit from the program by learning more about the characteristics and practices of successful and unsuccessful FARM Assistance participants. The following sections have been developed in an effort to learn from the many unique livestock operations evaluated by FARM Assistance specialists. By dissecting and summarizing producers of differing success, type, and production practice we hope to identify some of the factors that contribute to financial success in livestock production. The identification of these factors will help all Texas producers improve their management information and financial success.

Since 2004, the FARM Assistance team has worked with over 75 different livestock producers around the state. For the following analysis, 71 operations were selected. The FARM Assistance

program has conducted strategic planning analyses for a wide range of producers. These include the very successful to those considering leaving the business because they haven't found success. Strategic planning is beneficial at both ends of the success spectrum. The successful manager usually has many ideas and opportunities when it comes to future plans. Finding the best bang for your time and money is critical when you have many alternatives to consider. On the other hand, some producers come to us facing a dismal financial outlook or even bankruptcy. Strategic planning in these cases can help a producer make the very difficult decision of continuing or exiting the business. Whatever their choice, our multi-year strategic planning analysis can help identify the options that are most feasible and have the potential to salvage or grow the most equity.

While we have performed over 900 analyses, this summary only includes the most current and up-to-date projections for 71 livestock operations conducted over the past 3 years. Each producer's input data has been updated within the last three years, and all the farms have been subjected to the same projected outlook for crop and livestock market prices.

One measure of the FARM Assis-

tance program's impact is the projected net worth consequences of alternative scenarios analyzed for each subscriber. This measure indicates the gain in net worth a producer would likely see, at the end of the 10-year planning horizon, resulting from choosing the better of two alternatives. Just looking at the difference between the base situation and one alternative scenario implies that producers going through the program, on average, could expect a \$28,000 per year difference in net worth compared to the baseline situation. For the 10-year planning horizon, that's almost \$300,000 per subscriber.

The 71 ranch operations are identified in Figure 1. The regions identified in the Texas map are the 12 Texas Cooperative Extension districts. As the map indicates, our participant database is made up of individuals from all areas of Texas. Participation patterns follow the major commercial crop producing regions in the state, with significant representation in the Northern and Southern High Plains as well as the Coastal Bend Regions.

In total, the 71 operations summarized in this report represent just over 260,000 acres of productive farm and ranch land. Of that total, 187,000 acres are

considered native pasture. Livestock production in the group amounts to an annual inventory of 6,600 head of mother cows, over 21,600 head of stocker calves, and over 8000 sheep and goats. The value of all assets held by the livestock participants totals \$86 million, and a total net worth of \$61.3 million is claimed by the 71 ranch owner/operators. The information provided in this report is primarily for the year 2006, but also includes projected financial performance.

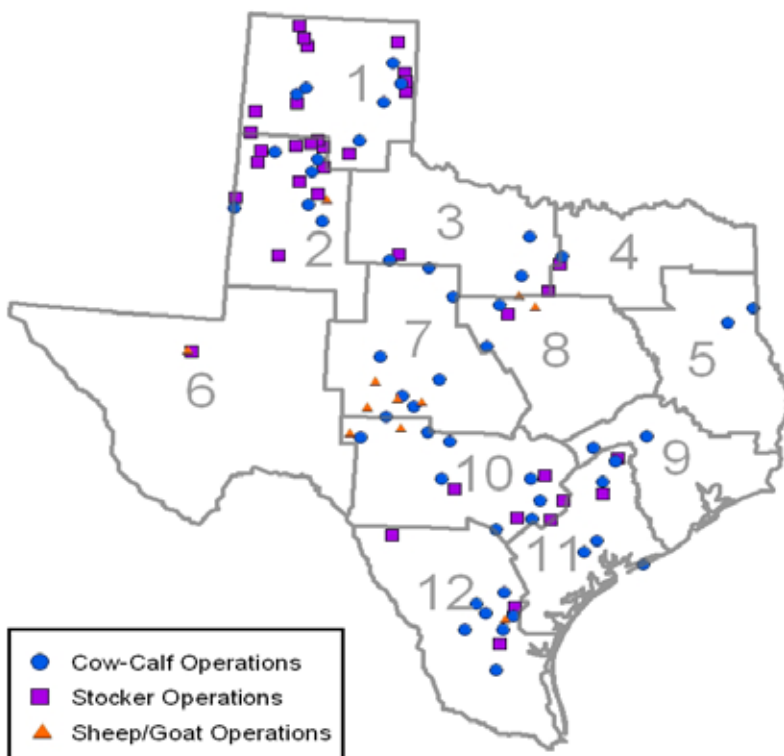
One of the objectives of analyzing the financial performance of a group of FARM Assistance participants is to learn what makes some operations more successful than others. The idea is to identify the characteristics or factors that are true of the financially successful producer, as well as those characteristics of the financially stressed. Once those critical factors have been identified, the information can be used by all producers to improve their financial performance.

The first step in the process of analyzing a group of producers is to find a way to measure financial success. In particular, we are talking about forecasted success, so the question is: What financial measure is the best indicator of a successful financial outlook for an individual producer?

In reality, there probably isn't one measure that incorporates the many factors that contribute to the broad label of financial success. Because no single measure or financial ratio tells the whole story, we have developed the FARM Assistance Projection Score, or ProScore. The ProScore is a weighted index that considers several factors of projected performance, effectively measuring the strength of an individual producer's financial outlook.

The three factors in the FARM Assistance ProScore success index are projected profitability, real equity (net worth) growth, and cash flow risk. The average return on assets (ROA) for each operation's 10-year projected planning period is used as a measure of profitability. Likewise, the average of the projected annual growth in real equity is used as another indicator of financial success. Finally, the ProScore includes a penalty (-0.25) for excessive cash flow

Figure 1. Cow-Calf, Stocker and Sheep/Goat FARM Assistance Participants.



"Risk Management is essential to all producers regardless of their financial situation, for providing insight to the continued profitability of their individual operations."

- Mark Thompson, Swisher County Producer

risk, measured by Working Capital Risk or the average annual probability of a negative working capital position. To calculate an individual's ProScore, simply add the percentage ROA and the percentage Equity Growth, then subtract one-quarter of the probability of negative working capital.

$$\text{ProScore} = \text{ROA} + \text{Equity Growth} - \frac{1}{4} \text{Working Capital Risk}$$

Figure 2: The ProScore.

Percentile	ProScore
95	29
90	24
80	19
70	12
60	7
50	5
40	1
30	-2
20	-12
10	-24
5	-60

As an example, one ranch may have a projected 10-year average ROA of 4.5%, an expected average equity growth of 6%, and a 25% probability of negative working capital. This operation's FARM Assistance ProScore would be 4.25 ($4.5 + 6 - \frac{1}{4} \times 25$).

The ProScore itself is a simple index that allows for a comparison of one producer to another or one producer to a group. The ProScore is capable of comparing operations of different sizes, regions, and types because the score focuses on relative profit, growth, and cash flow probabilities instead of absolute values or cash levels.

The average ProScore over the entire 71 ranches is 0.83. Most index values fall in a range between positive and negative 50. Other than direct comparisons between ranches, the ProScore allows a producer to evaluate their outlook relative to all of the participants in the FARM Assistance system by looking at percentile rankings. Figure 2 illustrates the ProScore scale and the corresponding percentile rankings. For example, a ProScore of around 18.5 corresponds to the 80th percentile in the FARM Assistance database. That means if you have a ProScore of 18.5 or better, your outlook is better than 80

percent of the producers in the database. On the other hand, if your ProScore is negative 5, your outlook is at the 25th percentile, meaning 75% of the group has a better financial outlook than you do.

In an effort to characterize the successful ranches, the group of 71 producers was split into 3 categories of projected financial success. The categories of success are also illustrated in Figure 2 by the colored ranges in the scale. The ProScore for every operation was sorted from highest to lowest score. The top third, or those above the 66th percentile, are labeled successful. The middle third of the group is identified as those whose outlook appears to be stable. Finally the bottom third, those with a ProScore that fell below the 33rd percentile, we describe as financially stressed. With three groups of producers, and each group projecting a different degree of financial success, we are able to describe many of the characteristics of the groups and begin to learn what separates the financially successful, stable, and stressed livestock producers.

Analysis of 3 groups of Success

While the average ProScore for all ranches was 0.8, the twenty-three most successful producers were rated at 12 or higher with a 23 average. The stable category



represents the 24 producers with a ProScore between -1 and 12 that average 4.5. The financially stressed category has an average ProScore of -24, and is made up of the producers that fell below a negative 1.

Table 1 illustrates some of the size and production characteristics of the three category rankings of producers. The first noticeable difference among the three groups is size. In terms of total receipts, inventory numbers, and acres, the larger producers tend to fall in the middle or stable category. The average livestock operation has \$312,000 in to-

tal receipts, while the stable producers have twice the receipts of the financially stressed, \$402,000 annually compared to \$197,000. Size does not necessarily translate into success, rather there appears to be an optimal size. The financially successful livestock producers have more acres, cows, and stockers when compared to the financially stressed, but less than the financially stable. Cow-calf, stockers, and sheep/goat production occur at all three levels of success. The financially stressed are, however, the least likely to raise sheep or goats, averaging only 6 head among the group. Land owner-

ship is another significant difference found across success levels. On average, the most successful producers own 672 acres or 23% of their total land. The stable and stressed producers have a significantly higher proportional investment in land, owning 53% and 44%, respectively. In addition to being the largest producers, the stable group also appears to specialize in livestock, with virtually no non-wheat crop production.

A detailed look at the total receipts of all the producers more clearly illustrates the tendency of the stable classification to be least dependent on any crop pro-

Table 1. Average Production Characteristics by Success

	All Livestock Ranches	Successful	Stable	Stressed
Number	71	23	24	24
ProScore Rating	0.83	23.01	4.46	-24.06
Total Receipts (\$1,000)	312.7	339.9	402.2	197.2
Cows (# head)	93	99	137	44
Stockers (# head)	305	329	412	175
Sheep & Goats (# head)	29	39	43	6
Total Acres	3706	2974	6314	1801
Total Cash Lease Acres	1908	2012	2876	840
Share Acres	188	333	74	172
Total Owned Acres	1623	672	3370	789
Native Pasture Acres	2636	2052	4956	877
Improved Pasture Acres	115	92	170	82
Wheat Acres	290	292	325	253
Corn Acres	6	3	0	15
Cotton Acres	79	141	0	99
Sorghum Acres	23	53	9	9

*"The program was very helpful in understanding the financial side of our operations."
-Dave Goodrich, Parker County Producer*

Figure 3. All Livestock Ranches

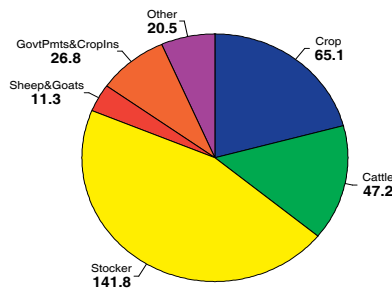


Figure 4. Successful Livestock Ranches

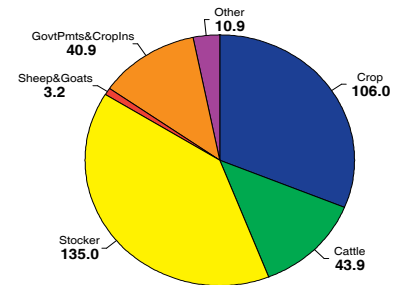


Figure 5. Stable Livestock Ranches

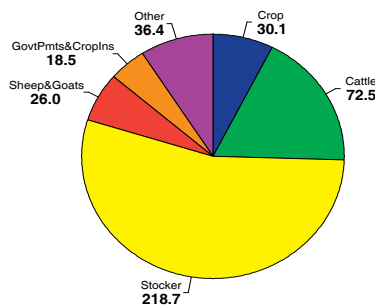
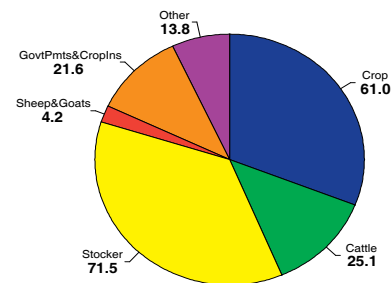


Figure 6. Stressed Livestock Ranches



duction. Across all producers, the average total receipts in 2006 are \$312,000. Of that total, just under half comes from stocker enterprises, and 15% from cow-calf herd receipts (Figure 3). Crop receipts and crop related government payments make up almost 30% of total receipts. The other receipts category represents items that are related to the operation or the land, but are not standard crop or livestock production revenue streams. The other receipts category contributes only six percent to the total and usually includes activities such as custom work, lease revenue, or mineral

royalties.

The financially stable group of producers generates the largest average total receipts. On average, the stable group has \$402,000 in total receipts, over \$60,000 more than the successful producers. The stable group's proportional mix of receipts (Figure 5) from different sources is heavily weighted to livestock activities, with almost 80% coming from livestock sales. Surprisingly, the proportional make up of receipts for the successful and stressed producers is almost identical, suggesting significantly

more diversification than the stable operations (Figures 4 and 6). For these groups, livestock enterprises account for roughly half of total receipts, and 40%-45% of receipts are from crop activities.

Table 2 provides a detail of the financial performance of all producers and compares the three groups by projected success. There is a clear distinction in profitability among the three groups. The most successful producers generate an average net cash farm income (NCFI) per acre of \$42, compared to \$2 and \$38 for the stable and stressed producers.

NCFI per acre is slight misleading because the stable producers are over 3 times larger in total acreage than the stressed group. Profitability risk is illustrated by the average annual probability of the operation incurring a negative NCFI. As expected, the potential for negative cash profits decreases for the more successful participants, with the most successful group facing a less than 9% chance of negative NCFI in any given year.

The expense to receipts ratio measures the efficiency of a producer's ability to generate receipts. As suggested by the profit risk, the stressed producers operate with the tightest margins, spending \$0.92 in cash expenses to generate \$1.00 in receipts. The successful and stable producers

are much more efficient. The two more successful groups are also similar in the relative portion of receipts dedicated to paying for interest expenses and depreciation expenses. The stable group spends \$0.79 for operating expenses and \$0.08 in interest for every dollar of receipts. That leaves \$0.13 of every dollar to pay for depreciation, principal payments, family living, taxes, and capital purchases. Depreciation alone for the group totals \$0.13 per dollar of receipts, meaning much of the group is close to a break-even profit position.

Average expenditures on family living expenses indicate little difference across the three groups. All operations average a little over \$26,000 in planned family living expenses. A significant difference

is found in off-farm incomes. Off-farm income appears to play some role in the long-term success of the ranch participants. While off-farm income does not directly affect the operational profits, off-farm sources of income support equity growth and liquidity risk, both factors in the ProScore success index. The successful group (\$20,800 annually) and the stable group (\$23,000 annually) bring in significantly more than the \$12,200 off-farm income average of the stressed producers. In terms of overall debt, the data suggests that debt is not necessarily a bad thing. The most successful 23 operations carried the highest debt level at 58.5% debt-to-asset ratio. In general, if an operation's percentage return on assets is larger than the interest cost of debt, then bor-

Table 2. Average Financial Performance by Success Level.

	All Livestock Ranches	Successful	Stable	Stressed
Number	71	23	24	24
Net Cash Farm Income per Acre	26.9	41.7	1.6	38.0
Prob of Neg NCFI	27.4	8.6	26.6	46.2
Expense to Receipts	0.80	0.69	0.79	0.92
Depreciation to Receipts	0.12	0.11	0.13	0.12
Family Living	26,129.21	25,448.00	28,685.38	24,035.07
Off Farm Income	18,649.46	20,861.00	22,975.17	12,204.38
Debt to Assets %	41.8	58.5	22.9	44.6
Average Return on Assets %	1.9	7.4	1.6	-3.0
Average Change in Real Net Worth %	4.7	13.0	4.0	-2.5
Avg Prob Negative Working Capital %	34.0	27.9	9.8	64.2

"The FARM Assistance Program Evaluation was very enlightening and gave me an idea as to where my operation would be ten years from now."

-Bill Quinney, Gonzales County Producer

rowing can be profitable. This appears to be the case with the successful FARM Assistance livestock producers. In contrast, the financially stressed operations' debt load (44.6%) is likely the result of compounding cash flow deficits over a 10-year projection. The stable producers on average carry a more conservative (less than 25%) debt level.

The final three performance measures and characteristics are the three factors included in the FARM Assistance ProScore rating. All farms and ranches average a 1.9% Return on Assets (ROA). Relative to the ROA usually quoted for livestock production; almost 2% is somewhat typical. One slight difference in the FARM Assistance measure of return is that we include the gains and losses in the market value of long-term real estate and investment assets. A change in market value of an asset can be described as an unrealized gain. Specifically, an increase in value is not realized or received until the asset is sold and converted to cash. Most measures of ROA would not include an unrealized gain because they tend to reflect a short time period where value changes are either insignificant or impossible to measure. However, in the case of the 10-year projection of FARM Assistance, it is reasonable to assume that over a long period of time, the change

in market value is an important factor in the benefits or returns to holding a land or investment asset. By comparison the most successful have a projected 7.4% ROA, while the stable and stressed producers have an outlook of 1.6% and negative 3% returns.

The equity growth measured by the average annual growth in real net worth directly reflects the severity of the outlook for the stressed group. Recall for the stressed group, that for every dollar in receipts, \$0.92 is committed to operating expenses, \$0.16 is committed to interest expense, and \$0.12 is drained through depreciation. Add family living expenses and principal payments, and it is a clear indication of a steady decline in farm equity. In fact, the ranches classified as financially stressed are on average facing an outlook that suggests a 3% annual decline in real net worth.

The cash flow risk also provides a clear distinction between the levels of financial success. The stable group averages around a 10% probability of a negative working capital position, a level that mirrors the conservative debt level carried by the group. The financially successful group faces a higher 28% liquidity risk, illustrating the point that taking on some risk can be profitable. The

stressed group faces an average 64% chance of a shortage of cash and other liquid assets relative to short-term cash requirements.

Comparisons Considering Financial Success

All 71 farms and ranches are divided equally into the successful, stable, and stressed categories, meaning the proportional make up is described as one-third successful, one-third stable, and one-third stressed. The level of success in any sub-group of producers can be illustrated by the proportional make up of the members of the group. For example, if we found that there were 30 ranchers who drove red trucks, we might be curious to know if this group was more or less successful than the total group of 71 producers. If further investigation found that of the 30, 10 had been labeled successful, 10 were stable, and 10 were stressed, we would conclude that driving a red truck has no impact on the success of the operation. If we found something other than a 10-10-10 split, we might be able to suggest that driving a certain color of truck is related to, or even has an impact on, financial success. Following that example, much of the rest of the database analysis is focused on segmenting the database into sub-groups of producers and identifying the differences that exist among the

groups. For this report we focus on the obvious groupings of size and type of livestock production.

Analysis by Producer Type

In the following section we explore the differences that exist in livestock operations of varying size and type. It is first important to note that the entire group of 71 participants described in this report is already a sub-group of the entire FARM Assistance database. In the database of current farms and ranches, we have defined three general types of producers: Crop Farms, Livestock Ranches, or Diversified Farms. Each of the operations was categorized as one of the three types based on the percentage of their total receipts that they receive from crop or livestock enterprises. A crop farm is defined as an operation whose crop enterprises account for 75% or more of total receipts. Similarly a livestock operation would earn 75% or more of their total revenue from livestock activities. Farms that did not meet either of those thresholds were classified as diversified. These diversified farms rely significantly on both crop and livestock enterprises. The 71 participants selected for this analysis were either livestock or diversified operations and excluded any crop farms. The most recent analysis of all participants can be found in the Publications section of the FARM

Figure 7. Small Cow/Calf Operations

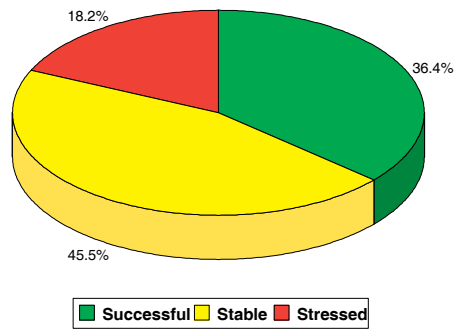


Figure 8. Medium Cow/Calf Operations

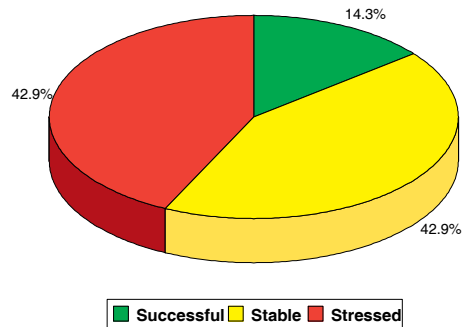
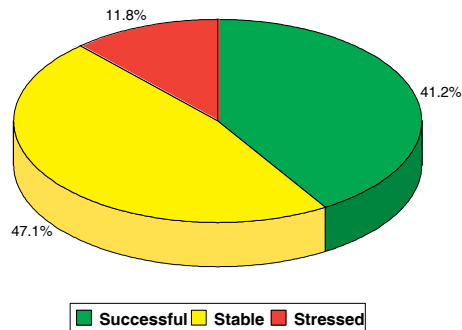


Figure 9. Large Cow/Calf Operations



"FARM Assistance is a wonderful tool when trying to make long term decisions for our cattle business."

-Butch Collard, Potter County Producer

Table 3. Cow-Calf Herd Performance and Production by Size.

	All	Small Cow/Calf	Medium Cow/Calf	Large Cow/Calf
Number	71	23	24	24
Number of Cows	132.24	31.55	93.00	288.76
Cull Rate	0.09	0.17	0.08	0.08
Cows Per Bull	20.65	19.13	22.65	23.73
Calf Crop Percentage	0.88	0.90	0.85	0.90
Steer Sale Weight	520.9	500.00	507.86	580.00
Steer Price	1.08	1.10	1.11	1.06
Heifer Sale Weight	490.74	467.73	481.14	555.00
Heifer Price	1.05	1.05	1.07	1.02
Heifers Held for Replacement	0.12	0.10	0.12	0.13
Vet / Med Costs Per Head	12.94	12.78	15.30	9.95

Assistance website (farmassistance.tamu.edu). The livestock and diversified producers were then categorized by the type of livestock raised as well as their size, creating six classifications of operations. The category definitions allow several producers to fall into multiple categories, if they are significantly engaged in multiple enterprises. For example, the small cow-calf producers are those that have cow herds of 20-50 mother cows. Small stocker operations are defined as 75-500 head, meaning one producer could fit into both categories. Medium and large cow-calf producers are defined as 50-150 head and over 150 head. A large stocker operation is over 500 head annually, and a large sheep/goat operation would consist of a producer that had a

total of over 150 head of ewes and/or nannies.

Cow-Calf Operations

In terms of financial success, the small and large cow-calf operations are in better shape than those operations with medium sized cow-calf herds. Figures 7-9 show the proportion of each type group that is classified as financially successful, stable, or stressed. A profile different from the equal thirds found in the overall group can help identify the success level of the three different size cow-calf operations. The large ranches have the highest proportion of successful producers (47%) and the smallest percentage of stressed producers, with only 12%. Small operations have a similar profile with slightly

fewer successful and stable participants and 18% of group is labeled as stressed.

Table 3 illustrates some of the herd characteristics and management parameters for the three sizes of cow herds. The average herd size for all 50 participants is just over 130 cows. On average the herds are culled at a 9% rate, they run one bull to every 20 cows, and expect about an 88% calf crop annually. The larger herds tend to run a few more cows per bull, but the most significant differences are the medium herd's 85% calf crop and the much higher cull rate of the small herd operations. On average steers and heifers sell at 520 lbs. and 490 lbs., respectively. The small herds tend to sell the lightest weight calves, while the



heaviest calves are sold by the large herds. The relative prices received seem to appropriately reflect the calf sale weights for each group. The average herd will hold between 10% and 13% of their heifers as replacements. The average herd spends almost \$13/cow on veterinary and medicine costs, with the largest herds planning only \$10 per cow.

Table 4 provides the average production profile for the operations in size and type categories compared to the overall averages for farm size, land tenure, and enterprise mix. While the average FARM Assistance ProScore for all 71 operations was a 0.83, the large cow-calf operations had the

highest ProScore, a 7.7 average. Small cow-calf producers had a close to average 0.9 ProScore, and as indicated by the proportional rankings among the cow-calf producers, the 14 medium cow-calf operations had the lowest group ProScore average with a negative 0.6. Further investigation of the production profile suggests that the small cow-calf producers are the most likely to diversify extensively into a stocker cattle enterprise.

On average the producers in the group carry over 200 head of stockers and plant 320 acres of wheat. In fact it would appear that for the average opera-

tion with a small cow herd, the cow-calf enterprise is secondary to their wheat/stocker enterprise. Figure 10 indicates that fewer than 25% of the small group's receipts come from the cow-calf enterprise, while almost 50% come from stocker activities. The small group's diversification is one possible explanation of the group rating higher than the medium cow herd operations. The two larger groups tend to have more crop sales at 12-13% of receipts (Figures 11 and 12). With over half of their receipts coming strictly from the cow-calf enterprise, the medium sized cow-calf operation may be the least diversified. Conversely, the large

Table 4. Average Production Characteristics of Livestock Ranches

	All	Small Cow/Calf	Medium Cow/Calf	Large Cow/Calf	Small Stocker	Large Stocker	Large Sheep/Goats
Number	71	11	14	17	13	11	7
ProScore Rating	0.83	0.92	-0.60	7.72	6.98	1.48	7.39
Total Receipts (\$1,000)	312.7	102.0	84.4	337.5	261.2	1134.3	259.7
Cows (# head)	93	32	93	289	57	67	138
Stocker (# head)	305	219	24	84	234	1616	0
Sheep & Goats (# head)	29	3	26	40	0	2	1138
Total Acres	3706	1090	1610	10409	2023	5294	10954
Total Cash Lease Acres	1908	338	812	6356	922	2628	8641
Share Acres	188	174	102	88	194	674	0
Total Owned Acres	1623	641	696	3965	920	1993	23113
Native Pasture Acres	2636	205	899	9079	1084	2614	8934
Improved Pasture Acres	115	10	91	286	210	110	0
Wheat Acres	290	322	165	143	247	1208	173
Corn Acres	6	0	0	0	5	32	0
Cotton Acres	79	0	0	25	108	314	0
Sorghum Acres	23	0	15	23	38	77	30

"FARM Assistance is a great tool to use in evaluating opportunities before pulling the trigger. The projections are based on reasonable information and give a valuable overview of my options."

-Gary Jahnel, Hemphill County Producer

Figure 10. Small Cow/Calf Operations

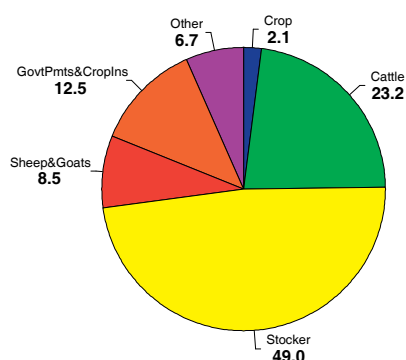


Figure 11. Medium Cow/Calf Operations

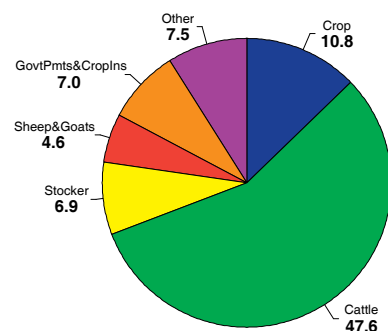
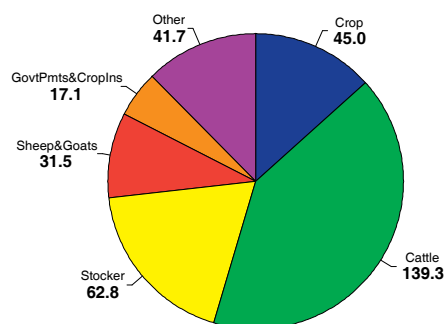


Figure 12. Large Cow/Calf Operations



cow-calf participants generate significant receipts from many different enterprises. In terms of land tenure, the medium and larger herd operations both own approximately 40% of their total acres. The smaller group tends to lease a smaller proportion of land, owning just over 60% of their total acres.

The financial performance of the three cow herd groups are presented in Table 5. The details indicate how closely the small and medium groups perform financially. While the small group has a slightly higher ProScore rating, they have the smallest per acre net cash farm income and the highest risk of negative profits. The small group is also the least efficient, spending \$0.73 in operating expenses, \$0.14 in interest, and incurring \$0.21 in depreciation per dollar of receipts. The medium-sized operations are slightly less efficient in terms of operating expense-to-receipts (0.76), but spend less on interest and depreciation. The small operations spend \$10,000 less on family living expenses compared to the medium and large operations. On average, the medium size cow herd group is the most dependent on off-farm income (\$34,400 annually). The large operations, however, plan for less than \$5,000 annually in income from off-farm sources.

Table 5. Average Financial Performance of Livestock Ranches.

	All	Small Cow/Calf	Medium Cow/Calf	Large Cow/Calf	Small Stocker	Large Stocker	Large Sheep/Goat
Number	71	11	14	17	16	11	7
Net Cash Farm Income per Acre	26.9	.02	15.0	14.9	99.5	11.6	19.5
Prob of Neg NCFI	27.4	28.3	19.9	11.6	17.3	33.4	1.0
Expense to Receipts	0.80	0.73	0.76	0.69	0.83	0.86	0.64
Interest Expense to Receipts	0.11	0.14	0.09	0.08	0.07	0.10	0.07
Depreciation to Receipts	0.12	0.21	0.17	0.08	0.04	0.06	0.03
Family Living	26,129	19,813	29,743	29,500	26,191	31,334	24,700
Off Farm Income	18,649	28,262	34,434	4,529	19,097	4,045	5,511
Debt to Assets %	41.8	45.0	32.6	30.1	41.2	55.1	50.0
Average Return on Assets %	1.9	-0.1	-1.3	6.5	2.8	7.2	7.5
Average Change in Real Net Worth %	4.7	5.6	5.9	4.4	4.9	4.5	5.0
Avg Prob Negative Working Capital %	34.0	29.1	32.7	22.3	20.9	44.4	31.8

The highest performing large cow-calf operations average the lowest debt level at 30%, while the small producers average a 45% debt-to-asset ratio. With a 6.5% average return only large operations project a positive return on assets. In contrast, the large operations project the lowest annual growth in real equity (4.4%), while the smaller two

groups expect an average annual growth between 5.5% and 6.0%.

Stocker Operations

Tables 4 and 5 also provide a description of the operations with significant stocker cattle enterprises. Stocker enterprises with fewer than 75 head annually were

excluded and the remaining operations were split into the small (fewer than 500 head) and large (more than 500 head) categories. In general the stocker operations perform better than the overall livestock average. Figure 13 illustrates the success profile of the small stocker group. Half of the group is classified as successful, with a ProScore rating in excess of

Figure 13. Small Stocker Operations

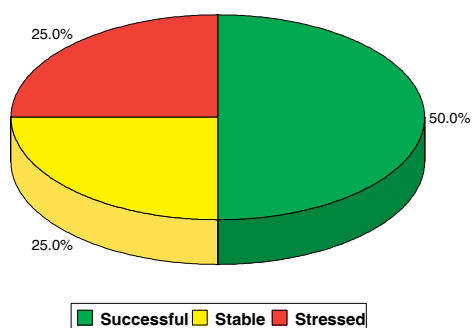
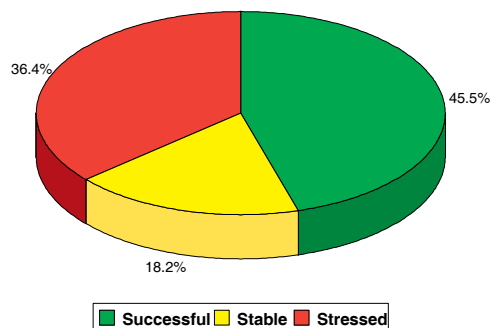


Figure 14. Large Stocker Operations



*"A must for anyone in the agriculture business."
-Candys & Gail Wiginton, Menard County Producer*

Figure 15. Small Stocker Operations

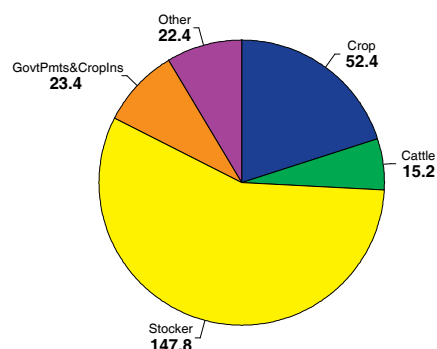
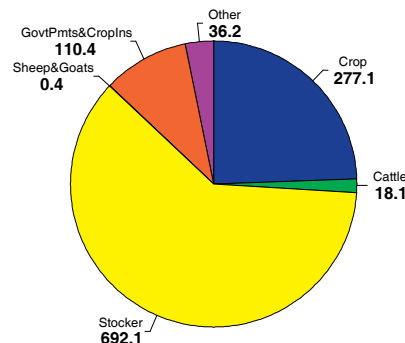


Figure 16. Large Stocker Operations



12.0, while the remaining half of the group is split equally between stable and stressed. Overall, the small stocker operators average almost a 7.0 ProScore rating. The large stocker participants scored an average 1.5 ProScore rating, and the profile (Figure 14) suggests relatively few operations classified as stable, 45% successful, and 36% stressed.

There is a significant scale difference in the small and large stocker participants. The large stocker operators average over 1600 head annually and \$1.1 million in receipts, compared to 234 head and \$260,000 of annual receipts (Table 4). Other than scale, the large and small stocker operations are very similar in their proportional make-up and production profile. Both have medium size cow-calf herds, and both own around 40% of their total acres. Figures 15 and 16 illustrate the sources of receipts for the stocker participants, and

again they are proportionally similar. Both receive close to 60% of their gross income from stocker sales. For the large participants, the remaining 40% of receipts comes mostly from crop activities. The cow-calf and other receipts are proportionally more relevant to the small stocker operators. The financial performance of the two stocker groups is detailed in Table 5.

By the ProScore rating the small stockers perform better, but the details do not provide a clear distinction. The small group is more efficient as measured by expenses (operating, interest, and depreciation) relative to receipts. The large group, however, generates a 7.2% return on assets compared to only 2.8% for the small group. One factor that reduces the overall ProScore rating (1.5) of the large group is the risk they face. The large stocker operators are twice as likely (33% compared to 17%) to experience

a negative net cash farm income in a given year. Similarly the large group faces a 44% chance of an annual negative working capital position, while the chance is only 21% for the small participants. Both groups have similar expected growth rates in real net worth, but the small group depends on \$19,000 in off-farm income to support that growth and \$26,000 in family living expenses. The large participants have a higher family living expense of \$31,000, but only bring in \$4,000 in off farm income while sustaining a 4.5% annual growth in real net worth.

Large Sheep/Goat Operations

One of the more successful livestock groups is the large sheep/goat producer. The classification includes any producer of sheep and/or goats that have a combined total of at least 150 ewes and/or nannies. The 7 producers in the group average a 7.39 Pro-



Score rating. Figure 17 shows the success profile of the group. The vast majority fall in the stable category, only a small percentage are successful or stressed.

Table 4 provides the comparison of the average production parameters of the sheep/goat producers compared to all livestock participants and the other livestock enterprise groups. On average, producers have over 1,100 head in their sheep and/or goat herds, and they also have a sizable cow-calf herd of 138 head. The group has no stocker enterprises and only a few acres of wheat and sorghum. With almost 11,000 acres the group has the largest land area, but only 2,300 of those acres are

owned, roughly 20%, which is the lowest percent land ownership of all the groups.

As a group the sheep/goat producers average about \$260,000 in total annual receipts. Figure 18 illustrates the components of total receipts. As mentioned earlier, the group has virtually no income generated from stocker or crop activities. The group generates nearly equal receipts from cow-calf sales and sheep/goat production. Compared to the other livestock groups, the sheep/goat participants generate the highest proportion of their income (20%) from other non-specific farm activities.

The financial performance of the sheep/goat participants is compared in Table 5. The group as a whole is the most efficient of all the livestock participants. The group spends \$0.64 in operating expenses per one dollar in receipts, that's \$0.16 better than the overall average. The sheep/goat participants also spend the least on interest and depreciation. Like the other large commercial livestock participants, the large sheep/goat herds are less likely to depend significantly on off-farm income sources. At \$5,500 in off-farm income the sheep/goat producers are a little higher than the other two large producer groups, but well below the \$18,000 overall average.

"I think the FARM Assistance Program evaluation is an essential in obtaining and then maintaining a sound financial base."

- Ralph Latimer, Washington County Producer

Figure 17. Large Sheep & Goat Operations

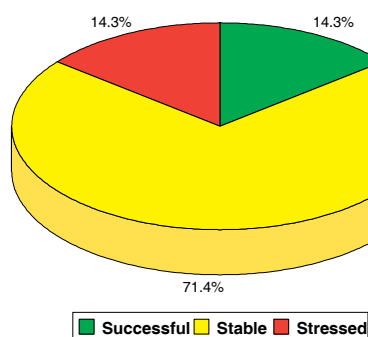
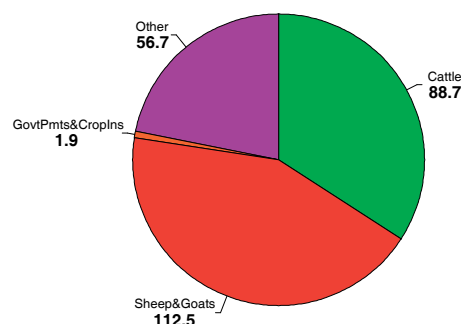


Figure 18. Large Sheep & Goat Operations



Family living is also slightly below average, at \$24,700 annually. With a 50% debt-to-asset ratio, the sheep/goat group is second only to the large stocker participants (55%). Much of the stocker debt is likely short-term financing of stocker purchases, making the sheep/goat debt appear high when compared to the medium and large cow-calf producers. As indicated by a high ProScore rating the group is fairly successful in overall profit, equity growth, and liquidity risk. The sheep/goat producers have the highest average return on as-

sets (7.5%) and average equity growth (5.0%). In terms of risk, the group has a minimal risk of experiencing a negative net cash farm income, but likely because of debt payment commitments, the group still faces an average risk of a negative liquidity position (32%).

A Final Comment

The FARM Assistance team extends its appreciation to everyone that makes our program possible. The continued support of Texas Cooperative Extension, the State

of Texas, the Agriculture Industry, and especially the program subscribers make possible the great privilege of serving the people of Texas Agriculture. We would specifically like to acknowledge Texas and Southwestern Cattle Raisers Association, Southern Region Risk Management Education Center, and CSREES for supporting us in this study. We look forward to serving you in the future by helping all of Texas Agriculture address difficult and risky decisions with the power of information.



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