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# HEREFORDS IN A CHANGING WORLD: HANDLING CHANGES DOWN ON THE FARM

## INTRODUCTION

Regardless of one's focus, indicators of change and advancement are readily accessible, culminating to accelerate the economy to unprecedented levels (Fine, 1998). As a result, an ever-growing number of companies and institutions now require operational integration covering multiple variables. In response, service providers are implementing new approaches to create individualized solutions, within the framework of contractual flexibility, which facilitate those requirements: e.g. "on demand" (IBM, 2004) or "custom critical" (FDX, 2004). Certainly, agriculture serves as no exception. Across all sectors, including beef, the industry is witnessing important changes. And the events of 2003 served to especially highlight the beef industry's connectedness to a variety of interacting forces. Given that transitional scenario, its hastening pace and influence on operating conditions, consistent monitoring, accurate analysis and proper interpretation of news items and external signals become progressively more important.

### Beef: An Industry in Transition

**Challenge Matrix** Beef producers confront multiple challenges on a number of fronts. That's particularly evident on the consumer side. They represent the foundational basis of its existence: all economic inflows into the industry are derived directly from consumer expenditures. Beef customers, though, can prove to be fickle, often transmitting mixed messages and highly variable preferences. Therefore, predicting product response is complex, especially in light of disproportionate growth of offerings against constant decline in time availability. The imbalance often results in consumer reluctance to appropriately evaluate product merit; thus all the more reason the value chain must deliver performance across a wide array of variables including:

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| <ul style="list-style-type: none"> <li>• Food safety</li> <li>• Health / wellness attributes</li> <li>• Palatability / eating satisfaction</li> </ul> | <ul style="list-style-type: none"> <li>• Animal welfare</li> <li>• Convenience</li> <li>• Product story</li> <li>• Brand recognition</li> <li>• Consistency</li> </ul> | <ul style="list-style-type: none"> <li>• Personalized shopping experience</li> <li>• Low price / high value</li> </ul> |
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Meanwhile, navigation through various externalities renders the industry susceptible to distraction from its consumer focus. Nonetheless, constant monitoring and mediation of various issues cannot be ignored. These concerns are numerous; some are relatively routine and traditional, most new and uncharted, including:

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| <ul style="list-style-type: none"> <li>• Animal health guidelines</li> <li>• Trade issues</li> <li>• Just-in-time inventory</li> </ul> | <ul style="list-style-type: none"> <li>• Informational technology</li> <li>• Global competition</li> <li>• Government programs</li> </ul> | <ul style="list-style-type: none"> <li>• Source verification</li> <li>• Traceability mandates</li> <li>• Environmental regulations</li> </ul> |
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Finally, the beef industry wrestles with several ongoing and contentious internal struggles. The crux of which often surrounds divided ideology about varying adaptation strategies in response to the various aspects outlined above. There exists a large spectrum of opinion regarding how business should be conducted within the beef sector: resultant is a tug-of-war between pressures to evolve to an ever-increasingly synchronized systems approach versus maintaining a more traditional, segmented structure.

### **Downstream Business Transformation**

Business strategists, Sheth and Sisodia (2002), argue that industries adapt and experience change, in order to become more efficient, as a result of four primary drivers: 1) creation and implementation of industry-wide standards, 2) attempts to offset large fixed costs, 3) increased government intervention, and 4) industry consolidation. These four factors are inherently related causing on-going and amplified change within any industry. A shift in any of the first three drivers causes the fourth. Ultimately, industries respond with consolidation that leads to three companies, which dominate the marketplace. For example: John Deere / CNH Global / AGCO; McDonald's / Wendy's / Burger King; American / United / Delta; Nike / Adidas / Reebok. Why three? Three main players create equilibrium between predatory competition and market collusion. Similarly, authors Deans et al. (2003) detail results of extensive research regarding industry consolidation trends in a variety of industries. Their thesis is that all industries experience the same pattern of consolidation; the only major difference is the length of time over which it occurs.

Indeed, the food industry has proven to not be immune from these principles. To date, much of the industry's consolidation focus has transpired beyond the farm gate – converging in the food processing, manufacturing, wholesaling, retailing and service sectors (Harris et al., 2002). Over the past decade, agriculture has also witnessed a series of mergers and acquisitions among respective pharmaceutical, animal nutrition and farm credit companies. Amidst those events, several key trends provide insight into the beef industry's future direction.

The beef industry is evolving to maintain viability primarily by moving from widespread, relatively uncoordinated commodity-sorting systems to growing adoption of customer-specific specialized production (Speer, 2003a). Restaurant and retail companies desire to offer quality, highly competitive products while also facilitating consistent and predictable inventory turnover; in turn, processors seek development of specified capabilities from producers to deliver those attributes. These endeavors increasingly enhance the bottom line for companies especially in the face of rising costs; information-based, supply chain coordination efforts improve efficiency (SYY, 2004) while emphasis upon differentiated, value-enhanced production boosts revenue (TSN, 2004). With time, these new business models are being transferred back through the beef industry's respective segments and suggest an important influence: David McBeath, President and CEO, Phibro Animal Health (Fort Lee, NJ) explains, increasingly consolidated “downstream [industries are] pushing back” (Smith, 2004a).

Delineation of traditional trade and production strategies is blurring, largely out of necessity. The implications represent a mandate for the industry: “...entering agriculture's new frontier requires big changes by farmers and policymakers alike. Farmers must go beyond a tradition of independence to a new business model founded on partnering. And policymakers must shift from subsidizing commodity production to supporting new ventures in product agriculture” (Drabenstott, 2002). Therein enters the mandate for producers – they must be willing to become interdependent and cooperate within guidelines dictated by end-user specifications. Failure to adapt may result in excessive risk exposure and potential loss of market access (Smith, 2004b).

## **Handling Changes Down on the Farm**

### **Producer-level Consolidation**

“Upstream” transformation is less obvious and responsive as separation from the consumer increases. However, producer-level consolidation and concurrent shift in respective business approach is indeed occurring. The upshot is significant from a commercial standpoint.

Undoubtedly, the most dramatic shift within the production sector has taken place among larger feedyards in the United States (Figure 1; CBW, 2003). During that time, the top 30 feedyards have expanded one-time capacity by nearly 607,000 head. Moreover, the top 5 feedlots in the country account

for a 371,000-head increase - over 61% of total growth. Assuming inventory turnover of 2.25 times per year, the top 30 feeding companies now combine for annual fed cattle marketings of nearly 12.7 million head; well over half of 2003's 23.4 million fed cattle marketings (USDA, 2003a). Concomitant with expansion, these larger feeding companies have also adopted new competencies: disciplined risk management, targeted grid marketing, and realization of economy of scale efficiencies. The culmination of which reduces risk exposure while creating more consistent and predictable returns. These feeding companies have evolved from average buyers to market "marginalists", or specialists, who largely dictate the pace of, and establish foundation for, an increasingly competitive feeder cattle market (Speer, 2002a).

While that proves beneficial for cow/calf producers, the sector remains pressured by small and ever-shrinking margins (Jones, 2000). Those financial challenges, pooled with complexities previously outlined, have prompted many producers to quit the business. Between 1993 and 2002, the number of beef cow/calf operations in the United States declined 11%: 904,000 to 805,000 operations (Figure 2; USDA, 2003b). That decline overwhelmingly stems from operations with a relatively small number of cows (less than 50) - an exodus comprising nearly 90% of total reduction in number of operations. Meanwhile, the decline has not resulted in herd liquidation; U.S. beef cow inventory in 2002 is nearly equal to 1993's census.

Amidst strong demand in recent years it's easy to overlook beef's marketplace burdens during the 1990's (Speer, 2003b). Beef's efficiency was lagging behind its competitors and thereby forced to become increasingly efficient in step with rapid productivity advancements within the pork and poultry industries. That liability of inefficiency, united with several other misgivings, resulted in diminishing consumer demand through much of the decade - largely the result of a distinct price / value handicap (Barkema and Drabenstott, 1990; Johnson et al., 1989; Menkhaus et al., 1990). Appropriately, the industry improved its efficiency and production per cow significantly increased (Figure 3; Speer, 2002b). Nevertheless, increased productivity proves to be a mixed blessing: it allows entire industries to lower costs while increasing output; that increased competitiveness is good for any business but "...what is good for any business, it turns out, isn't good for every business" (Hammer, 2002).

#### **Shifting Operational Demographics and Business Attitudes**

Relatively small operations (<50 cows) still comprise the majority of beef cow operations in the United States. However, associated with reallocation of beef cow inventory exists an important revision of the beef industry's operational composition - over 50% of all beef cows now reside in operations with 100 cows or more (Figure 4; USDA, 2003b). Moreover, ongoing revision among the industry's composition is not likely to cease in the foreseeable future (Table 1; Lind, 2004). Given demographic characteristics of producers, and associated business mentalities, that shift possesses some important fallout in terms of commerce.

Table 2 (Short, 2001) outlines selected characteristics of cow/calf operations categorized by number of cows maintained. Several important trends are evident. First, age distribution among producers is relatively constant across all categories with the exception of those with 250-or-more cows. Secondly, as cow/calf operations become larger, operator level of education also tends to increase. Third, labor efficiency per cow maintained improves dramatically as operations become larger; those with 250+ cows dedicate half the time per cow compared to those with less than 50 cows. Utilization of paid versus unpaid labor also shifts; as operational size increases a higher proportion of time commitment results from paid labor. Fourth, financial performance tends to improve as an operation runs more cows. Lastly, and most revealing, increased beef cow inventory is linked with larger operations; total acres and farms sales correspondingly increase. Production bias is shifting away from smaller operations towards larger, more diversified businesses; these farms and/or ranches tend to be more profitable than their predecessors and increasingly operated by younger, better-educated producers who utilize hired labor.

Figure 5 (Akel and Associates, 2003) illustrates the way in which producers view themselves compared to their predecessor generation. An ongoing trend exists for farms/ranches to increase in size over time; thus it's important to note that perceptions categorized by generation also partially reflect viewpoints related to growing magnitude of most operations. In accordance to demographic trends previously outlined (Table 2), overall perception is one of greater sophistication: level of education, knowledge of technology, awareness of issues, business skills and openness to new relationships are all perceived to be largely more advanced relative to the previous generation, who likely operated smaller farming operations. What's the inference? Producers self-perceptions are likely accurate; they're consistent with the trends previously discussed. Moreover, at the heart of declining margins and increasing operational size, successful managers recognize that profitability is not driven strictly by increased production or practical success in daily operational logistics (Bruch and Ghoshal, 2002). Net income growth stems not from work-for-work's-sake but rather from improved strategic planning. That mindset accentuates

emphasis upon financial oversight, risk management, value-added marketing and further adoption of economies of scale.

**Time Utility** Consolidation trends and industry shifts possess some important ramifications for various support industries, including seedstock suppliers; it speaks to specific profit drivers and varying future demands. Limited data exists regarding priorities when purchasing replacement seedstock. Despite that shortfall, two revealing surveys have been performed - summarized in Figure 6:

1) National Animal Health Monitoring System CHAPA survey – 1993 (NAHMS, 1994), and 2) Mississippi State University Extension Service producer attitude survey - 1999 (Little et al., 2003). Conclusions may be somewhat erroneous: year and population are largely confounded. Nonetheless, anecdotal analysis reveals some interesting trends.

In line with expectations, EPD's have become more important in terms of purchasing criteria over time; meanwhile, all other surveyed items declined in importance to buyers. However, within the context of previous discussion regarding producer business models and priorities, trends around those other items lead to some critical conclusions. Buying decisions may reflect shifting priorities among an array of intangible considerations – most notably, those related to time utilization. For some, the emphasis on various intangibles is somewhat perplexing; profitability assessment is revenue driven and dictated strictly by production factors readily measured. That assessment is too simplistic; beef enterprise profitability must be placed within the framework of its relationship to other enterprises and utilization of respective operational resources.

Time utility and labor efficiency are inherently related and amidst trends both are escalating in importance as operations increase in magnitude. Those relationships are a function of two likely factors: 1) most obvious – an advantage in terms of economies of scale, and 2) less obvious – increased diversification causes labor resources to become more widely dispersed over other entities reducing commitment to the beef enterprise. Meanwhile, data indicates that cowherd inventory is positively related to operational size, inferring that cattle production is increasingly neither the primary focus nor the core competency for many operations. Labor resources, whether paid or unpaid, are not available to deal with unexpected or chronic problems requiring additional time investment and distract from scheduled, productive activities. From the standpoint of overall operational profitability, the beef enterprise cannot be afforded the luxury of incurring excessive indirect costs sourcing from inordinate allocation of labor resources.

Time productivity shortfalls potentially negate any premium or bonus made available in the current marketing system resulting from production achievements. And from that perspective, commercial producers will likely sacrifice and/or preclude additional production advantages (e.g. pay weight, carcass merit, etc...) to facilitate management simplicity. Data suggests that emphasis on convenience traits will increase in terms of importance; successful seedstock producers must increasingly prioritize pigmentation, udder quality, calf vigor, hoof durability, etc... and prevent time-consuming functional defects for their commercial customers. Meanwhile, despite differences among data sets, disposition / temperament remains an important factor. Large, diversified and business-oriented operations do not possess time, nor are willing, to be challenged by volatile and/or temperamental cattle. In fact, disposition is noted as becoming an increasingly important trait among bull customers (Huffhines, 2001).

### **Herefords in a Changing World: Breed Opportunities**

Much of the previous discussion calls attention to the need for prioritization of various intangibles due to their relationship to profitability. Those strategies are relevant to purebred producers of any breed. Against that backdrop, though, several other critical trends are of special note for Hereford breeders.

First, Marshall (2003) asserts an important industry opportunity exists from an industry-wide standpoint: given "...all the years of research documenting that crossbreeding systems improve net income 11-19% why haven't these techniques been more fully exploited?" Survey data reinforces that admonition: extensive utilization of Angus bulls has occurred in recent years – to the extent that 68% of producer survey respondents indicate Angus was a major influence on the genetics of their cowherd (AAA, 2002). The industry has seemingly been inattentive to the importance of crossbreeding, drifting from its potential windfall in lieu of alternative prioritization. Despite improved productivity previously mentioned, the industry's commercial sector has incurred a valuable opportunity cost. Renewed implementation of simplistic, well planned crossbreeding programs would enable commercial producers to recapture lost profit opportunities.

Second, three separate base-lining National Beef Quality Audits (1991, 1995, and 2000) have been performed in the United States and are an important first step in highlighting some of the beef industry's

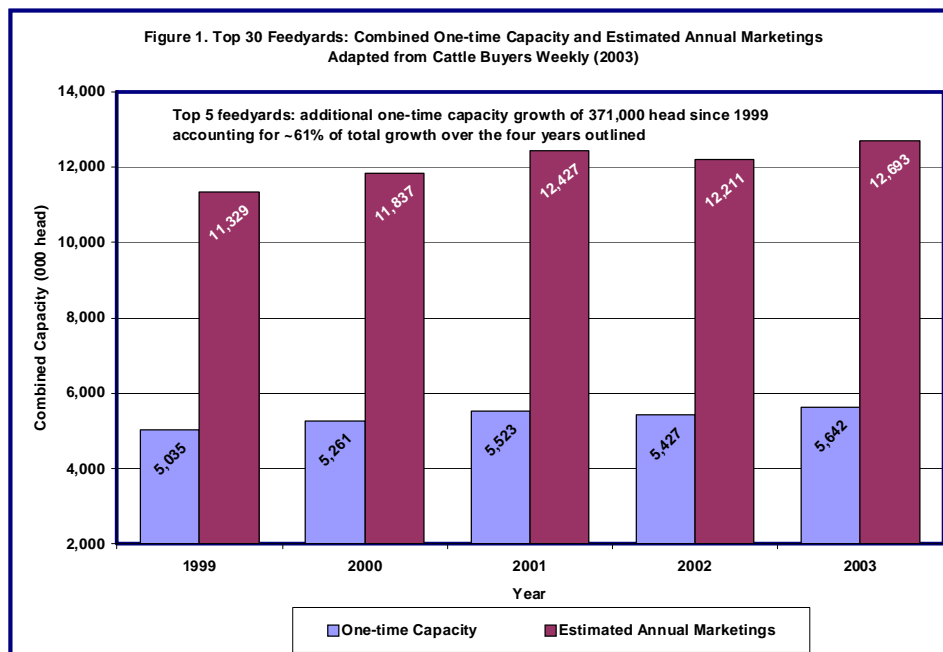
challenges relating to efficiency and customer satisfaction. Overwhelmingly, the item of utmost concern, first identified in 1995 and remains largely unaddressed in the new millennium, is “low overall uniformity and consistency” (Smith et al., 1996; 2001). Within that framework, British-based cattle deliver considerable advantages with respect to consistency and consumer eating satisfaction compared to Continental-crosses (NCA, 1993; Reagan et al., 1995).

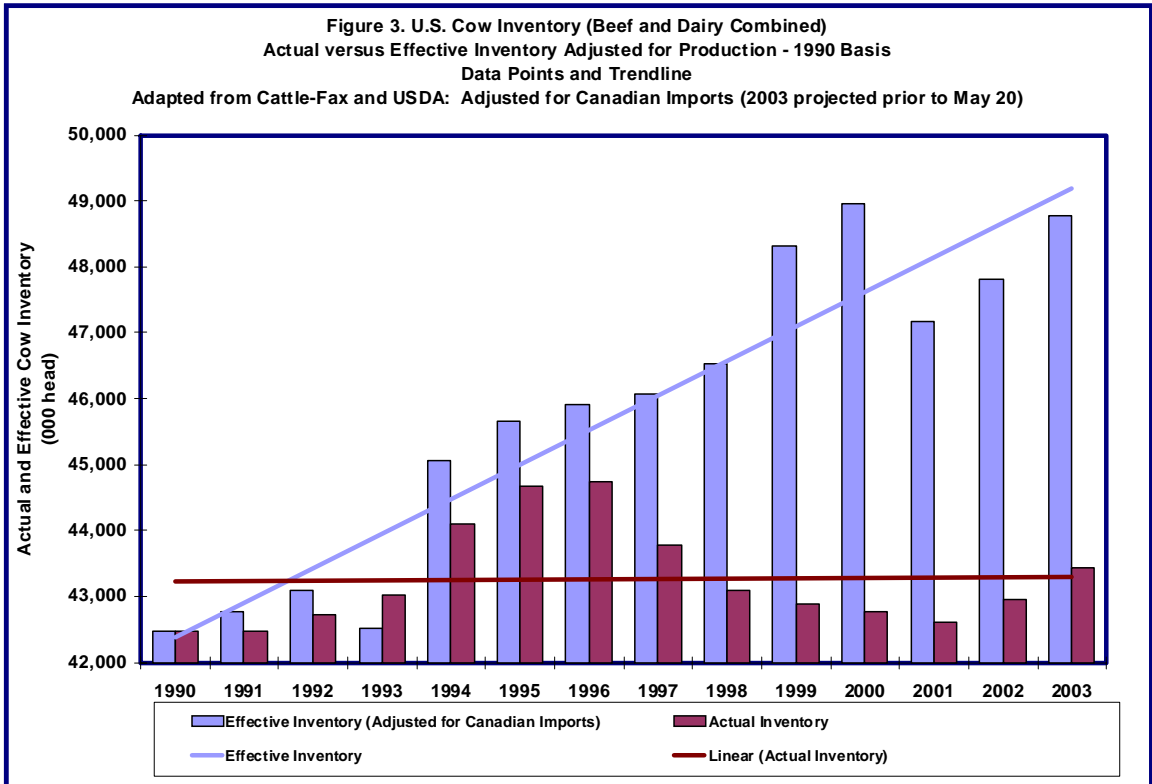
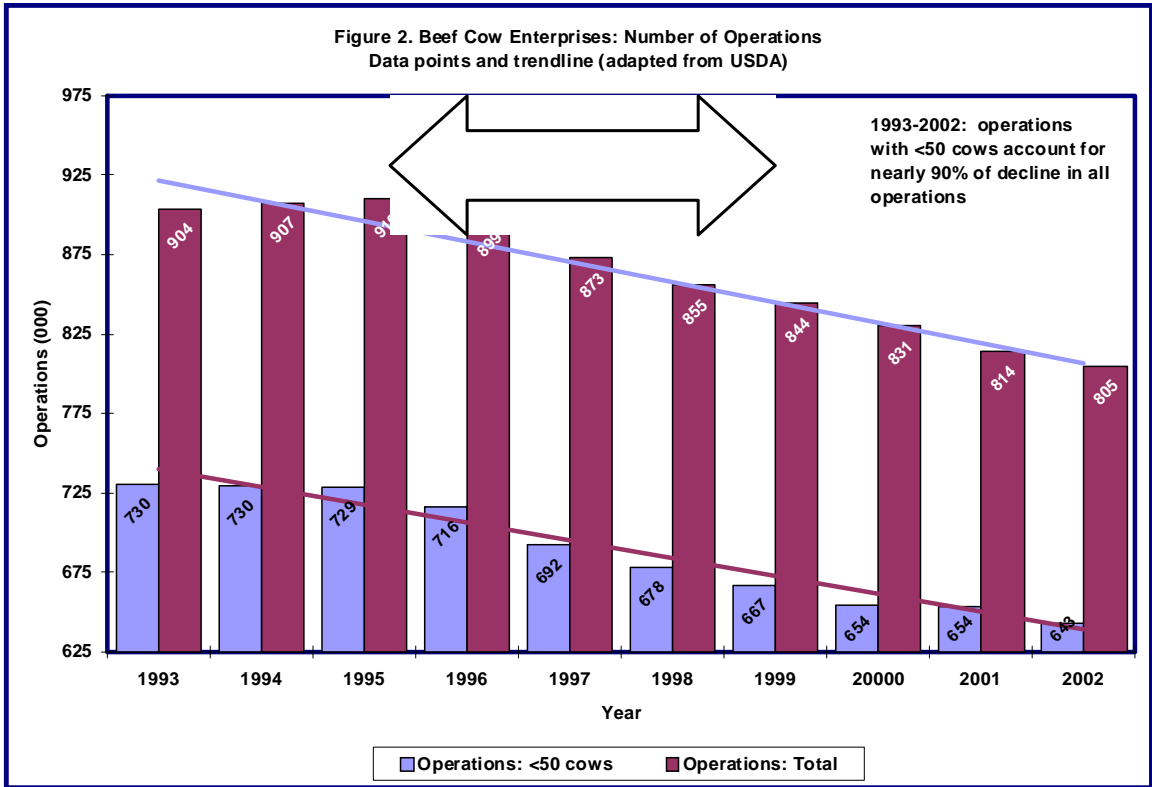
From an industry-wide perspective, these emphases represent unique and promising opportunities for Hereford breeders in coming years. The breed possesses superior capacity to compound parallel benefits upon their utilization: 1) induce profitability boost from a heterosis standpoint, and 2) potentiate improved predictability of cattle and/or product performance. In combination, these aspects allow commercial producers to avoid sacrificing performance while generating competitive returns within integrated, value-based marketing systems.

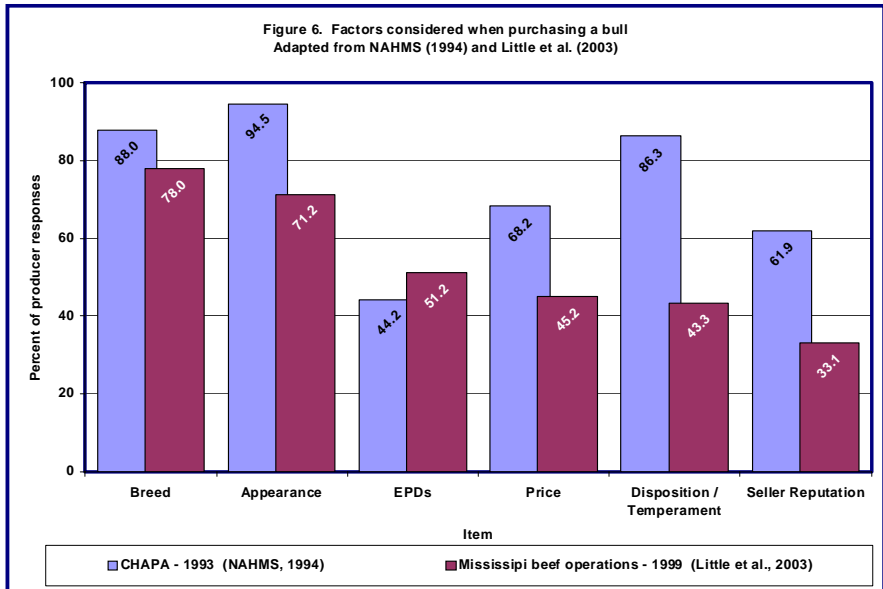
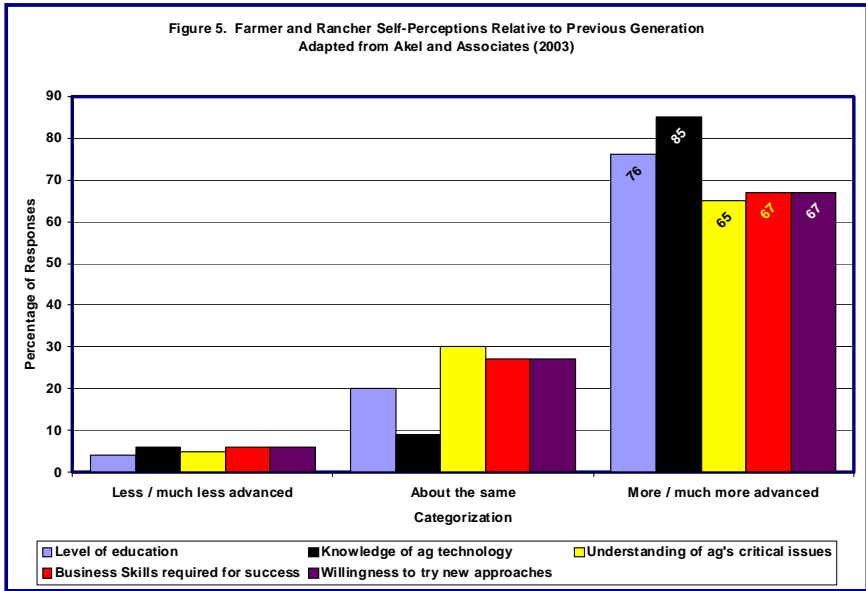
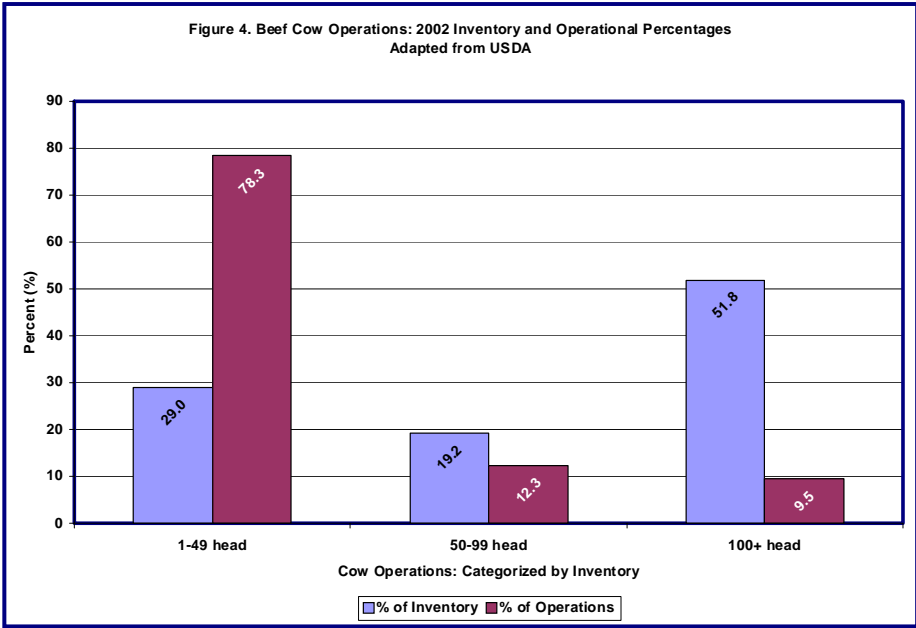
Infusion of Hereford genetics can play an important role within the beef industry. Investment in coherent marketing campaigns demonstrating economic benefits of targeted utilization of Hereford cattle, concomitant with resolve to eliminate functional defects, in the form of commercial bulls and/or replacement females, is well founded and should result in favorable dividends.

## CONCLUSION

Agricultural producers of all types and sizes are being forced to deal with a myriad of forces “profoundly redefining agriculture” (Boehlje, 2003). Accordingly, the beef industry is increasingly operating in a turbulent business environment where uncertainty seems the norm - perhaps most appropriately defined as being on the “edge of chaos”: conditions in which industries and organizations are forced to experience transformation (Pascale et al., 2000). Ensuing industry adaptation contains an important derivation of farmer/rancher attitudes – an emerging objectivity whose approach emphasizes profit. Business is no longer conducted simply on the basis of price, location, tradition, or reputation; producers desire professional relationships with suppliers and comparatively make more judicious decisions about their purchases (Akel and Associates, 2003). Seedstock operations are encouraged to reevaluate traditional, production-oriented, cattle-centric strategies with progression towards innovative, profit-oriented, client-driven solutions. Prospects for ever-increasing change mandate a dynamic and determined business orientation to procure the full potential of the industry.







**Table 1. Top 10 Occupations With the Largest****Projected Decline: 2000 - 2010**

Adapted from Lind (2004)

<u>Occupation</u>	<u>Projected Decline</u>	
	<u>Total</u>	<u>% of Total</u>
Farmer / Rancher	328,000	42.16
Order clerk	71,000	9.13
Teller	59,000	7.58
Insurance-claim / policy processing clerk	58,000	7.46
Word processor / typist	57,000	7.33
Sewing-machine operator	51,000	6.56
Dishwasher	42,000	5.40
Switchboard operator / answering service	41,000	5.27
Loan interviewer / clerk	38,000	4.88
Computer operator	33,000	4.24

**Table 2. Selected Characteristics of Cow/Calf Operations:****Categorized by Number of Cows Maintained**

Adapted from Short (2001)

	<u>Number of cows maintained</u>			
	<u>&lt;50</u>	<u>50-99</u>	<u>100-249</u>	<u>250+</u>
<u>Age Distribution</u>				
< 50 years old	30	35	30	42
50 + years old	70	65	70	58
<u>Education (% of respondents)</u>				
High School or less	65	48	42	32
Attended college	19	24	23	32
Completed college	16	28	35	36
<u>Labor Efficiency (hrs / bred cow)</u>				
Paid	2	2	3	6
<u>Unpaid</u>	<u>30</u>	<u>25</u>	<u>18</u>	<u>10</u>
Total	32	27	21	16
Cattle production value (\$)	7,823	19,581	50,636	186,885
Farm production value (4)	36,124	77,644	143,617	325,359
Total acres operated	340	1,008	2,403	8,744

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