

**2014 Nevada Outlook for
Major Livestock and Crops**



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Report Prepared by

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in cooperation with

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Introduction

The general global agricultural outlook is for the volatility that has occurred in grain and oilseed markets in the past few years to diminish and for those markets to exhibit stability in the coming ten years. Prices have fallen significantly from the peaks reached in 2012, and further declines are occurring this year. For the remainder of the outlook period, prices are expected to stabilize, but remain well above world market levels prior to 2006. These developments in agricultural markets are influenced by a number of major factors, both short term and long term. Among them are the economy, weather, agricultural policy, and technology. Assumptions regarding these factors are keys to the shape of this outlook.

The primary factor impacting major crop markets in the past few years has been the weather. Since 2010, drought has impacted grain and oilseed production in various geographic regions, including Russia and surrounding grain producing republics, Canada, the EU, Argentina, and the U.S. For these reasons prices were especially elevated for the past several years. The return to normal temperature and precipitation patterns assumed results in an outlook for recovery in global supplies and easing prices. While grain and oilseed producers will see somewhat lower prices than in the past few years, these lower prices will alleviate high feed costs for livestock markets and food processors. While deviations from normal weather will continue to have short-term impacts on markets, in the long term, weather is expected to be approximately “normal.”

The global and individual country economies are expected to reach potential growth in the next year, buoying demand. The growth in demand will limit the downward movement of prices, and allow agricultural producers the returns necessary to expand production to keep pace with global consumption. Consumption is expected to slightly outpace population growth for most commodities as income expansion, especially in developing regions spurs improvements in standards of living and diets.

U.S. agricultural commodities will be competitive on international markets. The depreciation of the dollar since the turn of this century makes exports relatively less expensive to our trading partners. While the dollar is not expected to depreciate sharply in the future, neither will it regain the strength of a few years ago. Additionally, economies will reaccelerate globally, especially in emerging regions that are now the primary source of agricultural market growth and provide opportunities for U.S. agriculture.

The policy outlook has changed from one year ago as a new farm bill is now in place. Support in the form of direct payments and the ACRE program have been eliminated, reducing some of the price and income risk protection previously afforded to producers. The focus has shifted to insurance programs to reduce some of that risk. One of the major changes is the dismantling of the dairy program in favor of a new Margin Protection Program (MPP). This program aims to provide a minimum margin over feed costs for dairy producers, irrespective of the milk price level. Because of production coverage and payment limitations, the MPP provides greater risk protection for relatively small dairy farms and is much less of a benefit to large producers such as those in the west.

Agriculture in Nevada is set to benefit from the still relatively strong price outlook, especially for cattle. Feeder steer operations are the largest of the agricultural industries in Nevada and will enjoy rising prices through the middle of this decade. Dairy production is also a major industry. Milk prices have already come off last year's highs but are expected to remain high enough in this outlook to support profitability and the expansion necessary to meet the needs of the new whole milk powder processing plant. Hay prices are expected to fall somewhat from this year's levels, but global competition for feed in general and the competition for land in the U.S. by biofuels feedstocks will result in those feed prices remaining high and being reflected in hay prices nationally and in Nevada. In addition, the persistent drought in the far west is still underlying high hay prices thus far in 2014.

The healthy price outlook does not mean that the record profitability (as measured by net farm income) will persist. Underlying the high prices are expectations of perpetually elevated production costs. Analysis indicates that for profitability and ultimately production to be maintained in the long term, prices must allow producers to absorb the elevated input costs. As a result of higher costs, the prices received by producers will not entirely translate into profits. Nevertheless, the outlook is for healthy net returns across a wide array of agricultural operations.

The risks to this outlook come from several sources. Weather, domestic and global economic growth with accompanying changes in foreign exchange rates, domestic and global agricultural and trade policies, geo-political developments, and technology all have the potential to impact agriculture and positively or negatively alter the outlook.

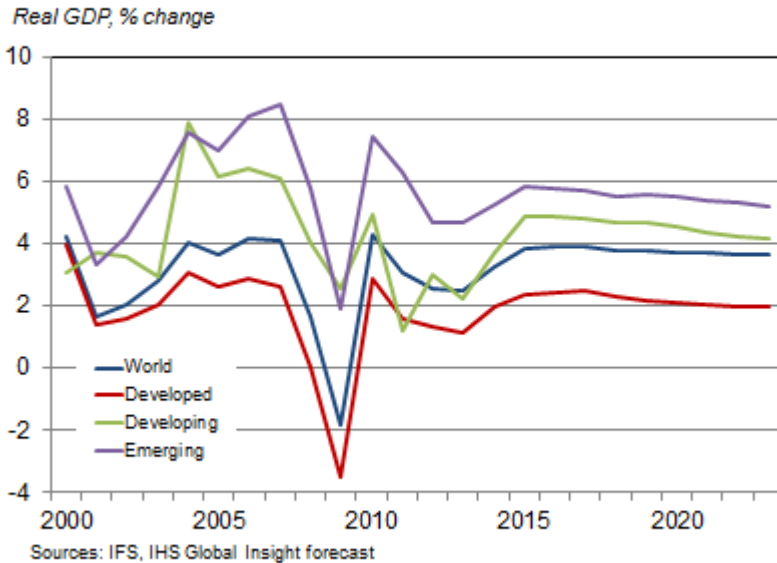
Weather can disrupt both crop and livestock production. Normal weather is assumed here because the frequency, location, and severity of weather events are unknown. Shocks to feed supplies in a number of locations around the world will also impact Nevada's crop and livestock prices and therefore those markets. The failure of the domestic and global economies to recover as assumed in this outlook will also prolong weaker demand. A stronger recovery would further boost this already optimistic outlook.

The Economy

The expansion following the Great Recession is gaining momentum and global growth is finally nearing the long-term potential. However, the economy has not yet begun to enjoy above-average growth that often occurs at the beginning of an expansionary period. Appendix Table 1 presents an overview of economic assumptions utilized in the outlook. The level of real GDP in the U.S., while increasing, continues to expand at a sluggish rate. Nevertheless, increases in income and wealth are boosting consumption of many goods, including food and fiber.

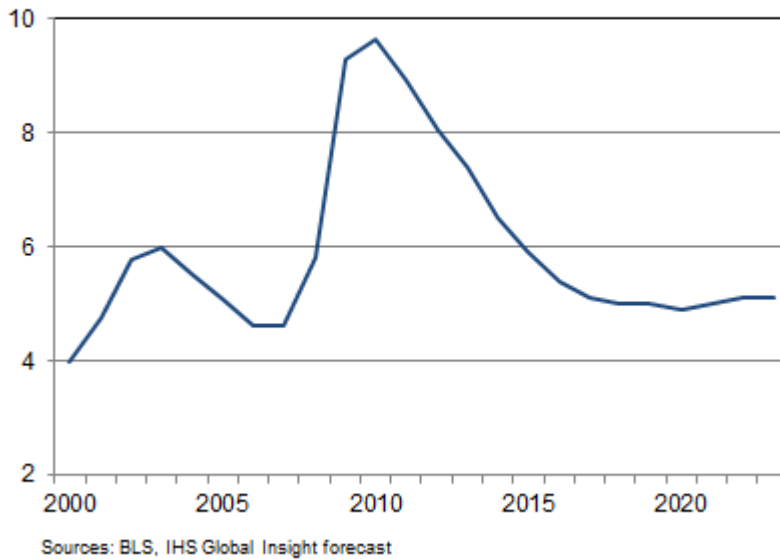
Global economic growth is projected to reach pre-recession rates in 2015 (Figure 1). Emerging and developing economies will see the fastest rates of growth in the recovery period and beyond. Already China and India, engines of global growth, are exhibiting high rates of expansion.

Figure 1. Emerging Economies Drive Global Growth



U.S. job creation has gained traction but excess labor keeps a lid on wages and salaries. The outlook is for job growth acceleration in medium term (Figure 2). Employment is finally nearing the pre-recession peak.

Figure 2. Labor Markets Are Recovering



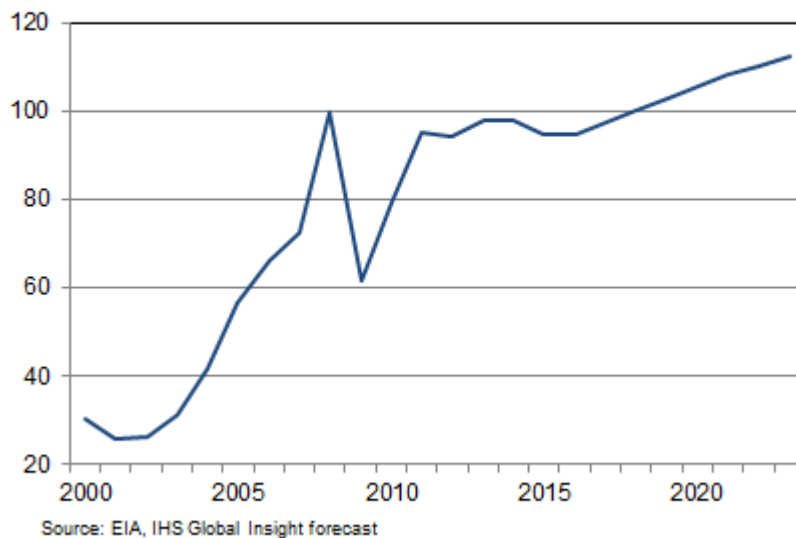
Population and accompanying labor force growth will keep the unemployment rate somewhat elevated this year, implying job growth will only slowly restore labor force health. The labor force participation rate remains low, somewhat disguising the improvement in the job

market. Nevertheless, job and income growth is prompting consumer spending, and aiding nascent business expansion.

Consumers have seen disposable income eroded by fuel expenditures, dampening their ability to purchase food and other products. Recently, energy prices have spiked and as the U.S. and global economies reach full potential growth in the middle of the decade, energy price pressures will remain (Figure 3). The impacts will be felt throughout the global economy; transportation costs will be elevated, industries will have higher costs, and agricultural producers will be squeezed between rising input costs and stabilizing or falling output prices. But the expanding economy is expected to absorb rising energy costs.

Figure 3. Oil Prices Will Keep Pressure on Economy

West Texas Intermediate crude oil price, \$/barrel

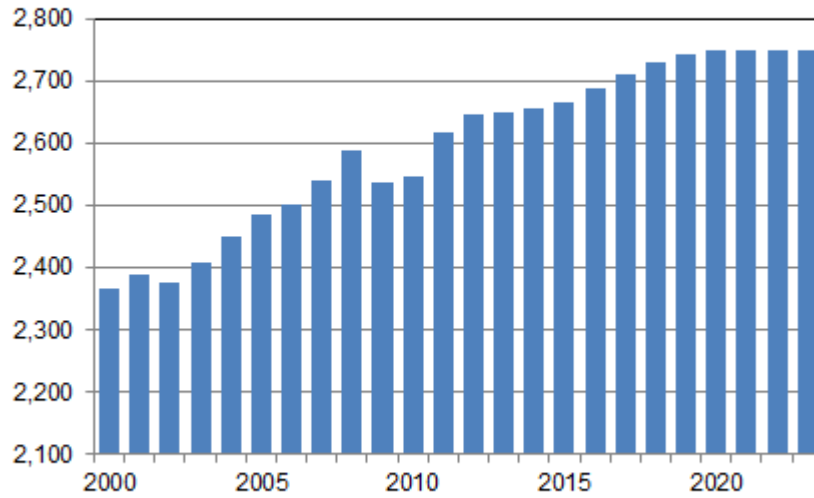


The disappearance of jobs and income during the past recession had a direct effect on food consumption. During the economic boom of the mid-2000s, real per capita expenditures for food increased in step with real income. With the crash in late 2007, food expenditures exhibited a marked decline (Figure 4). Since 2010 there has been an increase in per capita food expenditures, but this also coincides with an increase in the real price of food. As such, consumers are paying more for the same basket of food, even in inflation-adjusted terms, than a few years ago and the increase in expenditures does not necessarily reflect an equivalent increase in the quantity of food consumed. Furthermore, extremely high fuel costs have constrained food budgets and real expenditures are exhibiting sluggish growth.

The Fed remains watchful of the staying power of the recovery and the ability of consumers and businesses to borrow. As a result, interest rates will remain at low levels for the next year until economic growth gains full steam (Figure 5). Even though interest rates remain low, consumers, especially those applying for mortgages are finding lending institutions maintaining tight lending standards.

Figure 4. Food Spending Recovers

Real per capita food expenditures off premises, \$2010

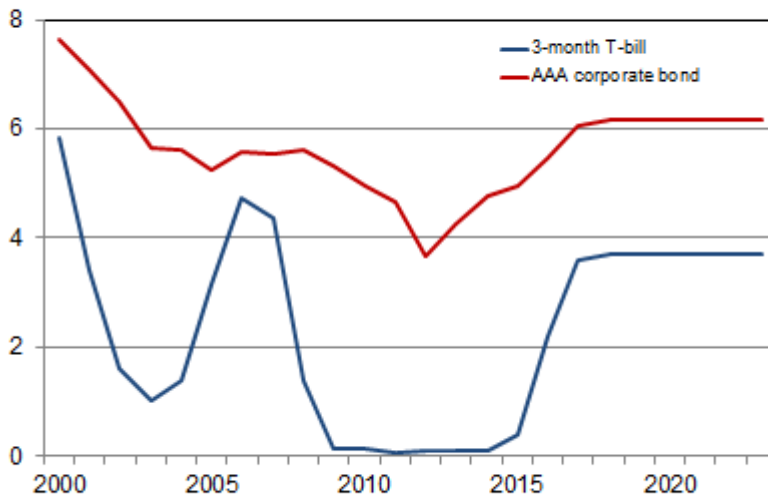


Sources: BEA, IHS Global Insight forecast

Nevertheless, low interest rates are a benefit to producers that can demonstrate credit worthiness. Low short-term interest rates for annual operating expenses are reducing costs of borrowing. Longer-term interest rates are also low, benefitting producers with capital and equipment needs.

Figure 5. Interest Rates Could Spur Investment

Interest rates, %

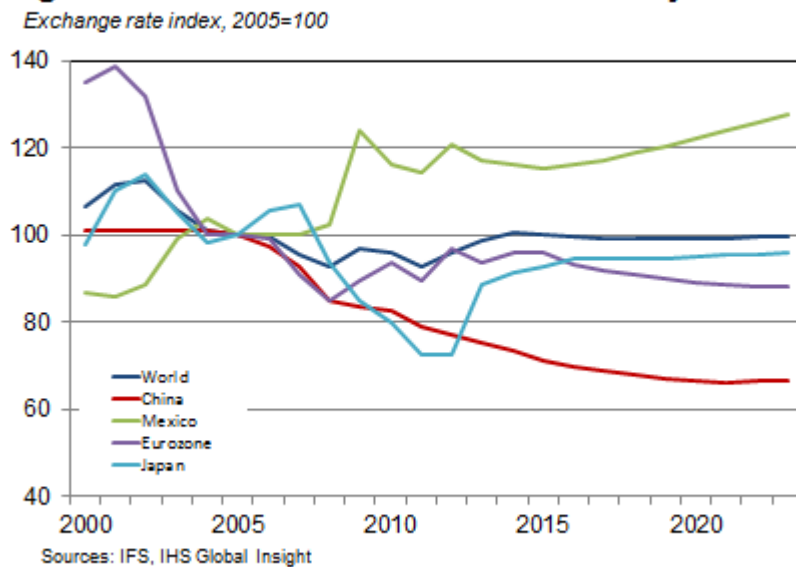


Sources: IFS, IHS Global Insight forecast

The weaker dollar is generally supporting U.S. agricultural exports. Adjustments this decade have brought the dollar more in line with the proper valuation of trading partners' currencies. That adjustment is largely complete and the dollar is expected to stabilize in the next few years.

The depreciation of the dollar against the currencies of many major trading partners in recent years makes prices of U.S. commodities very competitive on world markets. Despite the sharp rise in prices of grains, oilseeds, and livestock products on domestic markets, the weakening exchange rate has substantially dampened those price increases in international markets. Although the dollar is stabilizing against a basket of foreign currencies, the exchange rate with any individual currency could still change (Figure 6). How currencies of specific trading partners are valued against the dollar could have significant ramifications for bilateral trade.

Figure 6. Individual Markets Move Differently



One of the exceptions to the exchange rate effect is with the Chinese Yuan. The Chinese government is limiting the ability of the Yuan to float relative to major currencies, and it remains undervalued against the dollar. As a result, Chinese products in the U.S. are cheaper than with a purely market-driven exchange rate, while U.S. products remain more expensive in China. This exacerbates the huge trade imbalance the U.S. has with China and limits the export ability of American agricultural producers to the largest, fastest growing market in the world. This issue remains an area of contention between the two countries. Nevertheless, the outlook is for the Yuan to appreciate relative to the dollar, giving U.S. exporters a gradually increasing advantage in Chinese markets.

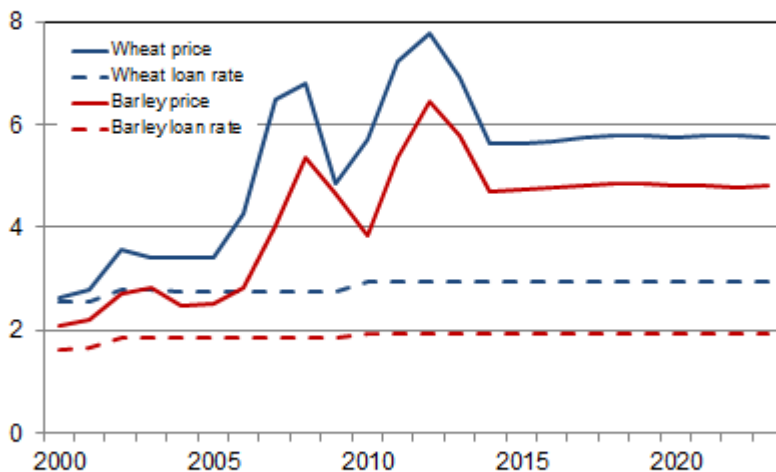
Agricultural Policies

The baseline incorporates provisions of the Agricultural Act of 2014, the new farm bill. For crop producers, this includes the elimination of direct and countercyclical (DCP) payments and the average crop revenue election (ACRE) program. It also includes the creation of two new options, price loss coverage (PLC) and agriculture risk coverage (ARC), as well as new crop insurance policies.

The provisions of the Marketing Loan Program that were under the 2008 farm bill will be continued. Crop loan rates are assumed to be maintained at current levels. Prices are expected to be well above those policy rates, therefore they will not be effective in these projections and will not trigger marketing loan payments (Figure 7). Policy assumptions are presented in Appendix Table 2.

Figure 7. Marketing Loans Will Not Be Triggered

Prices, \$/bushel



Sources: USDA, FAPRI-MU

Producers participating in the PLC program receive a payment when national season-average farm prices fall below fixed reference prices. The new reference prices are higher than the target prices that were used in calculating countercyclical payments under the previous farm bill (Figure 8).

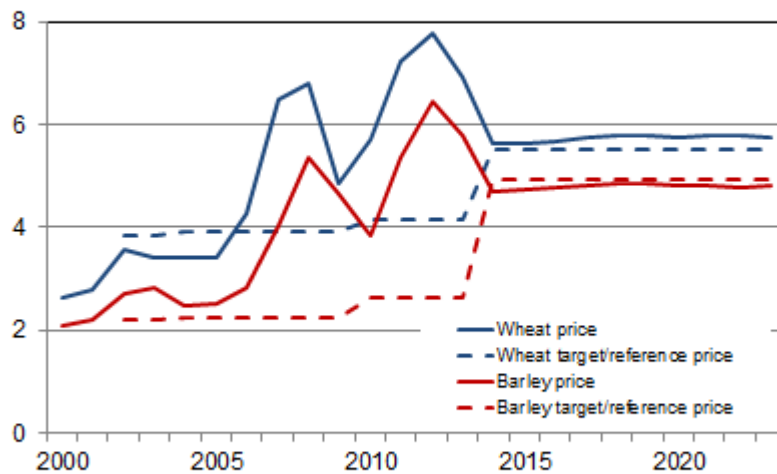
ARC is the other new option for grain and oilseed producers. Payments occur when county or farm-level revenues per acre fall below 86 percent of a benchmark. The benchmark depends on moving five-year Olympic averages of national prices and county or farm yields. The new PLC and ARC programs cost little when crop prices and revenues are high, but could make large payments when prices or revenues are low.

The Dairy Margin Protection Program (MPP) ends the Milk Income Loss Contract Program (MILC). This program is being replaced with a program that establishes a margin floor and

reduces the volatility in margins. The original intent was to incorporate a supply management feature that would reduce milk production in the short term and thereby result in prices and margins moving back upward. Government dairy product purchases were also to be eliminated under this program. However, the supply management scheme was not politically palatable and was not part of the final legislation. Therefore, government purchases of dairy products will be maintained under the Dairy Product Donation Program as a means of temporarily supporting prices sufficiently to bring margins back above the threshold that triggers payments. Because margins are targeted instead of prices, milk prices are expected to fall with lower feed costs projected in this baseline (Figure 9).

Figure 8. High Probability of PLC Payments

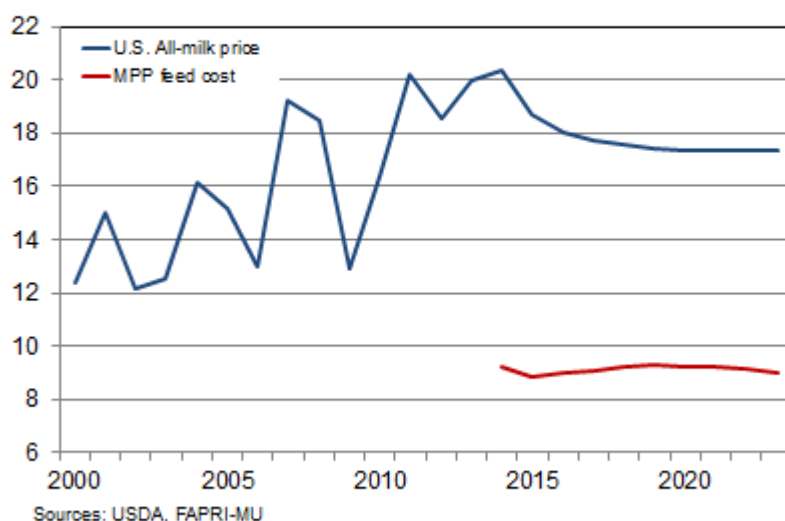
Prices, \$/bushel



Sources: USDA, FAPRI-MU

The basic margin protection level is \$4 per hundredweight at no cost to the producer (other than an annual \$100 administrative fee) for the entirety of the producer's historical base production. However, higher margins (up to \$8 per hundredweight) can be obtained for a premium to be paid by the dairy farmer. For coverage above the basic \$4 per hundredweight margin, the premiums are significantly higher for annual base production above four million pounds. This feature makes the legislation geared more toward small dairy producers rather than large operations such as those found in the west. While milk prices are expected to be high enough and feed component prices low enough not to trigger payments at the \$4 margin, it is likely that some payments will be made at higher levels of margin coverage in the baseline.

Figure 9. No MPP Payments Expected at Low Coverage
 \$/cwt

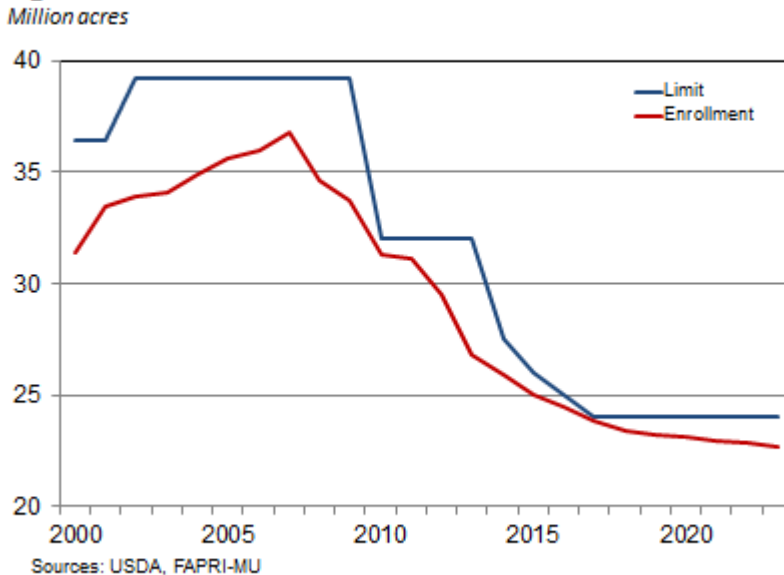


Sheep and wool producers historically relied on a variety of government programs. As some of those programs, such as the long-standing National Wool Act of 1954 were eliminated, severe adjustment took place in this industry. There were several temporary programs since 2000 such as the Lamb Meat Adjustment Assistance Program, the Ewe Lamb Replacement and Retention Program, and reinstatement of federal support for wool and mohair under the Farm Security and Rural Investment Act of 2002. However, the lamb meat and ewe lamb programs were temporary. Much of the support has disappeared, leaving the marketing loan program for wool the primary support mechanism. There is a Livestock Risk Protection program from the RMA.

In the new farm bill, the Sheep Production and Marketing Grant Program was introduced to strengthen and enhance the production and marketing of sheep and sheep products in the United States. The recent legislation also authorizes the Livestock Indemnity Program to assist with disasters that kill sheep and lambs and provides for cost-share of sheep killed by federally re-introduced or regulated predators including avian predators. Even with these programs, there is little support for the sheep and wool industry.

Under the 2008 farm bill the size of the conservation reserve was limited to no more than 32 million acres beginning in the 2010/11 crop year. With the new legislation the maximum level of the conservation reserve will fall from 32 million acres in 2013/14 to 24 million acres in 2017/18. Not only does this result in budgetary savings, it will have an effect on acreage that could come into production (Figure 10). Where this area expansion occurs will have an impact on land available for traditional or cellulosic crops, and for pasture land.

Figure 10. New CRP Limit Makes More Land Available



The baseline incorporates EISA, the 2007 energy bill, which mandates minimum levels of biofuel use under the Renewable Fuel Standard (RFS2). Under the RFS2, no more than 15 billion gallons of corn starch based ethanol can count toward the overall mandate in 2015 and subsequent years. The current policy baseline assumes that the Environmental Protection Agency (EPA) proposal to modify the 2014 Renewable Fuel Standard (RFS) will be adopted and that a similar approach will be used to set biofuel use mandates in subsequent years. Projected growth in ethanol production over the next several years is limited.

The General Outlook

Production Costs

The costs producers face for the means of agricultural production underpin the outlook as much as the demand for commodities. In the long term, producers must be able to recover their costs plus make a profit to continue to expand production to meet growing global demand. This outlook reflects expectations of producers' abilities to maintain margins above costs. While producers must also be able to recover fixed costs in the long run, annual production decisions are made on whether variable, or operating, costs can at least be covered. Indices of major cost categories are presented in Appendix Table 3.

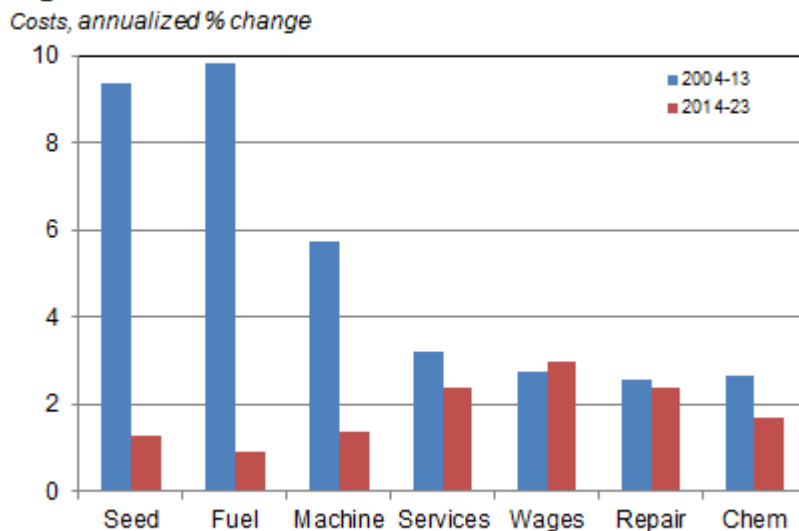
There are several categories utilized in developing the enterprise budgets underlying operating cost estimates and projections in the outlook. Major categories for crops include seed, agricultural chemicals, fuels and energy, machinery, labor, repairs, and services. Livestock enterprises are faced with feed, feeder animals, veterinary, equipment, fuels, trucking, and labor, among the major cost categories.

Not all cost categories move together over time, with some exhibiting faster rates of inflation and greater volatility. In the period from 2004 to 2013, fuel costs increased relatively faster than any other major category, followed by seed. Fuels had by far the greatest volatility, being driven by wild swings in petroleum and distillate prices. Over the coming decade, not all cost categories are expected to behave as in the previous decade (Figure 11).

Fuels and machinery are projected to have the lowest average annual cost increases. Following the run-up in energy prices in 2012 and early 2013, and again in early 2014, fuel prices are expected to ease for several years before re-establishing upward movement. Wages are projected to be the fastest growing category and much of this growth will take place in the next few years as labor markets tighten with increasing employment. As the excess pool of labor decreases, wages will accelerate in the medium term. Items such as services will reflect changes in wages as labor makes up a substantial portion of the costs of these items. As no sharp acceleration or deceleration of the economy and therefore job market is driving the wage rate projections, these items will also follow a relatively smooth upward path that suggests controlled inflation.

The volatility and potential for sharp increases in fuel prices means that this category embodies significant risk for producers. However, fuel costs are generally not among the largest cost categories. For livestock, feed costs generally account for the largest category. For crops, it is usually fertilizers and other agricultural chemicals.

Figure 11. Cost Increases Will Shift



Sources: USDA, BLS, IHS Global Insight forecast

Crops

The general outlook for U.S. agriculture is for declining crop prices in the short term, then for stabilization in coming years. Prices and revenues will decline from the past year but remain healthy. Even with elevated costs, most crop and livestock sectors are expected to enjoy an

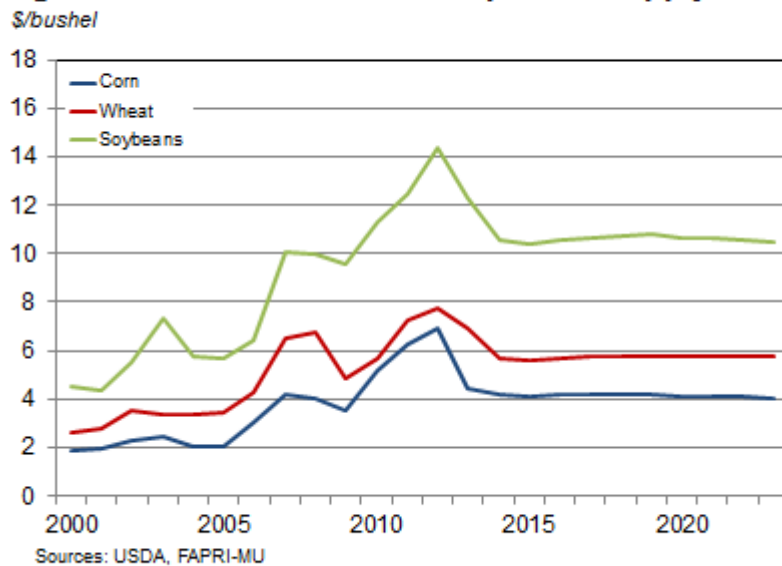
extended period of profitability. The price outlook for important Nevada commodities is presented in Appendix Table 4.

Major grain and oilseed prices were previously driven higher by several factors. Mandated use of biofuels led to a more than one-third increase in domestic corn disappearance over the past decade, with smaller increases in soybean demand. Despite a sluggish global economy, developing and emerging countries, especially China, are importing increasing quantities of agricultural commodities.

In addition, disruptions to supplies of major grains in the past few years have contributed to tight supplies. In 2010, a severe drought in Russia severely cut the wheat crop there, causing a hangover in global grain markets this year. The drought in the Southern Plains in 2011 that expanded to include most major agricultural areas in the U.S. in 2012 also reduced grain and other crop supplies. Those effects were felt in winter grain and forage crops well into 2013. The extreme conditions have not been eliminated in all regions and could impact crop and livestock markets again in 2014.

Assumption of normal weather around leads to projections of persistently adequate levels of food and feed production and lower grain, oilseed, and hay prices than in the past few years (Figure 12). In addition production of ethanol necessary to meet the mandated levels of consumption by 2015 has nearly been reached already. Without further mandated expansion of ethanol use and the expiration of ethanol credits, little increased corn-based ethanol production is expected. However, prices are still expected to remain elevated relative to levels prior to the implementation of RFS2 as the level of corn demand from ethanol production persists.

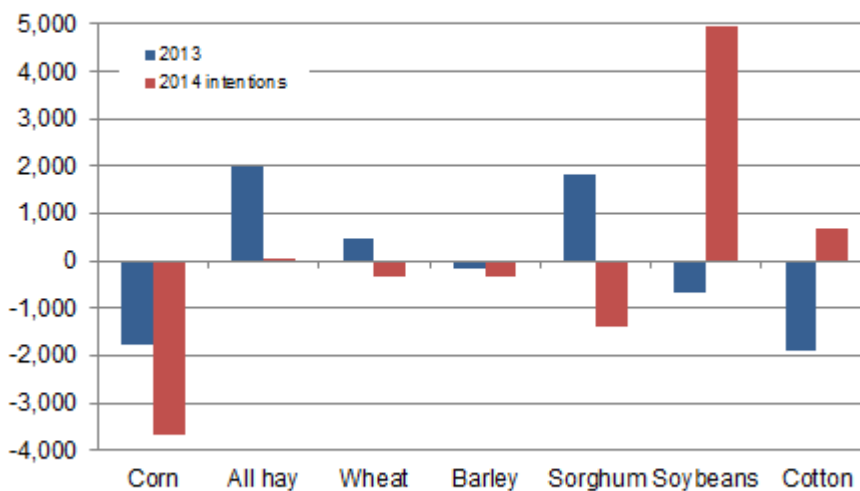
Figure 12. Prices Lower With Improved Supply



Lower domestic prices for grains resulted in acreage shifting to soybeans and cotton in 2014 (Figure 13). Although soybean prices have also fallen, they have declined relatively less than grain prices, in general. The *Prospective Plantings* report, released by the USDA at the end of March indicated that the acreage distribution would swing toward more soybeans and less grain, especially corn. Sorghum acreage will also see substantial declines. Wheat and barley are expected to see slightly lower acreage, while cotton plantings will exhibit a small increase. Little new land is expected to be drawn into production as prices are down overall and of the land previously available has already been brought into production.

Figure 13. Acreage Shifts Out of Grains

Acreage shift from previous year, in acres



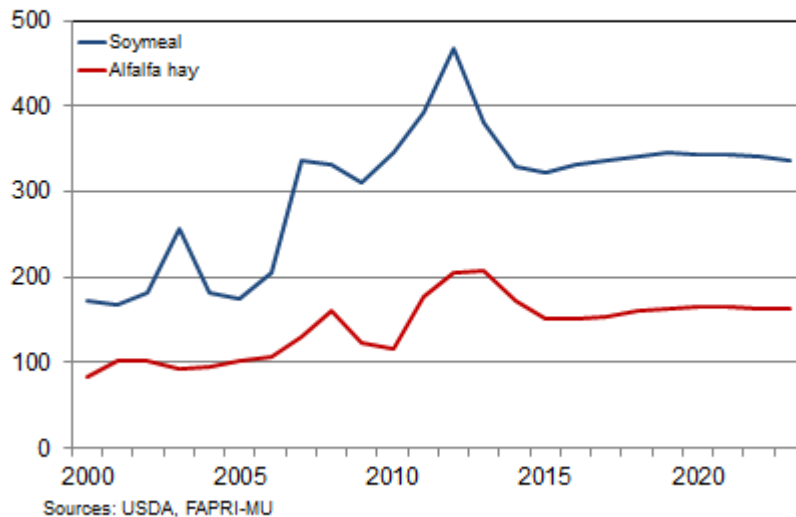
Source: USDA: *Prospective Plantings*

Since the peak in Conservation Reserve Program acreage in 2007, nearly 10 million acres have come out of the program as expiring contracts have added acres back into the land inventory, although not all of this acreage is suitable for crop production. It is precisely this potential for CRP land to re-enter the production system that makes the lower maximum CRP acreage limit under the new farm bill so important. Additionally, production increases with rising yields as improved varieties and management practices are utilized. During the run-up in ethanol production, much of the corn supply increase was a result of rising yields, as available crop land is limited.

National average hay prices are lower, also. However, this is not the case for some western states. Shrinking hay area harvested due to drought and competition from higher value uses are keeping some regional hay prices elevated. Overall, hay area harvested in the U.S. will be little changed in 2014/15. As grain and hay prices decline this year (Figure 14), livestock producers will enjoy lower costs of production. Because Western cow-calf producers are dependent on grazing public lands, their cost declines are not as great as in other parts of the country.

Figure 14. Feed Cost Pressures Will Ease

U.S. price, \$/ton



Cattle

Cattle prices have risen sharply since 2010 (Figure 15). The continuing tight supply of cattle, exacerbated by the liquidation of several western states' herds with the severe drought will keep upward pressure on cattle prices until inventories can begin to recover in the second half of this decade. While non-feed costs are assumed to increase at recent historical rates, feed are easing from recent high levels. In addition, many western herds are grazed on federal lands where grazing fees will remain at long-term historical rates, giving some insulation from still elevated feed costs. In the short term, however, this insulation may be limited by the poor condition of western rangelands accompanying the drought. As a result, many ranchers will have to shorten grazing periods and temporarily rely more on supplemental feeds such as hay.

Declining feed costs will contribute to healthy cow-calf profitability for the next several years (Figure 16), fueling eventual expansion of herds. Because of the high proportion of cow-calf operations in the western cattle industry, this region will lead the nation in the expansion as calves are produced to expand breeding herds and to provide feeder cattle for beef production.

National cattle inventories are expected to bottom out in 2014 then enter an extended period of expansion. In the short term, high prices for cattle will encourage marketing, while at the same time expectations of profitability will encourage expansion of herds. These two conflicting objectives will result in gradual expansion of the breeding herd while allowing increased marketing at high prices.

Figure 15. Cattle Prices Will Rise Until Mid-Decade

U.S. average prices, \$

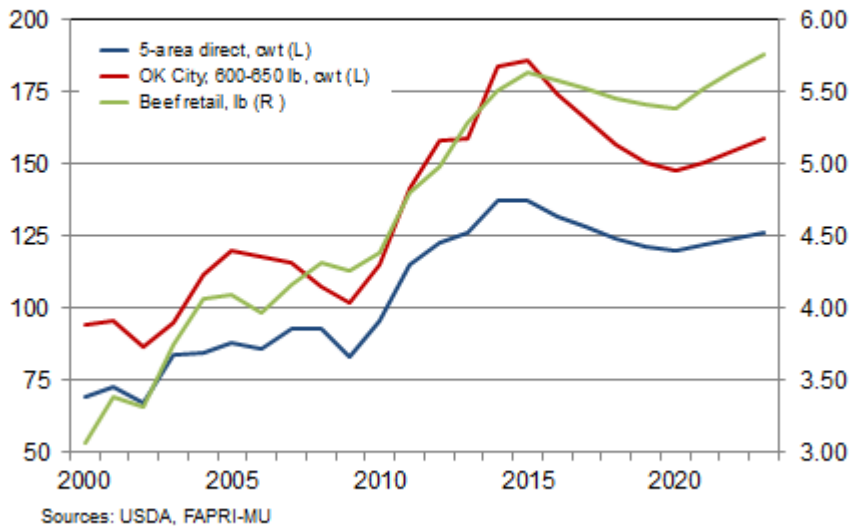
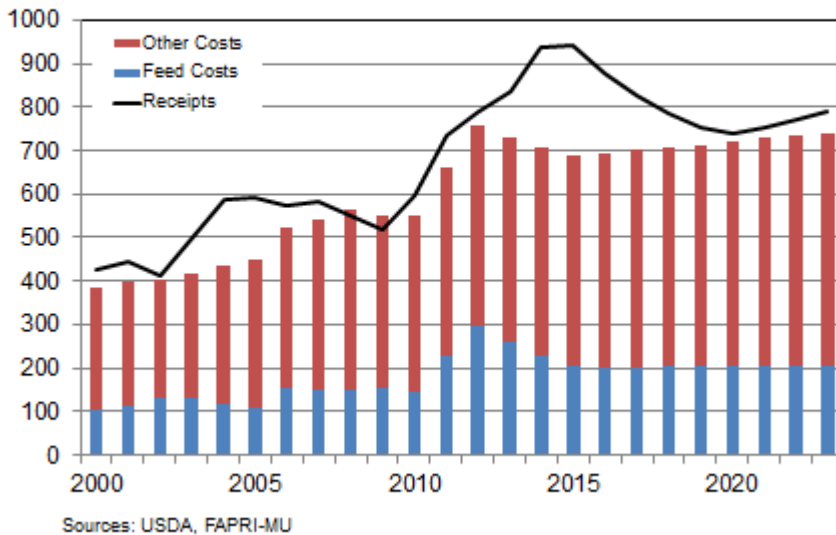


Figure 16. Profitability Will Support Expansion

Cow-calf, \$ per cow, U.S. average

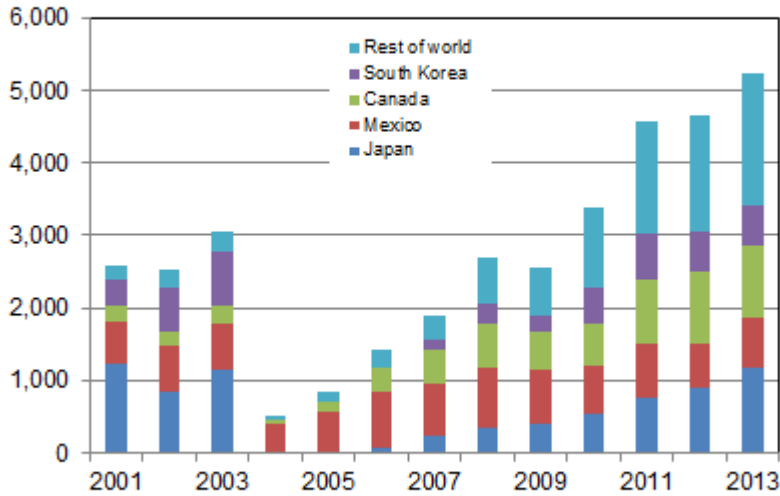


After the detection of BSE in the U.S. in 2003, beef exports were nearly eliminated for two years. Particularly Japan, the largest customer for American beef, and South Korea took hard stands against imports from this country. Over the past five years, restrictions on U.S. beef in those countries have been gradually eased and U.S. beef is flowing to their consumers again (Figure 17). With the safeguards put in place since 2003, confidence has been restored in the

U.S. beef production, processing, and shipping chain. The discovery of a BSE infected animal in California in 2012 caused very little disruption to U.S. beef exports.

Figure 17. Importers View U.S. Beef as Safe

U.S. beef exports, \$mil



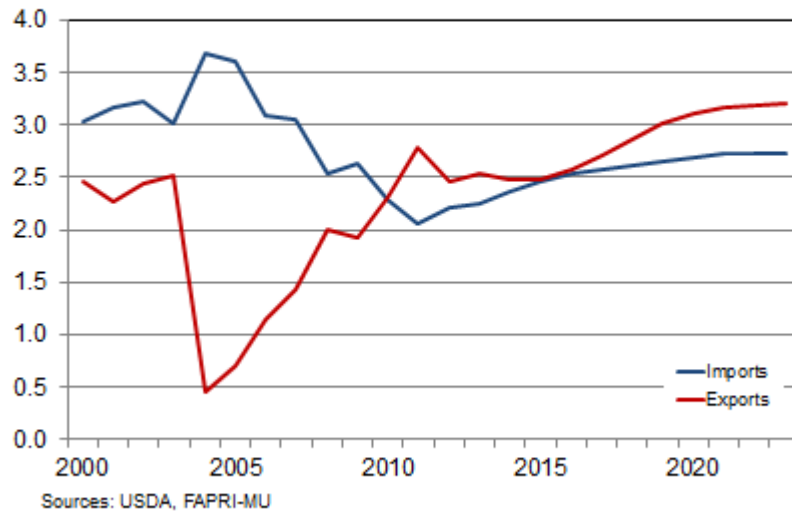
Source: International Trade Administration

The outlook for beef trade is bright (Figure 18). The recovering global economy, especially for developing countries, will expand meat, including beef demand. China’s rising affluence has been the dominant driver of rising commodity imports by that nation for several years. Other developing nations are also seeing incomes reach thresholds that typically indicate more demand for higher-quality diets, and beef producers will benefit. Particularly developing nations with a constrained land base, many of them Asian nations with rapid income growth, will turn to global markets to acquire agricultural products they are not capable of producing domestically.

Despite the sharp rise in cattle and beef prices in the past few years and expectations of sustained strong prices, U.S. beef remains competitively priced on world markets. The depreciation of the U.S. dollar since 2000 keeps prices low in foreign currencies, while U.S. producers enjoy higher prices in dollars.

Figure 18. Trade Again a Boon for U.S. Producers

Beef trade, bil lb

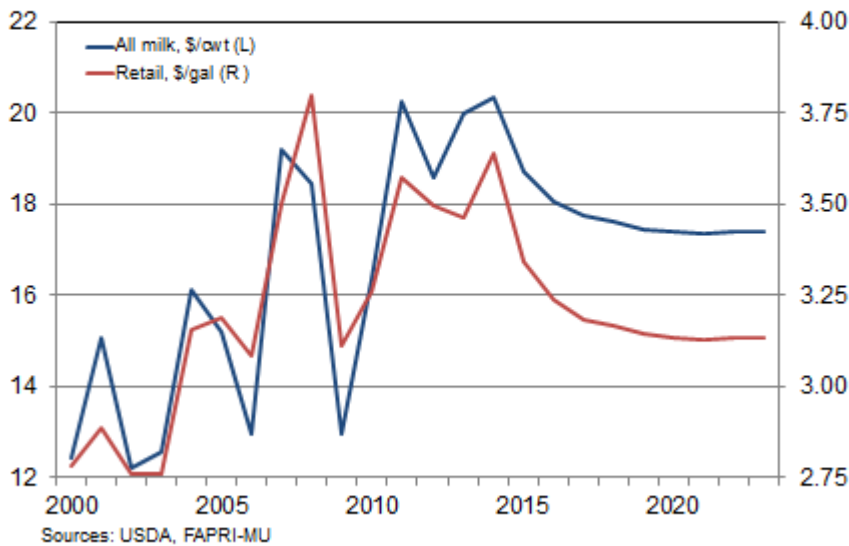


Dairy

Milk prices have regained 2012 losses in 2013 and are projected to remain high again this year (Figure 19). Global economic strengthening is boosting demand for dairy products. However milk production is edging higher in recent quarters while feed prices are easing. This will lead to a softening of milk prices in the next several years.

Figure 19. Milk Prices Will Reflect Feed Costs

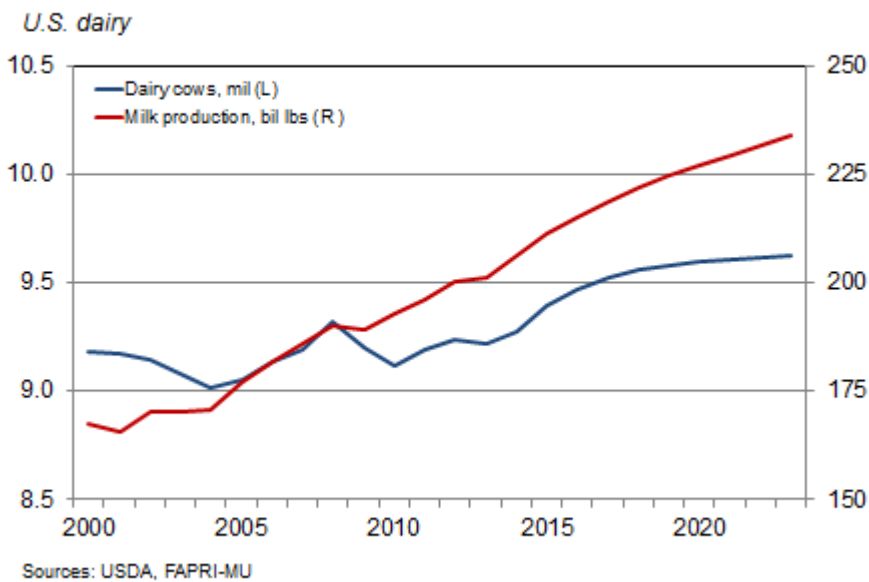
U.S. milk prices



Dairy producers will see milk prices slide in the medium term then stabilize after the middle of the decade. However, milk prices will remain high enough to induce continued expansion of herds and milk production, particularly in the Western States where dairy production has been expanding for several decades, locating near areas of the highest population growth in the nation. The anticipated feed costs declines will help dairy producers absorb the decline in milk prices. The decline in feed costs will also keep dairy margins high enough that the new Market Protection Program payments will only occur occasionally, and likely not at the basic \$4 per hundredweight basic margin coverage.

Dairy cow inventories have been relatively stable since 2000 while milk production has increased nearly 20% over that time (Figure 20). Ongoing increases in milk yield per cow will be instrumental in supplying the milk requirements of the U.S. Breeding, nutrition, veterinary science, and lactation cycle management are among the factors combining to increase the average cow's ability to produce milk. In addition, herd expansion will also be vital to meeting both domestic milk demand and increasing exports of dairy products.

Figure 20. Profitability Will Fuel Herd Expansion



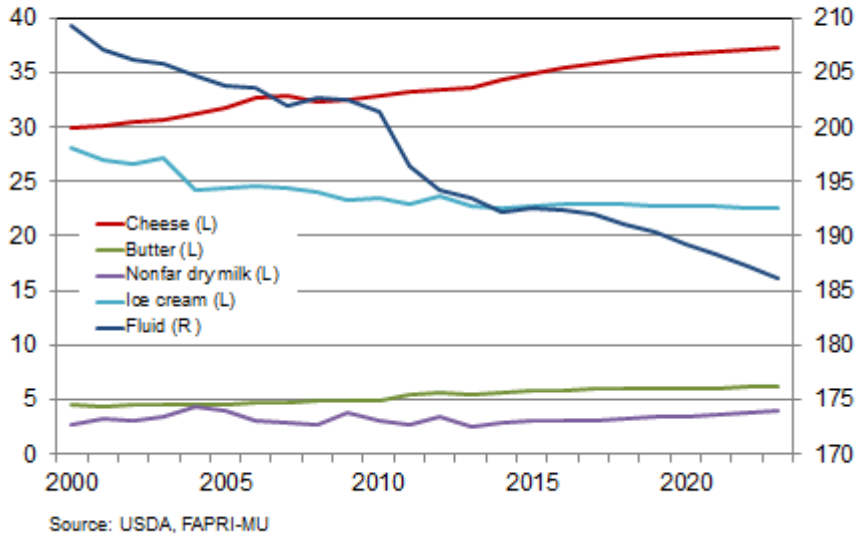
While dairy herds have been contracting in other parts of the country, they have been steadily expanding in the West. The Western States have some of the highest rates of population growth in the nation. Milk production tends to take place near regional population concentrations to provide fresh fluid milk to markets. Also, the Pacific states have ready access to ports to supply dairy products to the global market.

The aging U.S. population and a smaller proportion of children than just a few years ago are accelerating the decline in per capita fluid milk consumption (Figure 21). Consumption of most dairy products is flat to down. Health concerns also impact the consumption of dairy products with high milk fat contents. The exception is the increase in per capita cheese consumption.

Dining out, especially in fast food restaurants, results in higher consumption of cheese. In addition, Hispanic consumers traditionally eat above average quantities of cheese, and this segment is the fastest growing population cohort.

Figure 21. Diets Shift Away From Fluid Milk

U.S. Dairy product consumption, lbs/capita

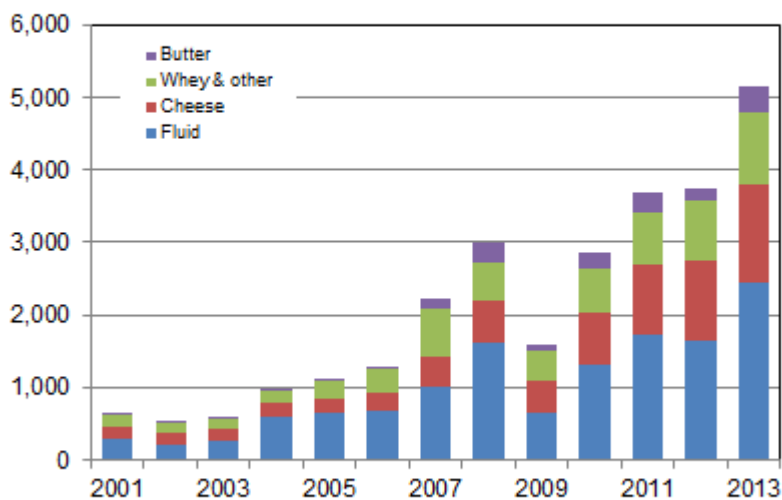


Domestic consumption will provide only limited growth potential. Meanwhile, rapidly growing and more affluent populations in developing countries, especially in Asia, are providing excellent market opportunities for dairy products (Figure 22). Like many other agricultural commodities, global markets for dairy products are viewed as an opportunity for expanding the domestic industry.

The U.S. dairy industry’s growth potential is greatly enhanced by international demand. As the global economy expands, demand for value-added dairy products will increase. Particularly in those nations with rapid income growth but constraints on livestock production, consumption will be fed by purchases from major producing nations. Asian markets will be among the most rapidly growing destinations for dairy products from the world market.

Figure 22. Growth Opportunity for Dairy Industry

U.S. dairy exports, \$mil



Source: International Trade Administration

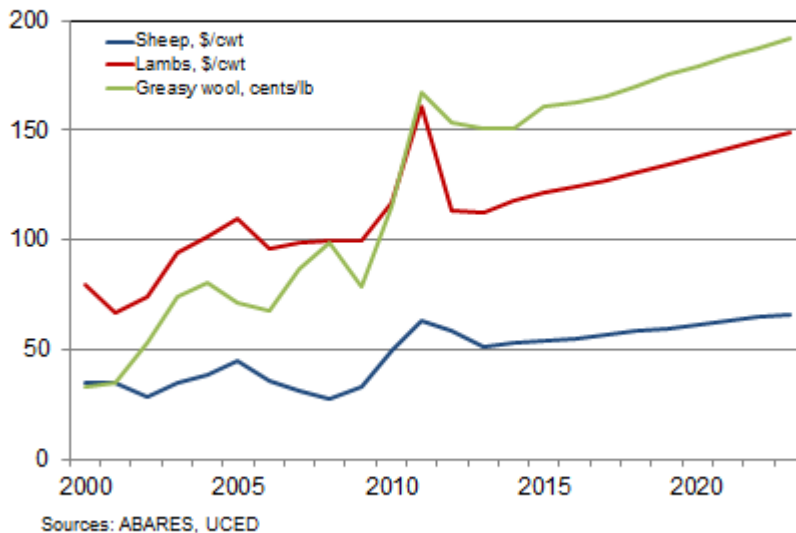
Sheep and Wool

The sheep and wool industry in the U.S. has been on the decline since the end of World War II as producers have faced poor market conditions. Increasing preference for other meats and competition from other natural and manmade fibers has resulted in consumer demand shifting away from lamb and wool. As a result, sheep producers have been required to rationalize flock size to reflect flagging demand in order to maintain prices and margins. In addition they depended on a variety of government programs for price support. Now most of those programs have been eliminated and support is primarily from the marketing loan program for wool.

The U.S. is not a dominant player in the global sheep and wool markets as it is in many other livestock and products markets. As a result, developments in major sheep producing regions have a more pronounced impact on U.S. producers than for other commodities, and U.S. producers have struggled to maintain competitiveness. Nevertheless, this also provides opportunities for windfalls for domestic producers as they can also benefit from adverse conditions elsewhere. A recent example is the hike in wool prices in 2011 that resulted from flooding in Australian sheep producing states (Figure23). Also, the relatively weak U.S. dollar in recent years is expected to persist throughout the baseline, making global prices attractive in the domestic currency.

Figure 23. Wool Will Support the Sheep Industry

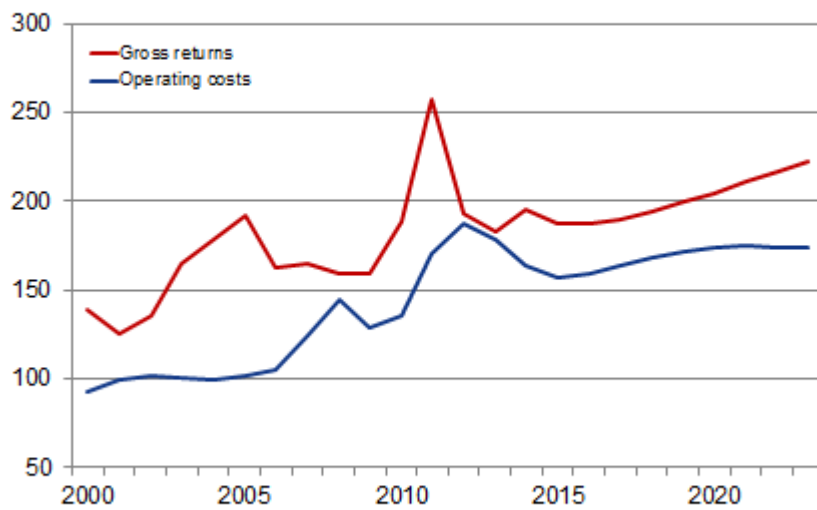
U.S. price



While lamb and mutton are losing ground to other meats in the developed world, consumers in developing nations are increasing consumption of these products as incomes push their propensity to consume upward and population growth adds to the demand base. As a result, global lamb and mutton trade is increasing, albeit slowly and inconsistently. Wool demand has generally declined over the past two decades, although it has stabilized in recent years, primarily as a result of rising demand in China, developing Africa, and the Former Soviet Union. Even with expected tepid growth in global markets that will offer some support to prices, the sheep and wool industry in the U.S. will continue to decline as rising costs will limit profitability (Figure 24). However, the rate of decline is not expected to be as rapid as in the past two decades. The majority of profitability in the industry will come from the wool side.

Figure 24. Lower Costs Will Restore Profitability

\$/bred ewe



Source: UCED

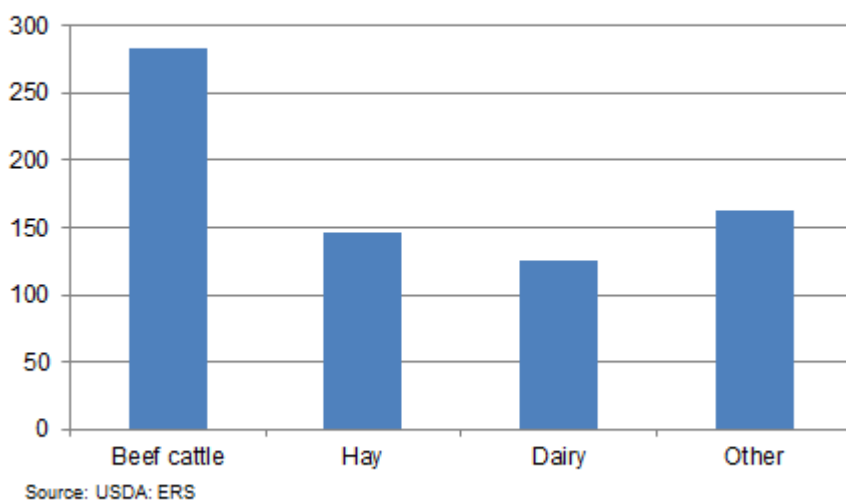
The Outlook for Nevada

Implicit in this outlook is that prices will be sufficient for producers to garner returns above operating costs sufficient to meet fixed costs and provide profits to their operations. As such, Nevada agriculture is generally expected to be able to maintain or expand most sectors, with the exception of those that have been exhibiting long-term declines such as sheep and wool. Additionally, dairy net returns will be squeezed in the last five years of the outlook. In reality, there will be periods when gross receipts far exceed costs in a year, and there will be periods when profitability is lacking. Net returns for Nevada agricultural commodities are presented in Appendix Table 5.

Nevada agriculture revolves around livestock, especially beef cattle production. In 2012, nearly 40% of state agriculture gross receipts stemmed from beef cattle (Figure 25). Dairy production also accounts for a large proportion of the value of agriculture. While hay is the largest crop, it is directly related to cattle and sheep production. As such, livestock, especially cattle production dominates the state's agricultural sector.

Figure 25. Nevada Ag Is Livestock Dependent

Gross receipts, 2012, \$ mil



Beef cattle

Nevada ranchers and farmers are benefitting from strong prices for their commodities at the national level. Feeder steer prices are well above levels seen just a few years ago. While there are some local differences in prices compared to regional and national levels, the relatively small share of national production that occurs in Nevada means that producers in this state have little influence on national prices. The high-price environment for beef is expected to persist through the middle of this decade (Figure 26).

Coming off the bottom of cyclical cattle inventories and exacerbated by the reduction in herds due to severe drought in several parts of the U.S. during the past three years, there has been a significant boost to cattle prices. It will take several years for herds to expand, creating demand for cow-calf operators in states such as Nevada. This situation is boosting prices even higher than would normally be expected during the expansionary phase of the cattle cycle.

For beef cattle producers, national tight supplies, effects of the drought and the associated high steer prices will set the stage for an extended period of solid profitability through the middle of this decade (Figure 27), especially after feed prices fall. Although purchased feeds are smaller proportion of cow-calf budgets in Western States that rely heavily on grazing, movements in prices of hay and other feed components will have an impact on cattle producers' bottom lines. In the near term, the need to feed additional quantities of still high-priced purchased hay will negatively impact bottom lines.

After the past several years of low cattle inventories, the national and state beef herds are expected to enter a period of expansion. Feeder steer prices began to inch up in 2010 and in 2011 some signs of expansion began to emerge. Nevertheless, the drought is preventing Nevada cow-calf producers from expanding inventories. The preliminary January 2014 cattle inventories

indicate that the Nevada herd shrunk for the second year in a row. Once the drought dissipates, with high and increasing returns expected over the next several years, the Nevada cattle numbers are expected to expand, topping out around 2016. After that time, prices are expected to begin to reflect the downside of the cycle and inventories will follow.

Figure 26. Cattle Prices Boosted by Low Inventories

Cattle prices, \$/cwt

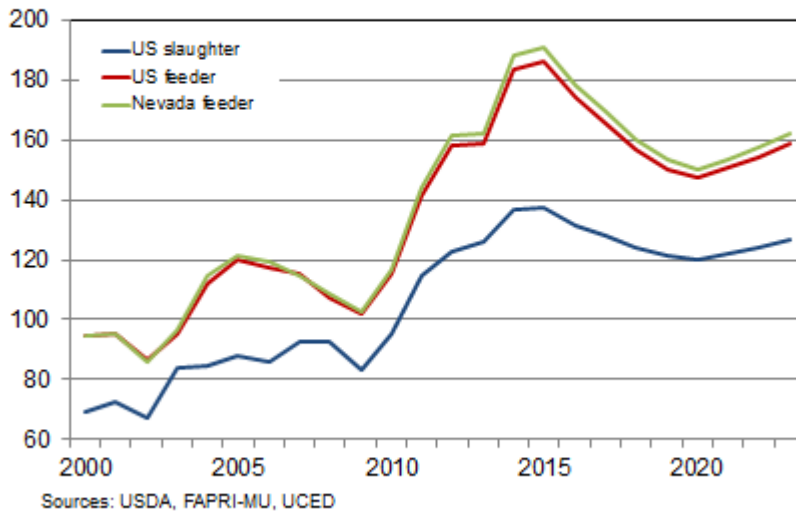
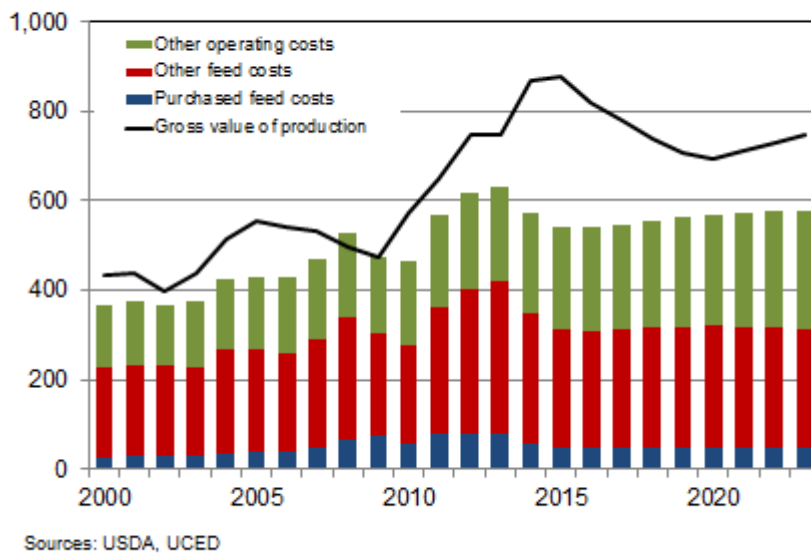


Figure 27. Strong Prices Will Support Profitability

Basin & Range cow-calf, \$/bred cow

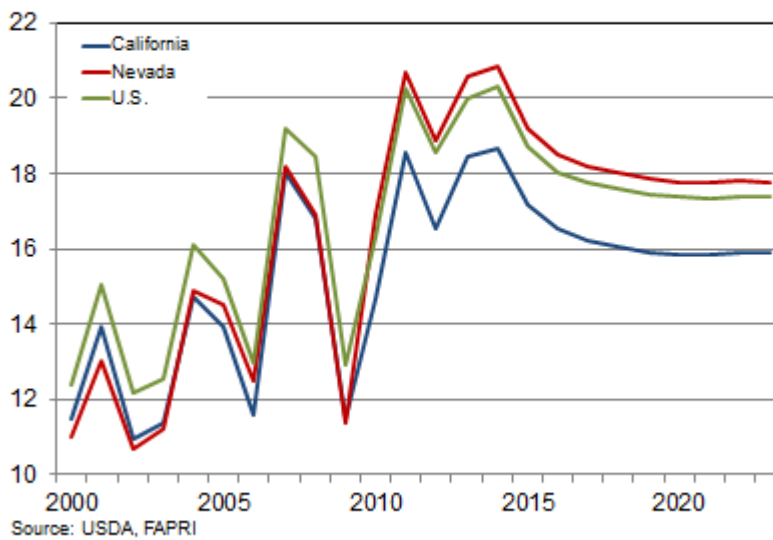


Dairy

Milk prices are projected to be high in 2014 before falling with increasing production and lower feed costs next year. Even at a lower level in coming years, prices will remain well above those experienced prior to 2007 (Figure 28). Even with declining prices in coming years, dairy production will be profitable as lower feed costs result in positive margins. Margins are expected to be high enough over the baseline period that the Margin Protection Program payments will not occur at the basic \$4 per hundredweight level, and will occur relatively infrequently at most higher levels of coverage.

Figure 28. Milk Prices Will Fall as Feed Prices Ease

All-milk price, \$/cwt



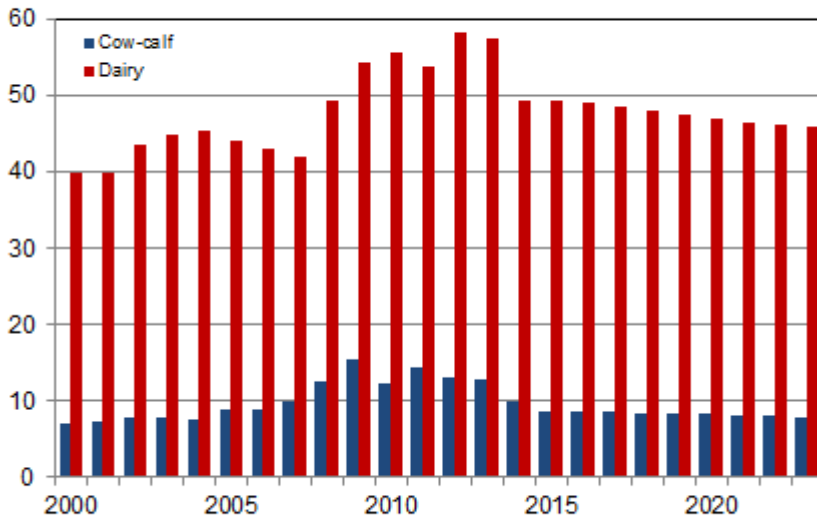
Dairy producers have a much larger dependence on purchased feed than cow-calf producers and will therefore have a greater advantage from lower grain, protein meal, and hay prices (Figure 29). The expectation of a return to normal weather in major crop producing regions both in the U.S. and around the world is behind the partial easing of crop, including grain, hay, and oilseed prices.

Dairy producers were squeezed by high feed costs over the past three years but profitability is returning in 2014 (Figure 30). Over the next ten years, dairy producers are expected to maintain a positive gap between prices and feed costs that will stabilize at recent lower levels. However, other costs are expected to increase at historical rates. When total operating costs are considered, margins will tighten somewhat in the second half of the outlook, suggesting that small dairies that are unable to withstand low margins will face challenges, and larger operations are more likely to be the source of expansion. It must be noted that the MPP only offers payments on margins over feed costs. Increases in other costs do not trigger payments and therefore overall profitability is expected to decline somewhat in the latter half of the projection

period. In addition, the gross value of dairy production also includes sales of calves and cull cows. In the second half of the outlook, cattle prices will decline, reducing the value of cattle sales for dairy producers.

Figure 29. Dairy More Exposed to Purchased Feed

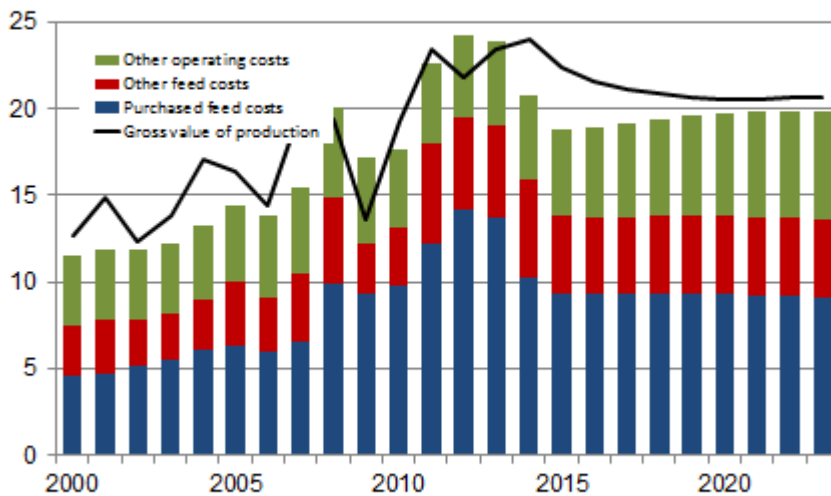
Purchased feed costs, % of operating costs



Sources: USDA, UCED

Figure 30. Profitability Expected to Return in 2014

Nevada dairy, \$/cwt of milk sold



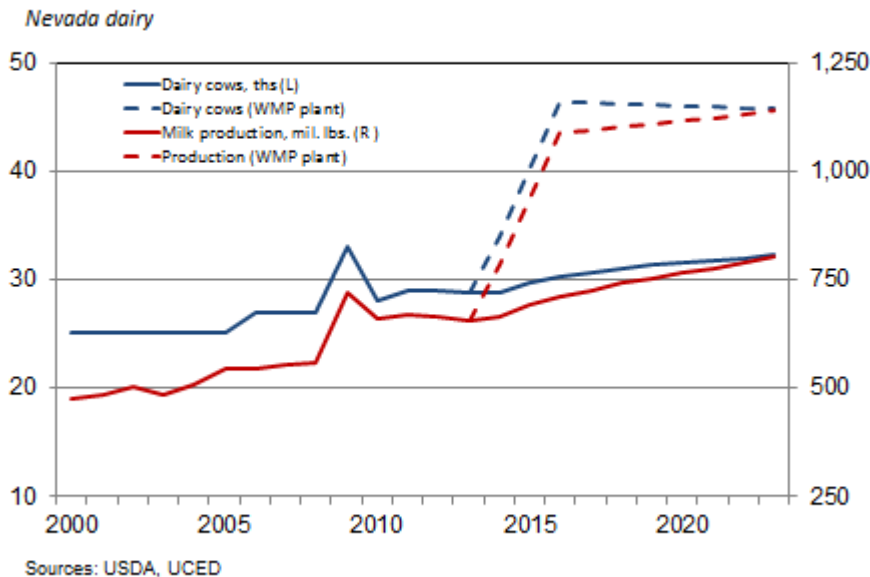
Sources: USDA, UCED

Expanding processing also provides markets for milk. Although the Midwest has some of the slowest population growth in the nation, its established processing and distribution infrastructure attracts milk production. Products are more readily shipped than fluid milk and the

Midwest has a central location advantage for supplying products to other parts of the country, resulting in a high concentration of dairy processing in the region. Despite lack of demographic support for increases in milk consumption, the processing industries support milk production in the heartland region.

Nevada milk production is set to benefit from processing. A Dairy Farmers of America (DFA) whole milk powder plant with processing capacity of two million pounds of fluid milk per day opened in the first half of 2014. At full capacity, the plant will utilize approximately 60% more milk than is produced regionally, and require an additional 16,000 dairy cattle in Northern Nevada (Figure 31). Local dairy farm expansion, restarts of idled farms, and new operations will be necessary to supply the required milk. This would also end the current flow of milk out of Nevada and provide the basis for higher prices for local producers, who currently sell milk for California plant prices less transportation costs.

Figure 31. Meeting the Needs of the New Plant

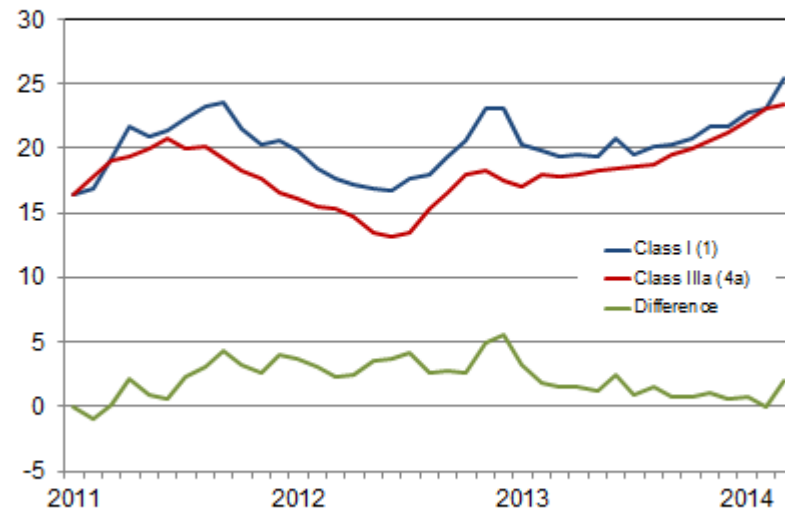


In the longer term, Nevada dairy herds would expand substantially more than what is in the outlook, providing local margins are positively impacted by the plant, as virtually all milk will be sold at the lower Class III (California Class 4a) price (Figure 32). The margin is expected to be made up by no longer having to factor transportation costs to California into the local milk price.

In addition to supporting expansion of Northern Nevada's dairy industry, feed demand, especially for locally-grown hay and corn silage would increase, providing expanded local markets for those crops and supporting prices for them. A major issue for expanding the state's dairy herd and producing feed is the ever-present need for scarce water.

Figure 32. Different End Use, Different Price

Nevada milk price, \$/cwt



Source: Nevada Dairy Commission

Sheep and wool

Similar to beef and milk prices, the relatively small share Nevada sheep and wool producers contribute to national output leaves them subject to prices largely determined elsewhere. For sheep and wool, the situation is exacerbated by the lack of influence national producers have in determining global prices. This position of price-takers has limited the competitiveness of American sheep and wool producers for the past six decades and contributed to the decline in the national and state industry. However, the supply disruption that occurred in the dominant Australian sheep producing region created substantial upside movement in sheep and wool prices in 2011 (Figure 33), creating a windfall for producers elsewhere.

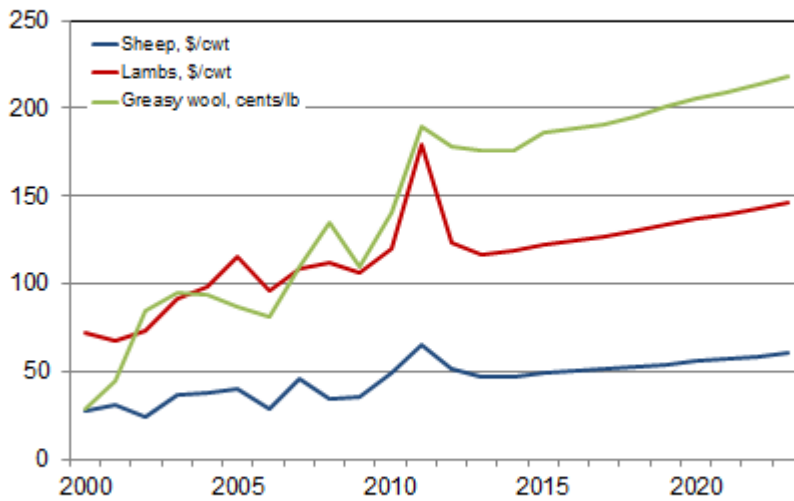
While prices retreated with recovery of Australian flocks beginning in 2012, upward cost pressures are expected to persist globally, forcing prices, especially for wool, higher to maintain profitability even as sheep numbers continue to decline. In addition, a continued weak U.S. dollar will help support domestic prices. As a result, while the domestic and state sheep industries will continue to downsize through the outlook, persistent modest net returns (Figure 34) will help slow the pace of decline from rates of the past two decades.

Because there is currently little slaughter of livestock, including sheep in Nevada, live animals must be marketed and shipped out of state. As a result live sheep and lamb prices are somewhat lower in the state compared to national benchmark prices at San Angelo, Texas.

Shearing does take place within the state and national average prices do not hold a premium over Nevada prices. Wool prices tend to be slightly higher in Nevada. Quality differences could also influence higher state prices.

Figure 33. Wool Leads Nevada Sheep Profitability

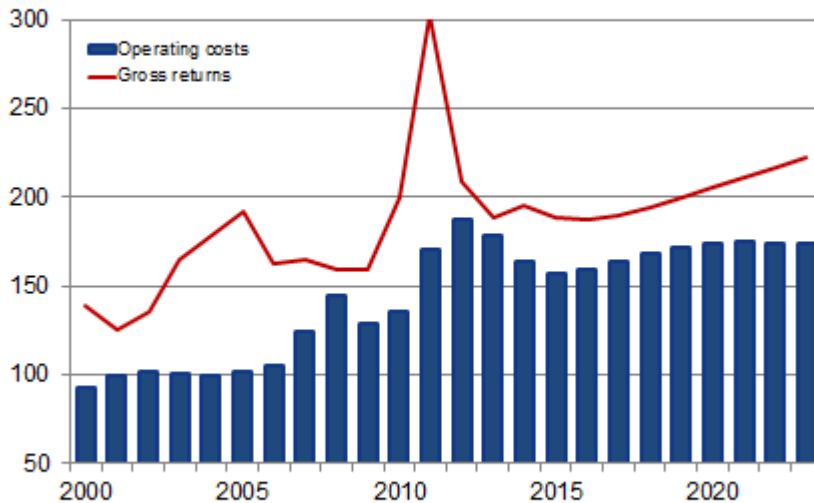
Nevada average prices



Sources: USDA, UCED

Figure 34. Staying Profitable Requires Flock Downsizing

Sheep and wool, \$/bred ewe



Source: UCED

Major Nevada crops

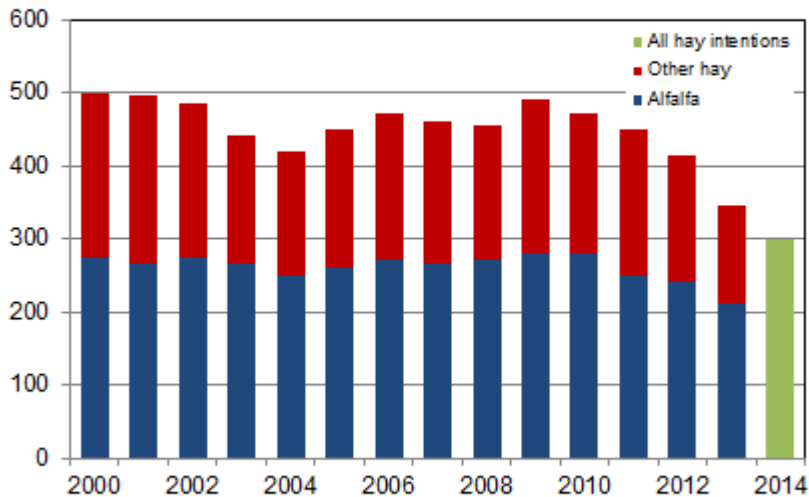
Hay prices are currently being impacted by both supply and demand factors. On the supply side, production for the past few years was substantially reduced by lower acreage harvested and yields. Much of the decline in production was the result of the severe, widespread drought.

Although Nevada’s irrigated hay yields did not suffer drought losses in the past two years, harvested acreage was down substantially as increasingly scarce water supplies were allocated to

fewer acres (Figure 35). The March 2014 *Prospective Plantings* report indicates that Nevada hay producers intend to harvest fewer acres of hay again this year.

Figure 35. Drought Reduces Irrigated Acres, Cuttings

Nevada hay acreage, ths



Source: USDA

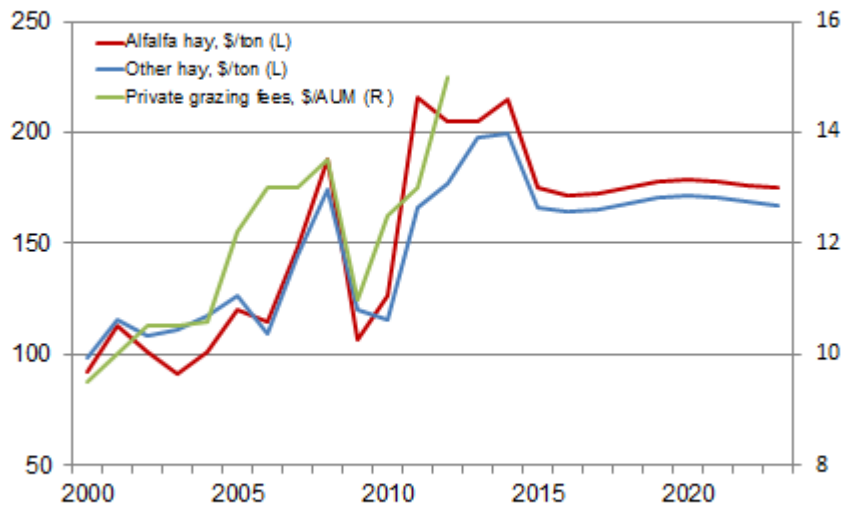
Lower production in Nevada, combined with the impacts on feed and forage production elsewhere and strong regional feed markets are boosting Nevada hay prices (Figure 36). A significant portion of the state’s hay is shipped westward to supply California dairy and cattle production. Hay production, especially alfalfa hay, has been declining since 2008 in California. This has tightened the regional market for high-quality alfalfa hay.

Even when the drought ends, it will still take several years for Nevada hay production to recover and hay prices are expected to remain high compared to the past decade’s averages. Re-establishing alfalfa stands will not all occur in a single year. On the demand side, expanding beef cattle and dairy production will boost demand for all feeds. Dairy herd expansion, especially that resulting from the DFA whole milk powder plant in Fallon will put upward pressure on regional hay and other feed demand, supporting local prices and providing the opportunity for eventual greater production. Here, again, water will be a crucial factor in the ability of hay producers to increase output.

Nevada cow-calf producers are partly insulated from rising feed costs because of stable federal grazing fees. However, the need to purchase seasonal and supplemental feed exposes them to higher feed costs and those cattlemen that utilize private grazing lands are subject to rising costs. The dry 2013-2014 winter following two previous years of drought have left range and pasture conditions in poor condition (Figure 37), and purchased feed requirements are likely to be higher than normal again this year. Hay prices and private grazing fees generally exhibit similar movements. Therefore, the outlook for healthy hay and other feed prices suggests that private grazing contracts will come at a heftier price.

Figure 36. Nevada Hay Prices Still Reflect the Drought

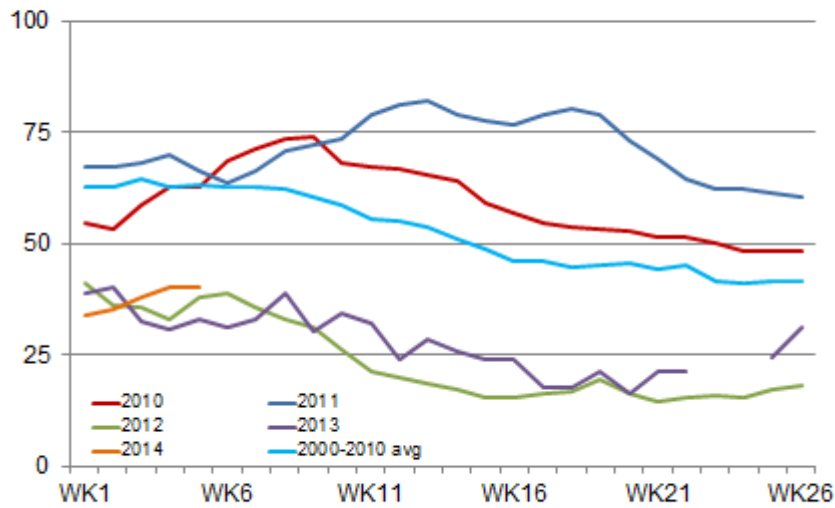
Nevada forage prices



Sources: USDA, UCED

Figure 37. Range in Poor Shape Entering 2014

Nevada range condition, 0=Very Poor, 25=Poor, 50=Fair, 75=Good, 100=Excellent



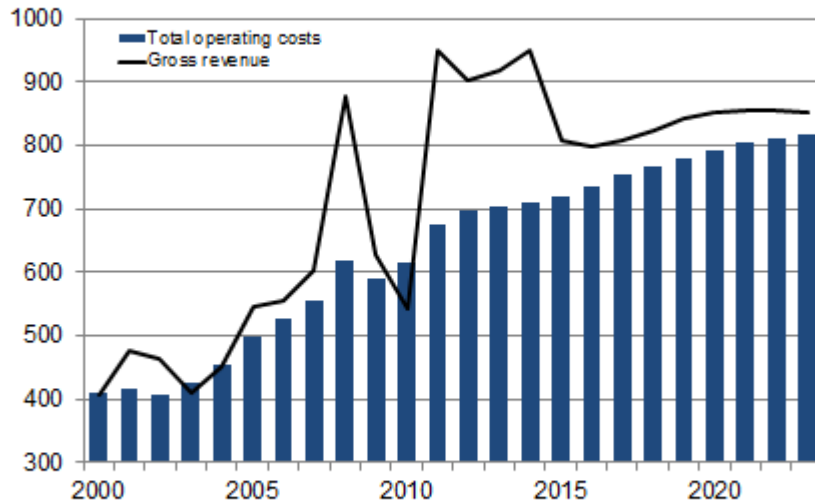
Sources: USDA, UCED

Like for other crops, costs will push the price that hay producers need to receive upward to maintain returns above operating costs that will keep land in production of the crop (Figure 38). As the effects of the drought diminish and prices fall more in line with hay prices in other parts of the country, the large per acre profits of the past few years will fall. For hay, the largest cost categories are machinery, fuel, and irrigation, with wages also reflecting considerable labor

costs. Hay is more exposed to fuel costs than most other crops. Hay is also water-intensive, making growing competition for this vital commodity a major risk factor.

Figure 38. Lower, But Sustained Profitability

Nevada alfalfa, \$/harvested acre

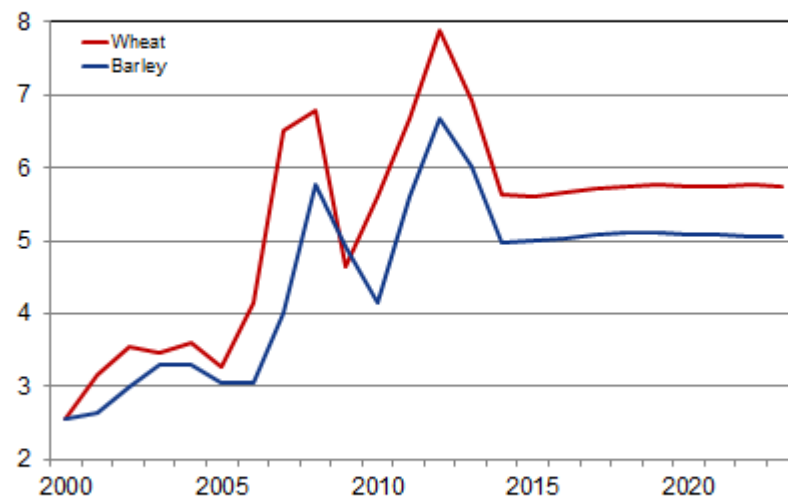


Sources: USDA, UCED

Grain production is not as important in Nevada as in neighboring Western States. Much of the state’s small grains are harvested for hay. Nevertheless, the state’s wheat and barley producers will enjoy a sustained period of price strength in line with the national and global markets (Figure 39).

Figure 39. Falling Off but Grain Prices Remain High

Nevada grain prices, \$/bushel

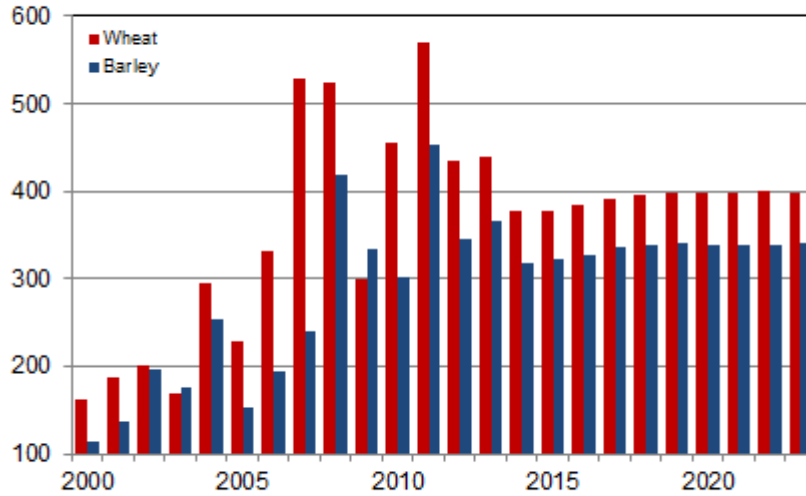


Sources: USDA, UCED

The impact of the RFS2 ethanol mandate has nearly run its course, bringing most of the increase in corn utilization expected. As a result, the cross-commodity impacts on other grains will also subside, especially after 2014. As this occurs, there will be no additional upward boost to revenues. Coupled with more stable cost inflation, net returns are also expected to stabilize (Figure 40). Nevertheless, returns will be quite attractive in the near to medium term until inflation begins to erode real profitability.

Figure 40. Good Returns Ahead for Grain Producers

Nevada grain net returns, \$/acre



Sources: USDA, UCED

Risks to the Outlook

As with any long-term outlook, there is considerable uncertainty surrounding the projections. There is some systemic modeling deviation that makes hitting any specific point projection difficult. But the primary causes of risk to the outlook stem from assumptions about the future. Actual economic, technological, energy, geo-political, policy, and weather developments might be substantially different from expectations around which this outlook is formed.

Outlook accuracy aside, the above factors present real risks for production, prices, and producers' bottom lines. For agriculture, weather is an ever-present risk. Damaging weather can take the form of several weeks or months of abnormal temperature or precipitation that can affect large areas, such as the severe drought in the U.S. over the past two years. It can also come in sudden catastrophic events that tend to be more localized in nature. Since most crop safety net programs tend to be price oriented, they generally do not come into play in such instances. If the breadth of damage is wide enough, Congress can enact ad hoc disaster bills. With smaller emergencies, however, farmers and ranchers are often left with insurance as their only source of aid. Insurance programs are more of a focus for policymakers, and have been advanced as a risk-

mitigating tool in the new farm bill. Congress reduced other programs in the interest of budgetary savings and to continue pushing U.S. agricultural policy toward more non-market distorting programs.

There are several factors, both domestic and foreign, that could either derail the economic expansion or accelerate it. The increasingly global economy offers substantial business and trade opportunities. It also means that political, economic, and financial troubles in a major economy can spill over into markets elsewhere.

Economic growth in the U.S. is still somewhat variable. Job growth is occurring and becoming more consistent and most of the jobs lost since the beginning of the recession have been regained. Nevertheless, the labor force participation rate has declined, indicating that there are still a large number of discouraged workers that have stopped looking for work. Because of the way the unemployment rate is calculated, this is a hidden weakness that remains in the labor market. High deficits and debt will force resources to be devoted to service these shortfalls in years ahead instead of being used to fuel growth.

One outcome of the recession and housing crisis has been the extended period of low interest rates. A prolonged recovery or slide back into recession would push the rise in interest rates out several more quarters. Borrowing rates, both short term for operating costs and long term for capital purchases, would remain low, reducing costs for producers. However, borrowers are required to be more credit worthy than in the recent past. For many agricultural producers, the strong prices of the past couple of years have helped them to reduce debt loads, making them solid candidates for borrowing.

The volatility in energy markets and prices makes them a major risk to the outlook. There are two sources of this volatility that are particularly troublesome and both are very difficult to predict. The first is the perpetually unstable geo-political situation in major petroleum producing regions, particularly the Middle East. Recently, the unrest in Ukraine has added risk to global energy markets and petroleum prices have again escalated. Cartels, wars, terrorism, and economic sanctions and their consequences impact the supply and price of oil. The second is the speculative trade in petroleum contracts that is often driven by perceptions of risk rather than reality that causes often wild swings in prices, even when fundamental supply and demand suggest no shift in the current or near-term supply and demand balance and the need to utilize price rationing.

At the national level, policymakers embrace higher fuel prices to induce reduced consumption and increased production of alternative sources of energy. In reality, available, developed alternative sources remain limited, except in a long-term timeframe that allows investment and development. Consumption of petroleum-based fuels has a low price response because those fuels are vital to our economic and social structures. As such, high prices force consumers to forego purchases of other goods in the short to medium term, hindering households and producers alike. Those high prices, for the most part, merely result in a transfer of income to energy producers.

One area that has reduced the perceived risks to agriculture is the adoption of the new farm bill. Now that the provisions of farm programs are known, producers can make decisions based on certain policy, rather than having to bet on what the new policies might be.

Similarly, the revamped dairy policy removed the price safety net with accompanying feed cost adjustments in favor of a program that targets margins. Such a program could actually result in higher returns to dairy producers during periods of tight margins than current policy. The clear intent is to provide a sustainable environment for smaller family dairy farms that cannot compete with low margins. Larger, modern producers are more efficient and can better survive with lower margins. Because there are higher premiums for coverage in excess of \$4 per hundredweight for producers with production histories exceeding 4 million pounds per year, the largest dairy farms will pay more per hundredweight of protection under the Margin Protection Program. As a result, it is not clear if such a policy will inhibit participation at higher margin protection levels by Nevada's largest dairy farms.

Since grain, oilseed, and hay prices are of importance to agricultural producers in most parts of the country, including Nevada, the decision on CRP acreage limits is vital. In Nevada, the issue is primarily one of feed prices. The farm bill included a reduction in the CRP acreage limit from 32 million acres in 2013 to 24 million acres by 2017, allowing up to an additional eight million acres to re-enter the production system. Where this land re-enters and what crops will be impacted is not entirely clear, but a good initial assumption is that it will largely be in the highly productive grain areas. The result will be that more grains and oilseeds will be produced and prices will see a moderate decline, although they will remain well above the levels that existed prior to the run-up beginning in 2006. The result will be that feed component prices paid by Nevada producers could be somewhat lower than in this outlook.

Farmers and ranchers will have to navigate this minefield of risks. However, the generally good financial situation for agriculture in the U.S. at present will be a major benefit and could alleviate some of that risk in the short term. As always, producers' long-term survivability will depend on making sound decisions based on the price and cost environment they are facing. This outlook lays out a middle of the road estimate of what that environment will look like and provides information to weigh in the decision making process.

Appendix Tables

Table 1. Economic Assumptions

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Real GDP growth, %													
U.S.	1.8	2.3	1.9	2.7	3.2	3.4	3.2	2.8	2.7	2.5	2.3	2.3	2.3
Advanced economies	1.6	1.3	1.2	1.9	2.3	2.4	2.5	2.3	2.2	2.1	2.0	2.0	1.9
Emerging markets	6.2	4.7	4.6	5.3	5.8	5.8	5.7	5.5	5.6	5.5	5.4	5.3	5.2
Developing countries	1.2	3.0	2.2	3.7	4.8	4.9	4.8	4.7	4.6	4.5	4.4	4.2	4.2
Exchange rate index	92.7	96.1	98.5	100.5	100.1	99.5	99.2	99.1	99.0	99.0	99.1	99.4	99.7
Unemployment rate, %	9.0	8.1	7.4	6.5	5.9	5.4	5.1	5.0	5.0	4.9	5.0	5.1	5.1
Interest rates, %													
3-Month	0.1	0.1	0.1	0.1	0.4	2.2	3.6	3.7	3.7	3.7	3.7	3.7	3.7
AAA corporate bond	4.6	3.7	4.2	4.8	4.9	5.5	6.1	6.2	6.2	6.2	6.2	6.2	6.2
WTI crude oil price													
\$/barrel	95.07	94.21	97.97	97.86	94.64	94.89	97.31	100.28	102.82	105.56	108.33	110.28	112.27
% change	19.7	-0.9	4.0	-0.1	-3.3	0.3	2.6	3.0	2.5	2.7	2.6	1.8	1.8
Real food expenditures													
Per capita, \$2010	2,616	2,645	2,647	2,654	2,665	2,685	2,710	2,729	2,741	2,748	2,749	2,748	2,747
% change	2.8	1.1	0.1	0.3	0.4	0.8	0.9	0.7	0.4	0.3	0.0	0.0	0.0
U.S. Population													
Million	312.0	314.3	316.7	319.2	321.7	324.1	326.6	329.1	331.7	334.2	336.7	339.2	341.7
% change	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7

Table 2. Baseline Policy Assumptions

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Wheat, \$/bu													
Loan rate	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94
Target/Reference price	4.17	4.17	4.17	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
Barley, \$/bu													
Loan rate	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95
Target price	2.63	2.63	2.63	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95
Dairy MPP cost, \$/cwt													
				9.24	8.87	8.97	9.10	9.23	9.28	9.25	9.23	9.13	8.99
Wool loan rate, \$/lb													
Graded (average)	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
Ungraded	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
CRP, mil. acres													
Limit	32.0	32.0	32.0	27.5	26.0	25.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Enrollment	31.2	29.5	26.8	25.9	25.1	24.5	23.8	23.4	23.2	23.1	23.0	22.8	22.7

Table 3. Production Cost Indices, 1990-92=

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Fertilizer	328.0	336.0	344.1	346.9	352.0	355.6	359.8	364.2	367.3	370.7	376.8	383.0	389.4
% change	30.2	2.4	2.4	0.8	1.4	1.0	1.2	1.2	0.9	0.9	1.7	1.7	1.7
Agricultural chemicals	145	153	157	157	160	164	167	170	172	177	182	183	186
% change	0.7	5.5	2.9	-0.3	1.7	2.6	1.9	1.9	1.4	2.5	2.7	1.0	1.4
Seed	332.0	358.0	365.2	372.5	379.9	387.5	395.3	403.2	411.2	419.5	427.8	436.4	445.1
% change	7.1	7.8	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Farm machinery	244	256	262	266	272	279	286	293	300	308	317	324	332
% change	6.1	4.9	2.4	1.4	2.3	2.6	2.5	2.5	2.4	2.6	2.7	2.4	2.4
Fuels	362	360	357	347	340	339	343	352	360	369	379	385	391
% change	27.5	-0.6	-0.8	-2.8	-2.0	-0.5	1.2	2.5	2.3	2.6	2.8	1.5	1.6
Wages	192	199	206	210	216	222	229	236	244	252	259	267	275
% change	1.6	3.6	3.3	2.4	2.6	3.0	3.1	3.1	3.2	3.1	3.0	3.1	3.1
Farm services	164.0	167.0	171.0	173.4	177.3	182.0	186.6	191.2	195.9	201.0	206.5	211.6	216.7
% change	1.9	1.8	2.4	1.4	2.3	2.6	2.5	2.5	2.4	2.6	2.7	2.4	2.4
Farm repairs	168.0	174.0	174.7	178.0	182.2	187.1	191.6	196.2	201.2	206.6	212.1	217.2	222.5
% change	3.7	3.6	0.4	1.9	2.4	2.6	2.4	2.4	2.5	2.7	2.6	2.4	2.5
Farm supplies	162	166	167	169	171	175	177	180	181	185	189	191	193
% change	4.5	2.5	0.6	0.9	1.6	1.9	1.4	1.4	1.0	1.7	2.2	1.2	1.2

Sources: USDA, BLS, IHS Global Insight

Table 4. Nevada Agricultural Commodity Prices

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Livestock & product prices													
Feeder steers, \$/cwt	143.84	161.58	162.21	188.48	190.74	178.02	169.27	160.11	153.32	150.42	153.66	157.61	162.04
All milk, \$/cwt	20.70	18.90	20.58	20.85	19.18	18.50	18.17	18.02	17.87	17.79	17.76	17.79	17.78
Sheep, \$/cwt	65.12	51.16	46.28	47.30	48.73	49.71	51.05	52.59	54.10	55.57	57.16	58.73	60.27
Lambs, \$/cwt	179.35	123.31	116.58	118.62	121.94	123.99	126.78	130.06	133.31	136.42	139.80	143.14	146.38
Wool, \$/lb	190.00	177.93	175.29	175.55	185.99	187.91	190.74	195.39	200.49	205.00	209.46	213.88	217.87
Hay, \$/ton													
Alfalfa	216	205	205	215	175	172	172	175	177	178	178	176	175
Other hay	166	177	198	199	166	164	165	168	171	171	170	169	167
Grains, \$/bushel													
Wheat	6.69	7.89	6.93	5.63	5.60	5.65	5.71	5.75	5.77	5.74	5.76	5.76	5.73
Barley	5.61	6.67	6.03	4.98	5.01	5.03	5.08	5.11	5.12	5.09	5.08	5.05	5.06

Table 5. Nevada Estimated Returns

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Livestock and products													
Cow-calf, \$/bred cow													
Gross revenue	648.59	744.93	747.80	865.98	876.13	818.93	779.52	738.34	707.81	694.75	709.33	727.09	747.01
Variable costs	566.41	614.95	631.51	570.03	540.87	540.65	547.33	554.42	561.79	567.89	573.19	575.10	576.54
Net returns	82.18	129.98	116.29	295.95	335.26	278.27	232.19	183.92	146.02	126.86	136.14	151.99	170.48
Milk, \$/cwt													
Gross revenue	23.38	21.84	23.47	24.04	22.37	21.54	21.11	20.86	20.63	20.52	20.53	20.61	20.65
Variable costs	22.65	24.28	23.89	20.82	18.81	18.90	19.16	19.39	19.63	19.78	19.85	19.86	19.82
Net returns	0.73	-2.44	-0.42	3.22	3.56	2.64	1.95	1.47	1.00	0.74	0.68	0.75	0.82
Sheep & wool, \$/ewe (U.S.)													
Gross revenue	301.94	209.19	187.93	194.70	188.02	187.14	189.75	194.41	199.58	204.82	210.63	216.12	221.90
Variable costs	170.03	187.02	178.71	163.93	156.85	158.99	163.45	167.70	171.12	173.63	175.33	173.49	174.11
Net returns	131.91	22.16	9.23	30.77	31.17	28.14	26.30	26.71	28.45	31.19	35.30	42.62	47.79

Table 5. Nevada Estimated Returns, continued

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Crops, \$/acre													
Alfalfa hay													
Gross revenue	950.40	902.00	917.41	949.48	808.40	797.80	806.24	824.11	842.35	852.81	854.65	853.30	850.35
Variable costs	675.11	696.97	701.80	708.52	717.95	735.39	752.30	764.88	777.76	791.91	805.59	810.48	816.44
Net returns	275.29	205.03	215.61	240.96	90.46	62.40	53.94	59.24	64.59	60.91	49.05	42.82	33.91
Barley													
Gross revenue	609.49	505.96	522.48	475.06	482.38	489.61	500.20	507.72	512.51	514.06	518.24	519.93	525.56
Variable costs	156.40	160.34	157.29	157.22	158.97	161.94	164.90	168.12	170.86	174.64	178.84	181.16	183.93
Net returns	453.09	345.62	365.19	317.84	323.40	327.67	335.30	339.60	341.66	339.42	339.40	338.77	341.63
Wheat													
Gross revenue	727.87	598.85	598.92	537.71	539.59	549.13	559.37	567.44	572.67	575.30	580.96	586.18	586.84
Variable costs	159.01	163.42	159.56	159.72	161.86	165.20	168.33	171.62	174.36	178.25	182.57	184.87	187.70
Net returns	568.87	435.43	439.36	377.99	377.73	383.92	391.03	395.82	398.31	397.06	398.40	401.31	399.13