INTRODUCTION TO RISK MANAGEMENT

by

William I. Tierney, Jr.
Professor and Extension Agricultural Economist
(Crop Marketing)
Department of Agricultural Economics
Kansas State University

wtierney@agecon.ksu.edu
http://www.agecon.ksu.edu/risk

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I. What are the most important sources of risk in crop farming? What do farmers do to manage those risks?

Sources of Crop Risk/1		Risk Management Tools/1	
1)	Crop prices	1)	Pacing investments
2)	Weather	2)	Market information
3)	Input costs	3)	Financial reserves
4)	Crop diseases and pests	4)	Diversification
5)	Inflation	5)	Spreading sales
6)	Safety and health	6)	Credit reserves
7)	World events	7)	"Flexibility"
8)	Govt. laws and regulations	8)	Production practices
9)	Cost of capital	9)	Forward contracting
10)	Equipment	10)	Govt. programs
11)	Family plans	11)	Debt management
12)	Use of leverage	12)	Inventory reserves
13)	Government programs	13)	Operator off-farm job
14)	Availability of credit	14)	Activities
15)	Changing Technology	15)	Hail Insurance
16)	Managing hired labor	16)	Idle capacity
17)	Leasing land	17)	Multi-Peril Crop Ins.
		18)	Spouse off-farm job
		19)	Geographic dispersion
		20)	Futures and/or options
		21)	Govt. disaster aid

1/ Based on research conducted by Patrick et al, Purdue University, 1983

II. How do most farmers, market most their crops, most of the time?

The majority of crop farmers don't "market" the majority of their crops. Most crops are disposed of based on "logistical" and/or "cash flow" considerations.

Marketing Practices of Kansas Grain Producers 2/

	1972	1983
	Percent	Percent
Farmers who had ever hedged	4%	7%
Farmers who had ever forward contracted	12%	18%

Actual Marketing Practices	1979	1992
Kansas wheat crop forwarded contracted	10%	8%
Kansas wheat crop minimum price contracted	N/A	2%
Kansas wheat crop "hedged" [futures + options]	5%	2 + 3%

On Average (1979-1992) Percent of Kansas Farmers

Crop	Had a Marketing Plan	Hedged	Forward Contracted
Wheat	32%	3%	10%
Corn	36%	4%	11%
Milo	31%	N/A	5%
Soybeans	27%	3%	7%

2/ Based on a survey conducted by Hill, et. al, University of Illinois (1973), and Kansas Grain Marketing and Transportation, Kansas Ag Statistics (1980 and 1993).

Conclusions:

(1) Crop prices became much more volatile in 1973 but crop producers have not responded to the change. Crop producers market their crops today the same way they did 25 years ago or 50 years ago.

(2) Essentially, crop producers sell their crops the same way every year, regardless of market conditions, price level, or the availability of marketing tools.

(3) Crop producers sell their crops based on "logistical" considerations (harvest and the availability of storage) or "cash flow needs" (sell enough of the crop to pay bills).

III. If crop prices are the "biggest" risk that farmers face, why is "forward contracting" ranked 9th and "futures:options" ranked second from last as a "risk management tool"?

"Ten Theories Why Farmers Haven't Done a Better Job of Marketing".

(1) Farmers think marketing isn't important.

(2) My banker won't support me /3.

I.	Prices for crops and livestock sold.
II.	Yield variability.
III.	Prices for crops and livestock purchased.
IV.	Changes in government programs.
V.	Changes in "other" input costs.
VI.	Livestock death loss.
VII.	Injury, illness or death of operator.
VIII.	Interest rates

3/ Kansas Lender Attitudes on Importance of Risk Factors, Dept. of Agricultural Economics, KSU, (1987)

(3) Farmers are risk takers.

(4) Farmers are optimists.

(5) Farmers are irrational.

(6) Farmers have dysfunctional management styles.

Managers do strange things when faced with a decision where the outcome is very uncertain and the consequences are significant.

(a) "Ostriches": ignore what's going on.

(b) "Mules": nothing works, so why try.

(c) "Mad Dogs": blame somebody or something.

(d) "Nervous Nellies": can't stick to a plan.

(e) "Black Box Believers": constantly looking for "silver bullet" or "magic formula" for marketing (speculation) success .

(e) "Rational Manager":

(i) recognizes there's a problem;
(ii) accepts responsibility to "do something" about it;
(iii) collects information;
(iv) identifies alternate solutions;
(v) picks a solution;
(vi) executes the solution;
(vii) evaluates the results; and
(viii) starts all over again.

(7) Farmers have a production "mind-set".

(8) Farmers lack marketing "know how".

(9) Farmers have a "bad attitude".

(10) The "wrong" people are making marketing decisions.

Do women may make better market managers than men?

IV. Benefits of improved crop "Marketing"

(1) Marketing may improve production management.

(2) Marketing may improve financial management.

(3) Marketing may reduce price risk.

(4) Marketing may extend the marketing season (i.e. 12 months before harvest to 12 months after harvest).

(5) Marketing may reduce the negative effects of emotions when making pricing deci sions (worry, fear, greed, etc.).

(6) Marketing may improve profits.

IV. Tools of Risk Management (comments restricted to "Marketing" and crop insurance).

(1) A basic set of farm records with an approximate idea of costs of production by enterprise (winter wheat, barley, etc.) Make sure to separate "fixed" from "variable" costs.

Consider software to computerized farm (and family) business accounting and financial planning.

(2) A rough projection of monthly cash flow requirements. Communicate with your lenders regarding what their expectations are with respect to ag financing and their willingness to support your efforts in marketing and overall crop risk management.

(3) A sober assessment of how marketing decisions will effect relations between various members of the farm operation (business partners, landlords, spouses, parents, children, etc.)

(4) A careful evaluation of what kind of crop insurance would best complement the kind of crop marketing that's likely to be done in the coming marketing season.

(5) Familiarity with different methods of pricing crops in the pre-harvest and post-harvest periods.

(6) Three to five years of local basis history for crops. Also, an assessment as to the likely availability of on-farm and commercial storage for the upcoming marketing season.

(7) Familiarity with the concepts and applications of fundamental and technical analysis.

(8) An adequate set of marketing/risk management resources. This may include some or all of the following:

(i) One or two weekly marketing newsletters;
(ii) A "good" set of ag web sites, assuming Internet service is available or an electronic ag information service;
(ii) Progressive and knowledgeable local grain merchants;
(iii) A knowledgeable crop insurance agent;
(iv) A knowledgeable and "helpful" futures:options broker; and
(v) A knowledgeable and "helpful" marketing consultant (preferably one that is locally based or that you have scheduled "face time"); and
(vi) Membership in a Marketing Club -- Graduate School.

(9) A "written" marketing plan.

V. Methods of Pricing Crops

The final "net" market-determined revenue received for many crops can be broken down to its component parts:

Components of Winter Wheat New Revenue

Final "Net" Cash Revenue		Futures Price		Local Basis		Option Prem.		Storage Costs		LDP
3.30	=	3.45	+	(-.30)	-	---	-	---	+	.15

Pre-Harvest Marketing Methods
(Risk Factors)

Method	Risk of Lower Futures	Risk of Lower Basis	Risk of "Losing" Option Premium	Risk of Selling More Bu. Than Produced	Loss of Upside Move
Unpriced	X	X	---	---	---
Write Calls	X	X	?	X	X
Basis Contract	X	---	---	X	---
Sell Futures/4	---	X	---	X	X
Buy Puts/5	---	X	X	---	---
Min. Price Contract	---	---	X	?	---
Forward Contract	---	---	---	X	X

4/ "Hedge to Arrive" contract nearly identical to selling futures except for the financial reserves that have to set aside to meet potential margin calls.

5/ "Synthetic Puts" (selling futures and buying calls) considered equivalent to buying puts (except for financial reserves needed for potential margin calls).

Post-Harvest Marketing Methods
(Risk Factors)

Method	Risk of Lower Futures	Risk of Lower Basis	Risk of "Losing" Option Premium	Storage Costs	Loss of Upside Move
Store Unpriced	X	X	---	X	---
Deferred Price	X	X	---	---	---
Store Under Loan	?	?	---	?	---
Store:Write Calls	X	X	?	X	X
Basis Contract	X	---	---	X	---
Store:Sell Futures	---	X	---	X	X
Store:Buy Puts	---	X	X	X	---
Min. Price Contract	---	---	X	X	---
Sell:Buy Futures	X	---	---	---	---
Sell:Buy Calls	---	---	X	---	---
Forward Contract	---	---	---	X	X
Sell at Harvest	---	---	---	---	X
Delayed Pymnt.	---	---	---	---	X

Other pricing risks arise if attempts are made to "cross hedge" commodities against futures contracts for related commodities (i.e. barley against corn futures, durum against durum futures), or protein premiums for wheat (cross hedging high protein HRW against MGE futures).

VI. Methods of Insuring Crops

If, at a time that pre-harvest prices looked "attractive", you asked a farmer if he would consider pricing a portion of his expected crop, he would probably say no. If you asked why, his answer would probably include one or both of the following reasons:

"I can't sell a crop I don't have yet."
"Prices might go higher.,"

Therefore, for most crop producers, yield risk and price risk are connected. Strategies to manage one type of risk can and will influence the strategies that are applied to manage the other type of risk.

Types of crop insurance:

(1) Hope for disaster payment to be authorized.

(2) Spend $60 and buy a Catastrophic policy (50 percent of yield at 60 percent of MPCI price election).

(3) Buy MPCI. Insures "yield" only and replace lost bushels at "fixed" indemnity pay ment per bushel (i.e $3.15 for 2000 winter wheat).

At 65 percent coverage level, about 35 percent of the true market cost of the insurance is paid by the government. For 2000 crops, there's approximately an additional 25 percent subsidy on all crop insurance. Coverage available up to 85 percent for spring wheat yields determined by actual production history (APH) for Sheridan and Daniel counties. Other crops limited to maximum of 75 percent APH. Many crops can be insured by optional "units" or whole farm (premiums discounted for whole farm).

(4) MPCI with other options. Some companies offer a MPCI policy plus a "buy up" that increases the initial price election that is triggered only if there are yield losses (i.e. $3.15 MPCI price election for winter wheat + $1.00).

(5) Buy MPCI + Replacement Coverage (RC) -- also called Market Value Protection (MVP). Replaces yield losses at market value based on futures prices at harvest (market value has limits -- i.e. $2.00 above HRW winter wheat base price of $3.34).

(6) Crop Revenue Coverage (CRC): insures crop "revenue" against both lower prices and lower yields. CRC doesn't mean that you've "sold" 65 percent of crop at the CRC "base" price. CRC insures minimum revenue based on yield guarantee and CRC base price election ($3.34 based off KCBT Sep 2000 futures during Aug 15 to Sep 14 of 1999). CRC includes "replacement coverage" feature -- if actual yields are below yield "guarantee" (i.e. 65 percent) then "lost" bushels are replaced at market value ("settlement" price is average of KCBT Sep 2000 futures from July 15 to Aug 14, 2000). Spring wheat will also have CRC.

(7) CRC with other options. Some companies offer a CRC policy plus a "buy up" that increases the initial price election that is triggered only if there are yield losses. It does not increase the revenue "guarantee".

(8) CRC+ (other similar policies may be offered under other names): CRC policy plus a "buy up" that increases the initial price election but that does not increase the maximum replacement value. Offered for winter wheat and spring wheat (i.e. for winter wheat from 65% to 75% APH can add $.65 to $3.34 "base" price).

(7) Other MPCI or CRC type polices:

(i) Whole farm:multi-crop policies that insure up to 90 percent of whole farm crop revenue.

(ii) "90/90 Revenue Max", offered last couple of years in Illinois and Nebraska on corn. Insured 90 percent of revenue with a "replacement" feature. Farmer didn't pay a premium. However, at harvest, yields are verified and farmer is obligated to make a payment to insurer if yields exceeded 90 percent of APH. Post-harvest payment calculated as one third of that portion of yields which exceed 90 percent of APH multiplied by the average futures price at harvest.

(8) Other crop insurance policies:

(i) Group Risk Plan (GRP). MPCI type insurance based on county yields, not individual units or farms. Premiums lower and levels of coverage levels (90 percent) had been higher than those offered under MPCI (available in Montana).

(ii) Income Protection (IP). Revenue protection policy with no "replacement coverage" feature. In addition, if market prices (or yields) rise, the increased revenue is counted against the "revenue" guarantee (available in Montana).

(iii) Revenue Assurance (RA). Gone through several changes and now looks like CRC (not available in Montana).

(iv) Other policies.

(9) Hail Insurance. The decision to add hail insurance on top of a multiperil crop insurance policy (MPCI, CRC, etc.). is complicated by the additional subsidy offered for federally subsidized crop insurance (but not for "private" hail insurance) and by the higher levels of coverage that are available for many crop insurance policies.

Wheat & Feed Grain Outlook

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William I. Tierney, Jr.
Professor and Extension Agricultural Economist, (Crop Marketing)
Department of Agricultural Economics
Kansas State University

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WHEAT OUTLOOK

U.S. Wheat Crop Up Slightly, World Wheat Crop 1.7 Percent Less Than Last Year's Crop.

The USDA's September 30 Small Grains 1999 Summary report made a slight increase in the U.S. crop. The world wheat production estimate also increased. The latest USDA estimate does not take into account damage that was done by an widespread harvesting losses and quality problems with the U.S. spring and durum crops.

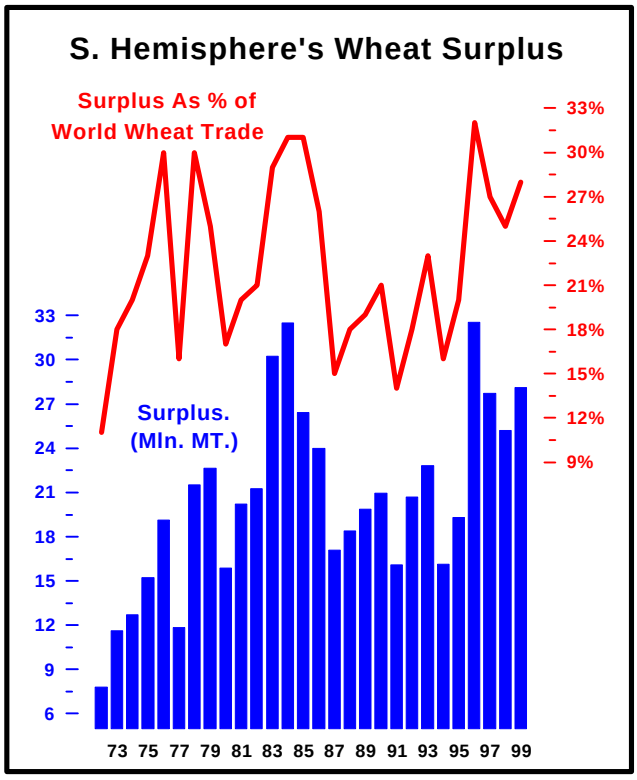


Figure 1

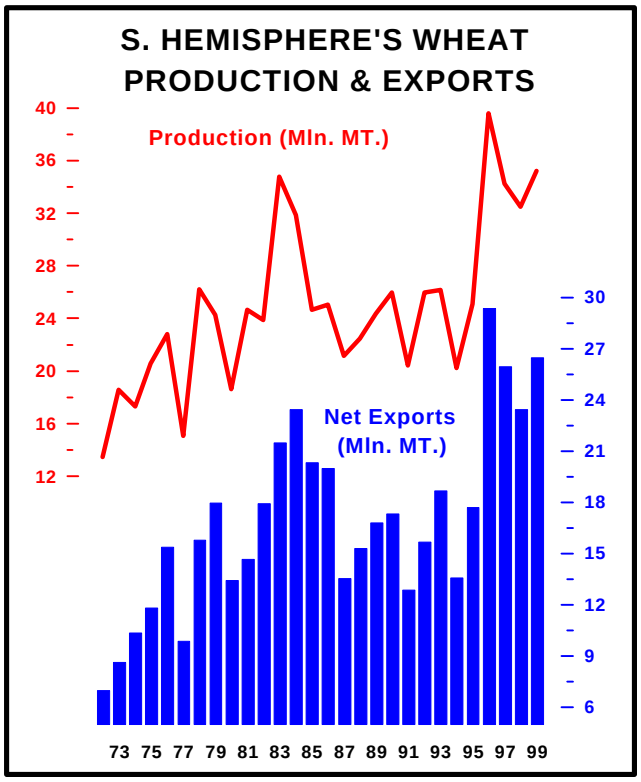


Figure 2

The USDA left its estimates of the Australian and Argentine crops unchanged from last month. The Australian crop is expected to exceed 22.5 million metric tons (MMT), the country's second largest crop on record. The projection for Argentina's crop was pegged at 12.7 MMT, up 10 percent from last year but only their sixth largest. The combined production of both countries will be up 8 percent from last year (see Figure 1). At present, the combined "exportable surplus" (supplies less domestic consumption) for Australia and Argentina is expected to be 28.1 MMT (about 1,032 million bushels). That's up 12 percent from last year and the fourth largest surplus on record (see Figure 2). When this exportable surplus is measured as a percent of world trade its the equivalent of 28 percent of world trade.

Elsewhere, the Canadian crop estimate was left unchanged at 25 MMT. The wheat crop in the Former Soviet Union was increased by 1.4 MMT and is about 5 MMT more than last year's crop.

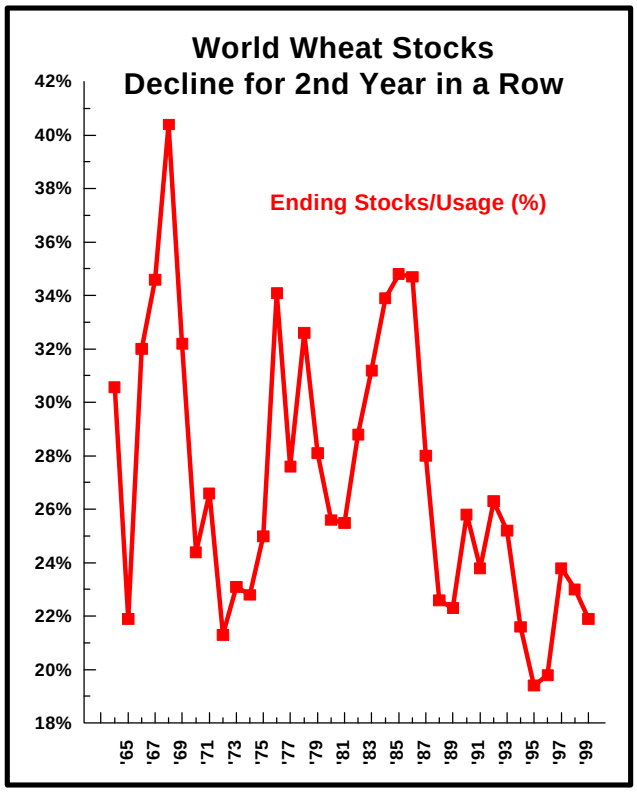


Figure 3

Overall, the estimate for the world wheat crop was increased by about 1 MMT and now stands at 577.7 MMT -- 10.2 MMT less than last year's crop. The USDA raised their estimate for world wheat ending stocks by nearly 4 MMT. Ending stocks now stand at 128.1 MMT, 8.1 MMT less than last year. When measured as a percent of world use, ending stocks are 21.8 percent, the second year in a row that stocks have declined.

Winter Wheat Suffers From Lack of Moisture.

As of the latest crop progress report, 89 percent of the 2000 winter wheat crop was planted, the same as last year but two percent below the fourteen year average (see Figure 4). At this stage, winter wheat planting typically increases only 3 percent by next week and two percent a week over the succeeding two weeks.

Similarly, 73 percent of the winter wheat crop had emerged as of October 31. That's down slightly from last year's 74 percent and 6 percent less than the fourteen year average (see Figure 5). This year's emergence is about five days later than average. On average, winter wheat emergence progresses about five percent over the next week.

This was the first week that NASS began reporting crop conditions for the 19 principal winter wheat producing states. The overall winter wheat index is 346, 22 points less than last year and less than the 13 year average of 369 (see Figure 6). This is the second lowest crop condition in the fourteen years for which I have data. The lowest score was in 1992 (when the condition index as 329). A crop condition index value of 100 = very poor, 200 = poor, 300 = fair, 400 = good, and 500 = excellent.

Ninety-three percent of the HRW area has been planted, 1 percent more than last year but 1 percent less than average. Seventy-seven percent of the HRW area has emerged, one percent less than last year and 5 percent less than average. The Kansas soil moisture balance has declined this past week and the overall situation is below average for this time of year (see Figure 7). Prior to this week, Kansas (and several other of the prin-

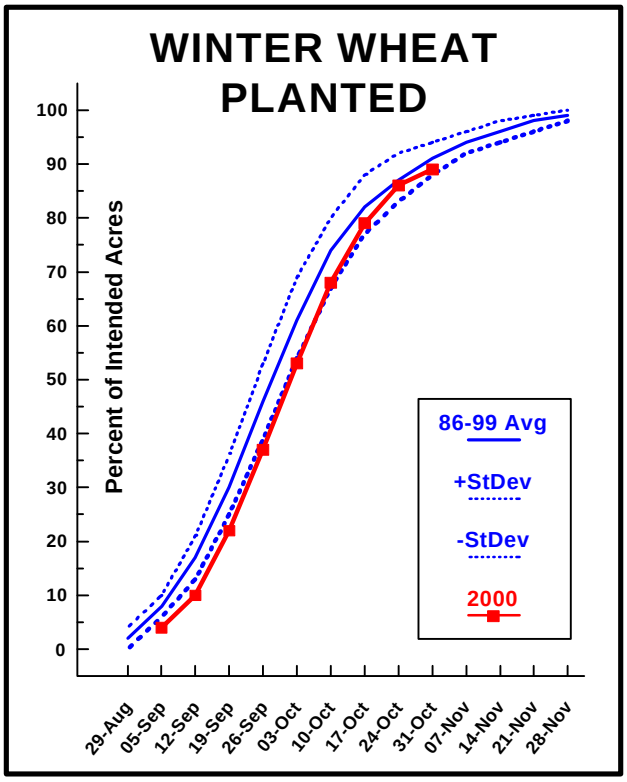


Figure 4

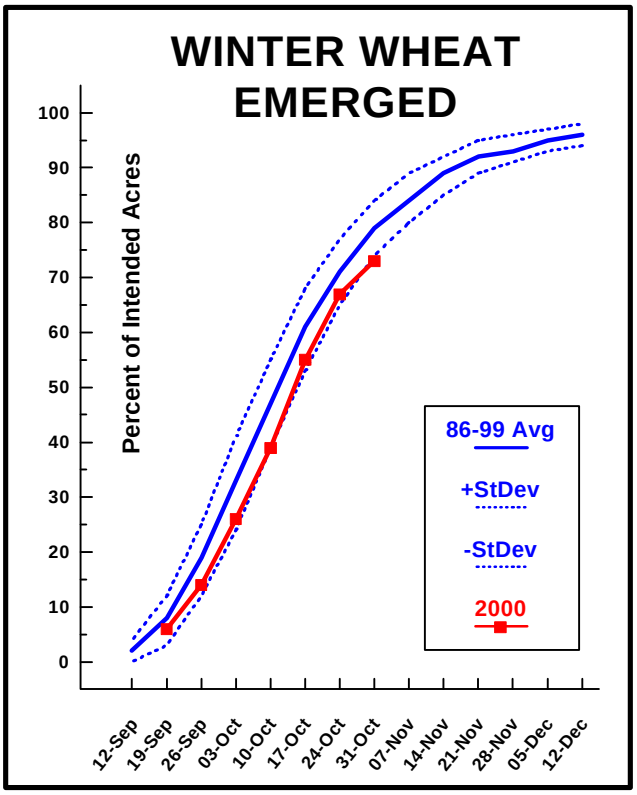


Figure 5

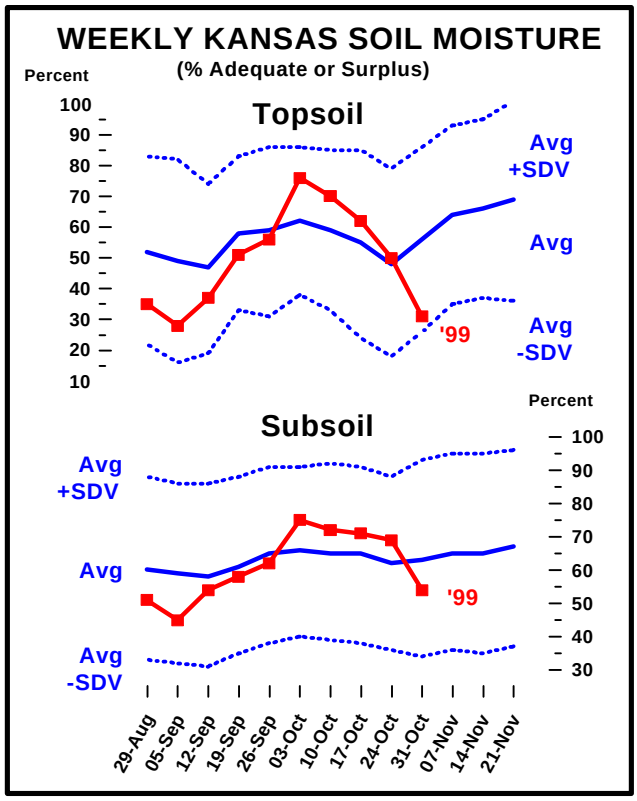


Figure 7

cipal HRW producing states) had released crop condition reports. This week's crop condition

index "score" for the Kansas crop was 351, 32 points less than last week. In addition, based on

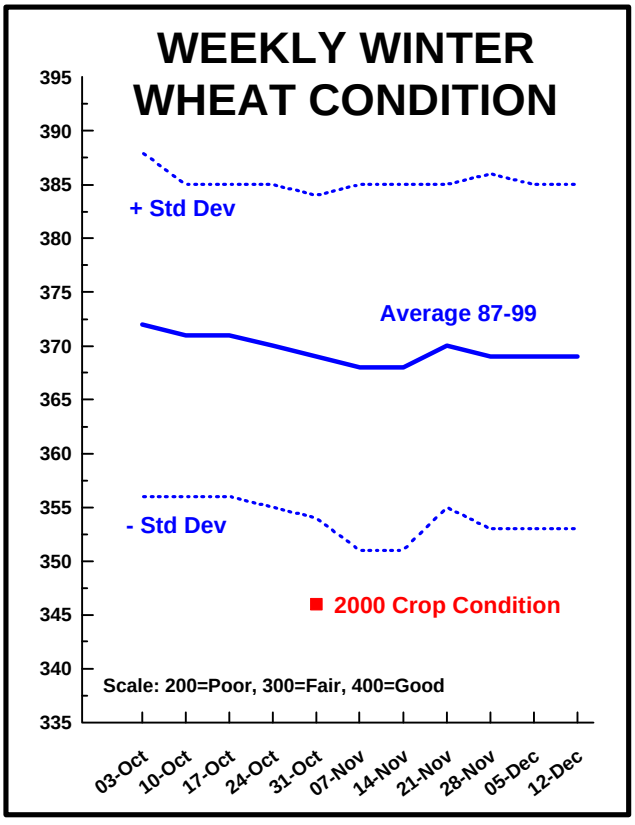


Figure 6

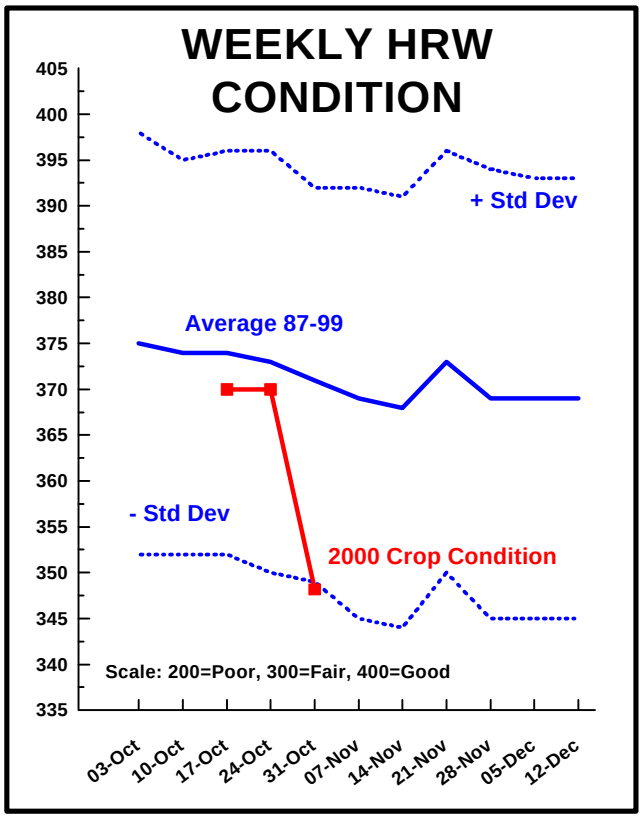


Figure 8

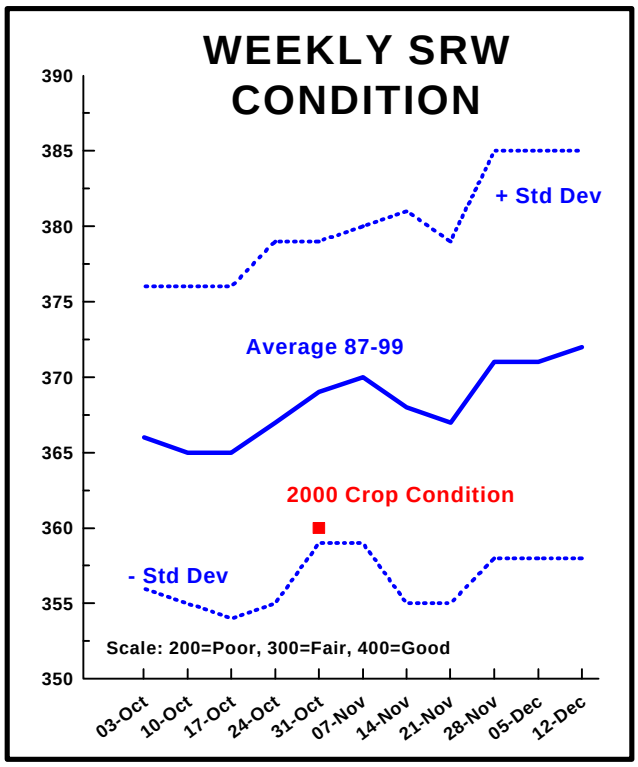


Figure 9

crop conditions in all the other HRW producing states, the HRW index is 348, 23 points less than last year and less than the 13 year average of 371 (see Figure 8). This is the lowest HRW crop condition since 1996 (when the condition index as 347).

As of October 31, 77 percent of the SRW area had been planted, one percent more than last year and two percent more than the fourteen year average. Fifty-three percent of the SRW area had emerged, one percent less than last year and 3 percent less than average. Based on crop conditions in the principal SRW producing states, the SRW index is 360, 16 points less than last year and less than the 13 year average of 369 (see Figure 9). This is the lowest SRW crop condition since 1994 (when the condition index as 355).

Planting progress for SWW (grown predominately in the Pacific Northwest) is the slowest its been since 1986. This week, planting is 82 percent completed, that's 5 percent less than last year and more than three standard deviations below the fourteen year average. Seventy percent of the SWW area had emerged, 16 percent less than last year and 11 percent less than average. Based on crop conditions in the principal SWW producing states, the SWW index is 325, 26 points less than last year and less than the 13 year average of 362 (see Figure 10). This is the lowest SWW crop condition since 1986 (the previous low was in 1988 when the condition index as 336).

<u>Pace of Wheat Exports May Not Be Sufficient To Meet the USDA's Projection</u>.

As of early November (October 28), wheat grain export commitments (shipments to date plus undelivered sales) were 624 million bushels, 5 million bushels less than last year. This figure includes 71 million bushels of Food Aid Initiative (FAI) donations that have either been shipped or had been tendered for by the CCC. So far, the donations have consisted of 48 million bushels of HRW, 13 million bushels of SRW, 7 million of HRS and 4 million of SWW.

This year's wheat commitments are the fourth

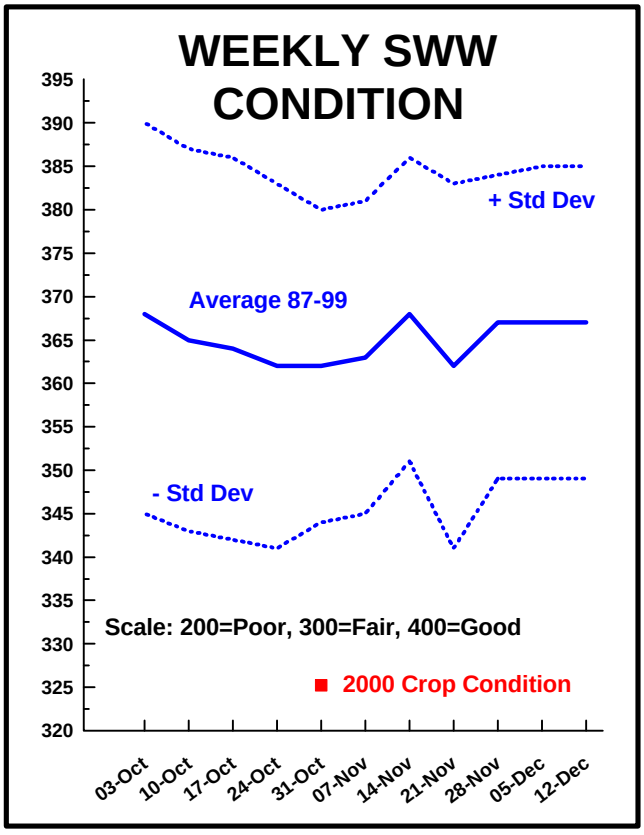


Figure 10

lowest figure for this date on record. The smallest commitments (for this date) occurred in 1985, when export commitments were only 528 million bushels. Since 1974 (the earliest date for which November export sales data is available), the "average" for wheat grain export commitments on this date is 772 million bushels.

On a by-class breakdown, export commitments of HRW were 29 million bushels larger than last year and, as of this date, appear sufficient to meet the USDA's "implied" HRW wheat grain export projection of 510 million bushels. However, HRS export commitments are 24 million bushels less than last year and are about 30 million bushels less than what would "normally" be expected if the USDA's implied HRS grain projection of 248 million bushels is to be achieved. Durum commitments, at 22 million bushels, are about 62 percent of the USDA's implied durum grain export projection of 36 million bushels. On average, about 68 percent of durum exports are on the books as of this date.

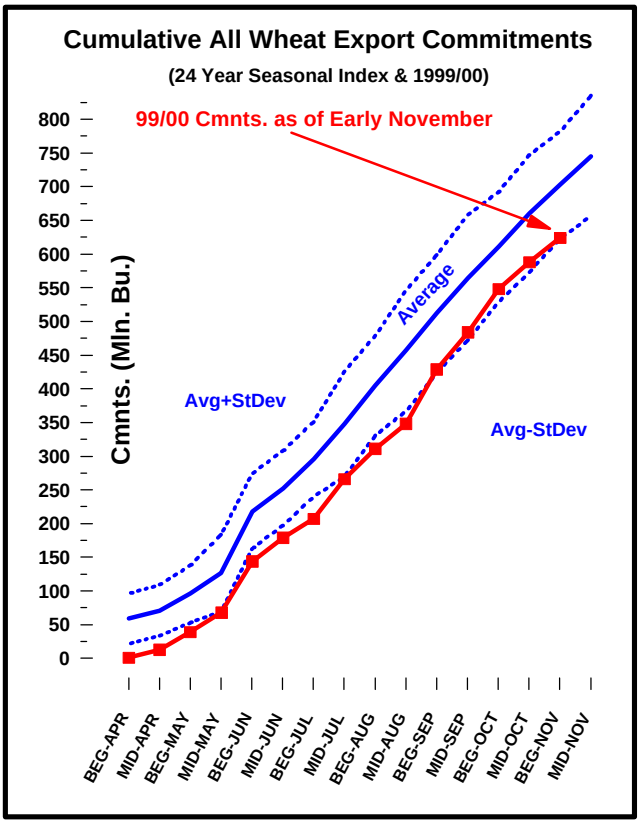


Figure 11

This year, export commitments of SW were 87 million bushels, 48 million bushels less than last year. However, SW export commitments are "on track" to meet the USDA's SW grain export projection of 165 million bushels. On average, as of this date, SW commitments account for 56 percent of total annual exports. This year's SW commitments equal 53 percent of projected annual grain exports.

Soft Red Winter commitments, at 90 million bushels, were 37 million bushels more than last year. This year's SRW early November commitments equal 67 percent of projected annual grain exports. On average, as of this date, SRW commitments account for 77 percent of total annual exports.

Among the U.S.'s major wheat customers, export commitments to Algeria, Brazil, Morocco, the Philippines, and the Former USSR (FSU) were above the levels that they were at a year ago. At 35 million bushels, wheat commitments (mostly food aid donations) to the FSU were 32 million bushels more than last year and the largest figure for this date in seven years. However, commitments to Egypt (our single largest market), China, the EU, Japan, Mexico, Nigeria, Pakistan, and Taiwan were all down from last year.

On average, 64 percent of total annual wheat grain exports are contracted by this date. Grain exports account for about 97 percent of total wheat exports -- the other 3 percent is wheat products (i.e., flour, bulgur, etc.). Using the USDA's October projection of total wheat exports of 1,125 million bushels, it's estimated that wheat grain exports would be 1,095 million bushels. Therefore, the ratio of 1999 export grain commitments (plus donations to date)/total annual grain exports is 57 percent. Therefore, unless "commercial" exports don't pick up (or food aid donations are much larger than currently expected), it appears that total wheat exports could fall 50-75 million bushels short of the USDA's October projection (see Figure 11).

KCBT Dec Wheat Futures Set New Contract Lows. Further Downside Risk Seems Limited. "Vertical Call Spread" One Way to Retain Ownership of Crop.

A decrease in wheat feeding and a slightly larger crop resulted in a 87 million bushel increase in the USDA's estimate of 1999/2000 ending stocks (see Table I). Wheat feed and residual (F&R) for the June-August period was 270 million bushels, the smallest in ten years. In most years, wheat F&R for the remaining three-quarters of the wheat marketing year are negative, and annual wheat F&R is nearly always less than the first quarter's usage. The USDA is projecting that F&R for the remainder of the year will be a negative 20 million bushels. However, over the last ten years, F&R in the Sep-May period has averaged a negative 65 million bushels (see Figure 12).

December wheat futures prices have staged a unusual relapse back to and below the "harvest lows" that were set back in early July. The decrease in prices may have occurred for several reasons: (1) the summer rally in wheat was in sympathy with corn and soybeans and was driven by fears of significant drought losses which have not materialized; (2) smaller than expected exports and domestic demand; and (3) a larger than expected world wheat crop. However, unless wheat export prospects decrease further, it appears that wheat prices do not have much further downside price risk and are about what would be expected given their projected "seasonal" pattern (see Figure 13). Barring significantly larger than expected wheat crops in the S. Hemisphere, it's possible that the wheat market's could stage a rally and "retest" the highs that were set in early August.

Producers who have sold grain for cash or who have sold futures as a hedge on stored grain but who also want to retain ownership of the crop that they've priced, may want to consider a "vertical call spread". As of November 4 (when KCBT March futures were trading at $2.98), a $2.90 March call cost $.18 while a $3.40 cost around $.05. By purchasing a $2.90 call and "writing" a $3.40 call, a producer's net outlay would be around $.16= [$.18 ($2.90 call premium + $.03 commissions - $.05 ($3.40 call premium)]. The most a producer could profit from a market rally would be $.34 -- the difference between the two strike prices ($.50 = $2.90 - $3.40) less net expenses ($.17).

TABLE I. U.S. WHEAT SUPPLY-DEMAND BALANCE — (Million Bushels)

	— 99/00 —		USDA
JUN/MAY YEAR	**Oct**	**Sep**	**98/99**
Planted Acres	**63.0**	**62.7**	**65.8**
Harvested Acres	**54.3**	**54.5**	**59.0**
Yield	**42.7**	**42.3**	**43.2**
Production	**2,318**	**2,307**	**2,547**
Stocks	**946**	**945**	**722**
Imports	**105**	**105**	**103**
TOTAL SUPPLY	**3,369**	**3,357**	**3,373**
Seed	**92**	**92**	**81**
Food	**915**	**915**	**903**
Feed & Residual	**250**	**325**	**401**
DOM. USE	**1,257**	**1,332**	**1,385**
Grain Exports	**1,095**	**1,095**	**1,013**
Product Exports	**30**	**30**	**29**
EXPORTS	**1,125**	**1,125**	**1,042**
TOTAL USAGE	**2,382**	**2,457**	**2,427**
Ending Stocks	**987**	**900**	**946**
Free	**737**	**670**	**678**
Reserve	**0**	**0**	**0**
Loan	**150**	**130**	**140**
CCC	**100**	**100**	**128**
Stocks/Use (%)	**41%**	**37%**	**39%**
US Wheat Price ($)	**2.55@**	**2.60#**	**2.65**
Loan Rate ($)	**2.58**	**2.58**	**2.58**
Cash/Loan Rate (%)	**99%**	**101%**	**103%**

@ Mid-point of Oct. proj. price range $2.45-$2.65
 # Mid-point of Sep. proj. price range $2.45-$2.75

October 10, 1999

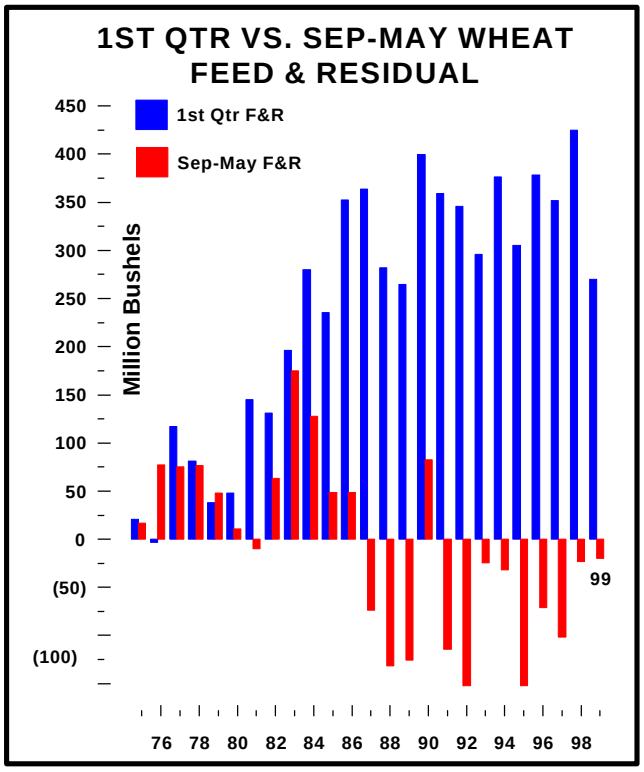


Figure 12

FEED GRAIN OUTLOOK

Corn Harvest Nearly Completed.

Based on this week's crop progress report, 89 percent of the corn crop was harvested as of October 31. That's 8 percent more than last year and 16 percent above the fourteen year average (see Figure 14). It's also the third fastest harvest in the last fourteen years. The fastest harvest was 1991, when 93 percent of the crop was harvested by this date. Once corn harvest reaches the 90 percent level, on average, corn harvest progresses about 4 percent over the next week. Thereafter, harvest progresses about two percent for the next two-to-three weeks.

Harvest was most advanced in the Southeast (GA & NC) with 94 percent completed. That's 6 percent less than last year but only two percent below the fourteen year average. Eighty-eight percent of the crop had been harvested in the Eastern Cornbelt (IL, IN, KY, MI, OH, & PA). That's 19 percent above the fourteen year average and 9 percent more than last year. Ninety-two percent of the crop in the Western Cornbelt (IA, MN, MO, & WI) was harvested. That's 7 percent more than last year and above the fourteen year average of 72 percent. In the Plains (CO, KS, NE, SD, &

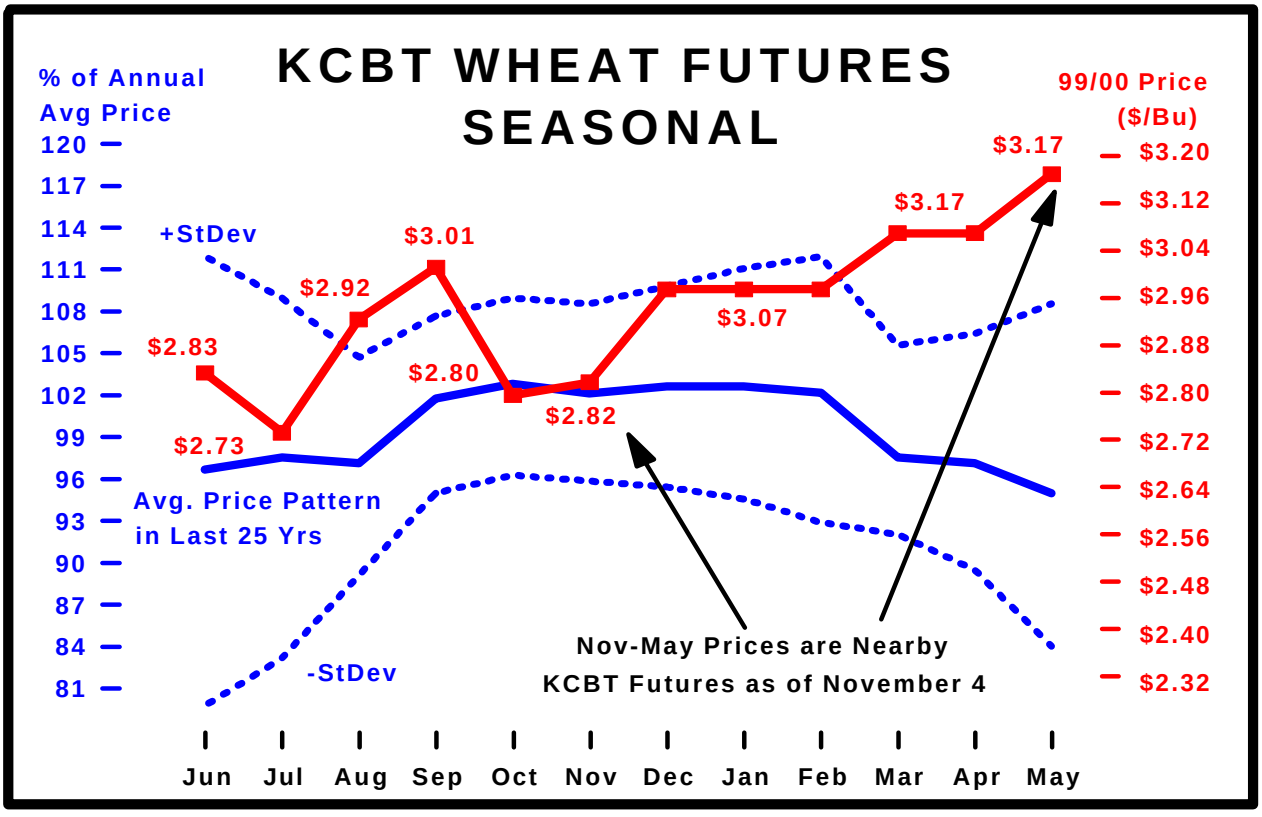


Figure 13

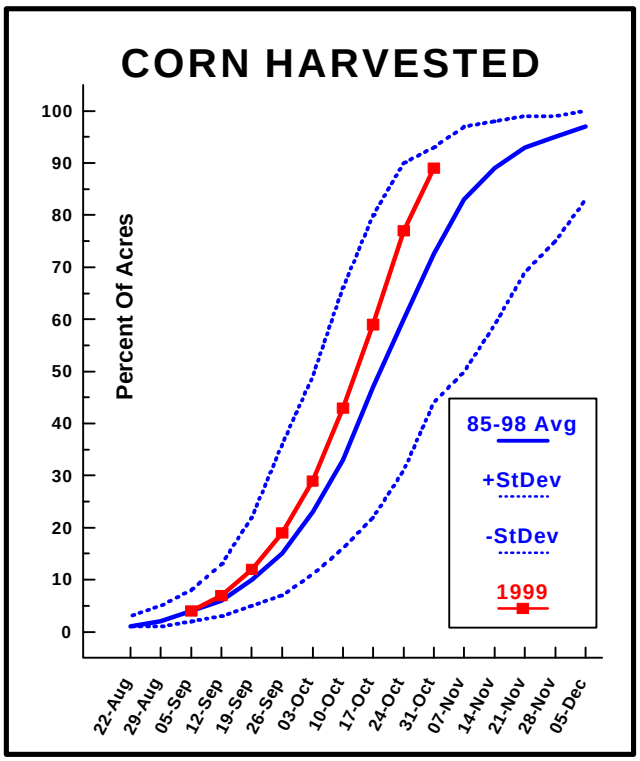


Figure 14

TX), 84 of the corn crop was harvested, 8 percent above average for this time of year and 1 percent more than last year.

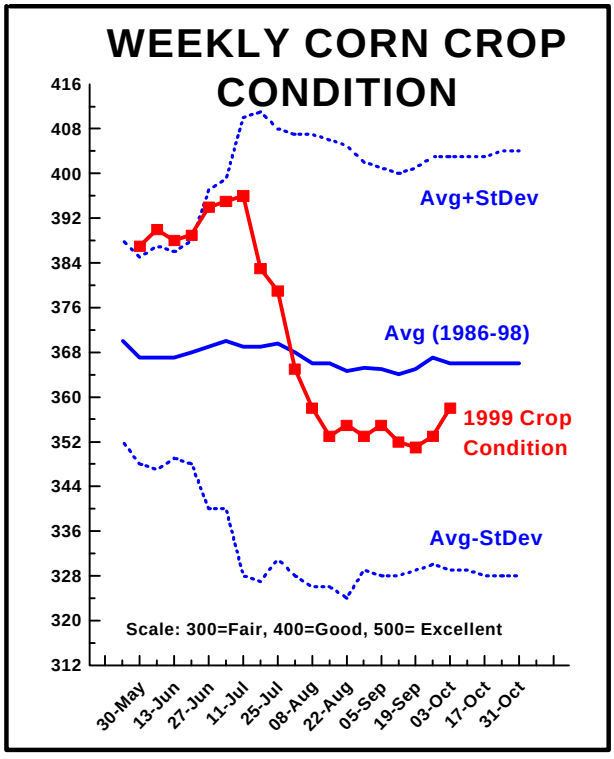


Figure 15

Odds Favor Final Corn Crop Being Larger Than October Estimate.

The USDA's October estimate of corn production

Table II.
Annual Corn Production
In Years the October Crop Estimate was Larger Than the September Crop Estimate

Years	Percent Larger in Years Oct.> Sep	Actual Annual /Oct in Years Oct.> Sep (Percent)	Predicted Annual /Oct in Years Oct.> Sep
1998	0.1%	0.2%	1.2%
1955	0.2%	2.1%	1.3%
1966	0.2%	0.1%	1.3%
1961	0.2%	2.8%	1.4%
1978	0.4%	3.8%	1.5%
1997	0.5%	0.6%	1.6%
1967	0.5%	0.1%	1.6%
1962	0.8%	3.7%	1.8%
1965	0.8%	-0.2%	1.9%
1975	0.9%	0.5%	1.9%
1969	0.9%	5.2%	1.9%
1999	**0.9%**		**1.9%**
1956	1.0%	2.4%	2.0%
1959	1.1%	-1.5%	2.1%
1977	1.2%	0.9%	2.1%
1985	1.6%	3.0%	2.5%
1979	1.7%	5.1%	2.5%
1989	1.7%	1.0%	2.6%
1981	1.8%	1.5%	2.6%
1963	1.8%	1.8%	2.6%
1960	1.8%	2.2%	2.6%
1992	1.9%	6.1%	2.7%
1988	2.0%	8.1%	2.8%
1952	2.2%	1.6%	3.0%
1996	2.4%	3.1%	3.1%
1991	2.5%	-0.1%	3.2%
1971	2.5%	2.6%	3.2%
1958	2.7%	3.1%	3.4%
1972	2.8%	3.9%	3.4%
1957	3.4%	3.0%	3.9%
1994	3.7%	5.2%	4.2%
Annual > Oct. Est		90%	
Avg. All Years		2.4%	
Avg. Years > Oct.		2.7%	
Std Dev Yrs Annl		1.9%	

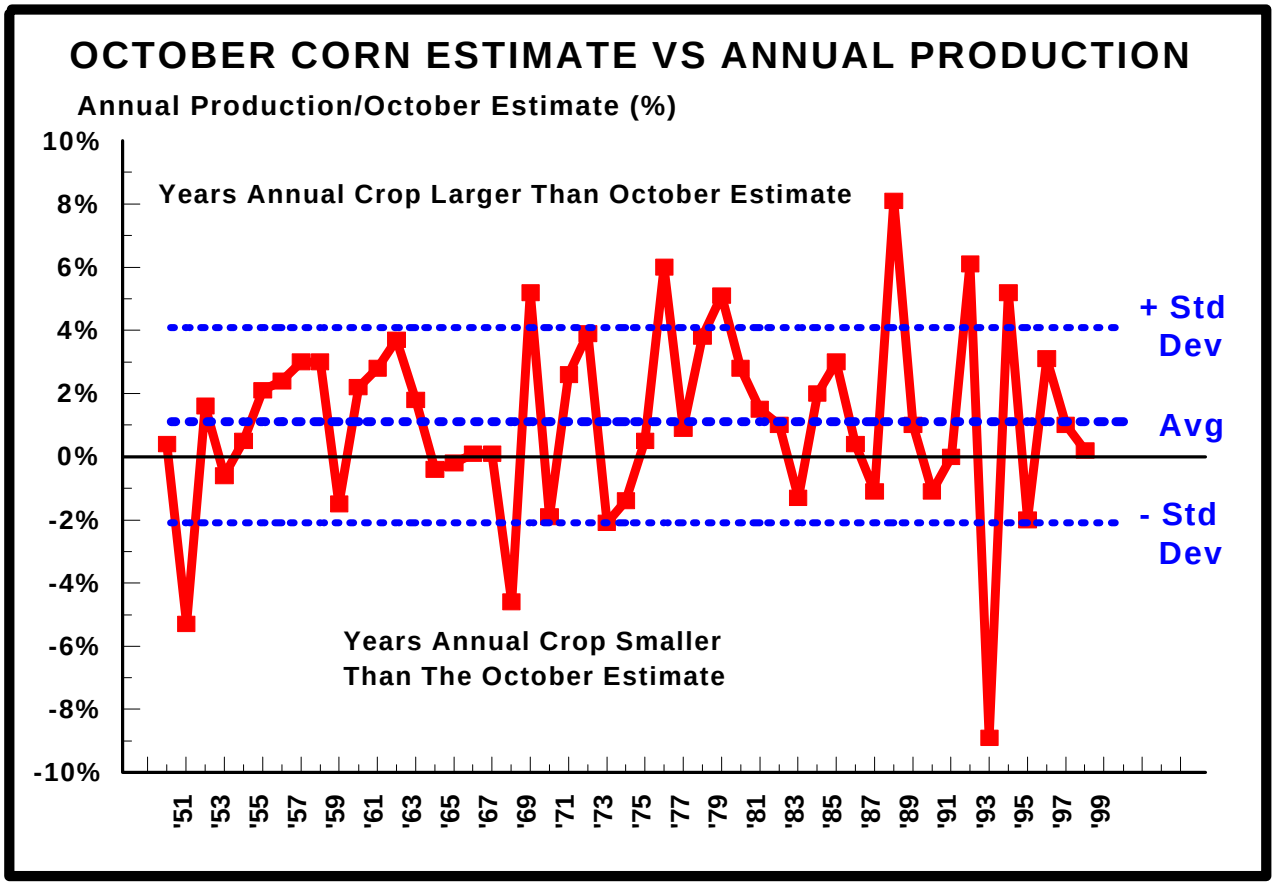
was above the average of the range of industry expectations. The USDA stopped reporting on the condition of the national corn crop as of October 4 (see Figure 15). However, the last two crop condition reports indicated that the crop's condition was improving and anecdotal reports indicate that corn yields are better than expected. Since 1950, the October crop report has been less than the final crop report 66 percent of the time (see Figure 16). This year, the October estimate was larger than the September estimate. In those years in which this has occurred, the final crop was larger than the October estimate 90 percent of the time (see Table II). There appears to be a statistically significant relationship between the size of the increase in the crop from September to October and differences between the final crop and October report. This year's increase in the crop estimate from September to October was nine-tenths of a percent. Based on this analysis, it would appear that odds favor the crop getting larger. The most likely range for the final crop is 9,460 to 9,840 with the average estimate being 9,645 million bushels.

Corn Exports Slightly Behind Schedule.

On average, 39 percent of corn exports are booked as of early November (based on data from 1975-1998). This year, export commitments of corn were 673 million bushels, 92 million bushels more than last year. On average, about 713 million bushels of corn exports are booked by this date. This year's early November figure implies that 35 percent of the USDA's projected 1,925 million bushels has been booked (see Table III and Figure 17).

Among notable changes in this year's by-country exports (versus last year) is the increase in export commitments to Japan (243 million bushels compared to 203 last year). On average, Japan books 213 million bushels by this date (or about 42 percent of their total annual purchases). Commitments to Korea were 63 million bushels compared to last year's 54 million bushels. Corn commitments to Mexico were 60 million bushels, 10 million bushels more than last year and the largest figure in ten years. There were no

Figure 16



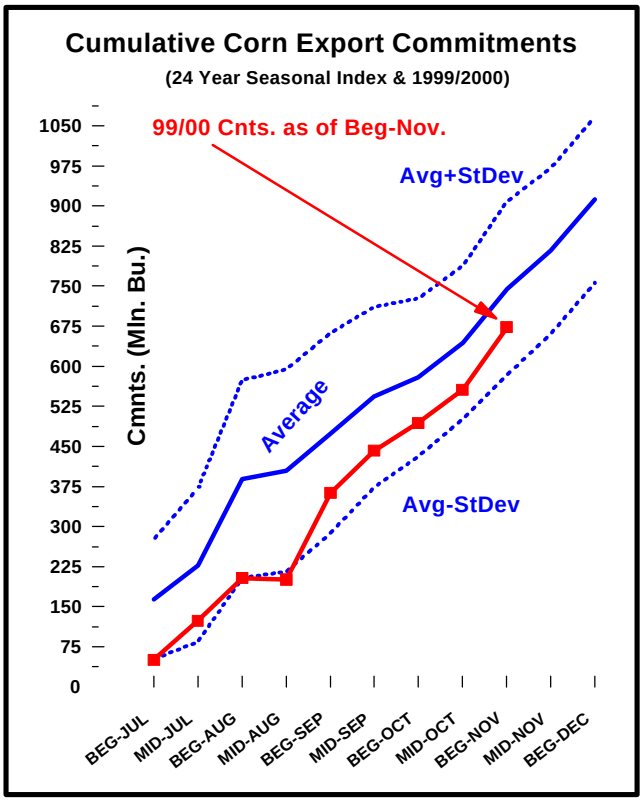


Figure 17

commitments to the European Union (EU) versus were 7 million bushels last year. The last several years, because of the ban on genetically modified corn, the U.S. has sold almost no corn to the EU.

No Evidence That USDA's Price Forecasts Are Biased.

Some industry analysts dismiss USDA supply:demand projections as "unreliable" . However, since 1973, when the USDA began releasing monthly supply:demand projections, there is no evidence of bias in the USDA's price forecasts (as measured by the midpoint of their forecasted price range). A historical comparison of the USDA's October corn S&D projections with the "final" figures and reveals that the USDA has overestimated the final price as nearly as many times as it has underestimated. Furthermore, the odds are two-out-of-three that the final 1999/2000 annual average price will fall within $.16/bu. of the USDA's October forecast of $1.95.

"Storage Hedges" May Be a Viable Post-Harvest Strategy For Producers With On-Farm Storage.

The presence of a significant "carry" in the corn futures market and weak harvest basis levels (at some locations) improves the odds that a "storage hedge" might be profitable this year. A "storage hedge" is the sale of a deferred futures contract (i.e. the July 2000 contract) and storing grain for future delivery (i.e. in June 2000). In effect, the grain is "priced" (because of the futures sale) but it is not delivered until a later date. The expected benefits of a storage hedge are: (1) to take advantage of the "carry" in the futures market; and (2) capture any gains earned from an appre-

TABLE III. U.S. CORN SUPPLY-DEMAND BALANCE — (Million Bushels)

	—99/00—		USDA
SEP/AUG YEAR	Oct	Sep	98/99
Planted Acres	77.6	77.6	80.2
Harvested Acres	70.9	71.0	72.6
Yield	133.5	132.2	134.4
Production	9,467	9,381	9,761
Stocks	1,796	1,699	1,308
Imports	10	10	20
TOTAL SUPPLY	11,273	11,090	11,089
FIS/1	1,880	1,880	1,822
Feed & Residual	5,500	5,575	5,486
Total Exports	1,925	1,850	1,985
TOTAL USAGE	9,305	9,305	9,293
Ending Stocks	1,968	1,785	1,796
Free Stocks	1,503	1,370	1,393
Reserve	—	—	—
CCC	15	15	12
Loan	450	400	391
Stocks/Use (%)	21%	19%	19%
US Corn Price ($)	1.85@	1.95#	1.95
Loan Rate ($)	1.89	1.89	1.89
Cash/Loan (%)	98%	103%	
103%			

1) FIS = Food, Industry and Seed
@ Mid-point of Oct. proj. price $1.65-$2.05
 # Mid-point of Sep. proj. price range $1.75-$2.15

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ciation in the basis.

As of November 4, the "spread" between the July 2000 and the December '99 corn futures contracts was $.23 -- the equivalent of $.0325 for each month separating the two contracts. In Garden City, (located in southwest Kansas in the "heart" of cattle feedlot country) the basis for corn was $-.33, lower than last year's $-.31 and lower still from the average of $-.11. In Topeka (in northeast Kansas) the basis for corn was $-.31, less than last year's $-.24 and well below the ten year average of $-.10.

Returning to the Garden City example: the average basis in June for corn is $-.02. If this year , the basis strengthens $.20 for corn, that increase (plus the $.23 "carry" in the July-December futures spread) would represent a significant return over on-farm storage costs. Consequently, the expected gross returns to a storage hedge for corn is $.43 ($.23 futures carry + $.20 expected basis appreciation) .

If a farmer's cost of money is 9 percent, the interest cost of storing feed grains in Garden City from October thru June would be $.10 for corn. Assuming physical storage costs for on-farm storage at $.09 would bring the total costs for storage to $.19 for corn.

Consequently, in the Garden City example, the expected "net" return to a storage hedge for on-farm storage would be $.25 for corn. Results will vary based on assumptions regarding storage costs, interest rates, and basis appreciation.

At this time, it's not possible to determine whether Montana feed barley producers have comparable opportunities to execute a "storage hedge" for their crop. The efficacy of any barley "hedging" strategy is dependent on the reliability of the optimal "cross-hedge" ratio. If Montana feed barley prices have a "reliable" cross-hedge relationship with another commodity's futures prices (corn and/or corn + soymeal), then it's possible to calculate historical "basis". Only after these relationships have been investigated, would it be possible to recommend a "storage hedge" for Montana feed barley.

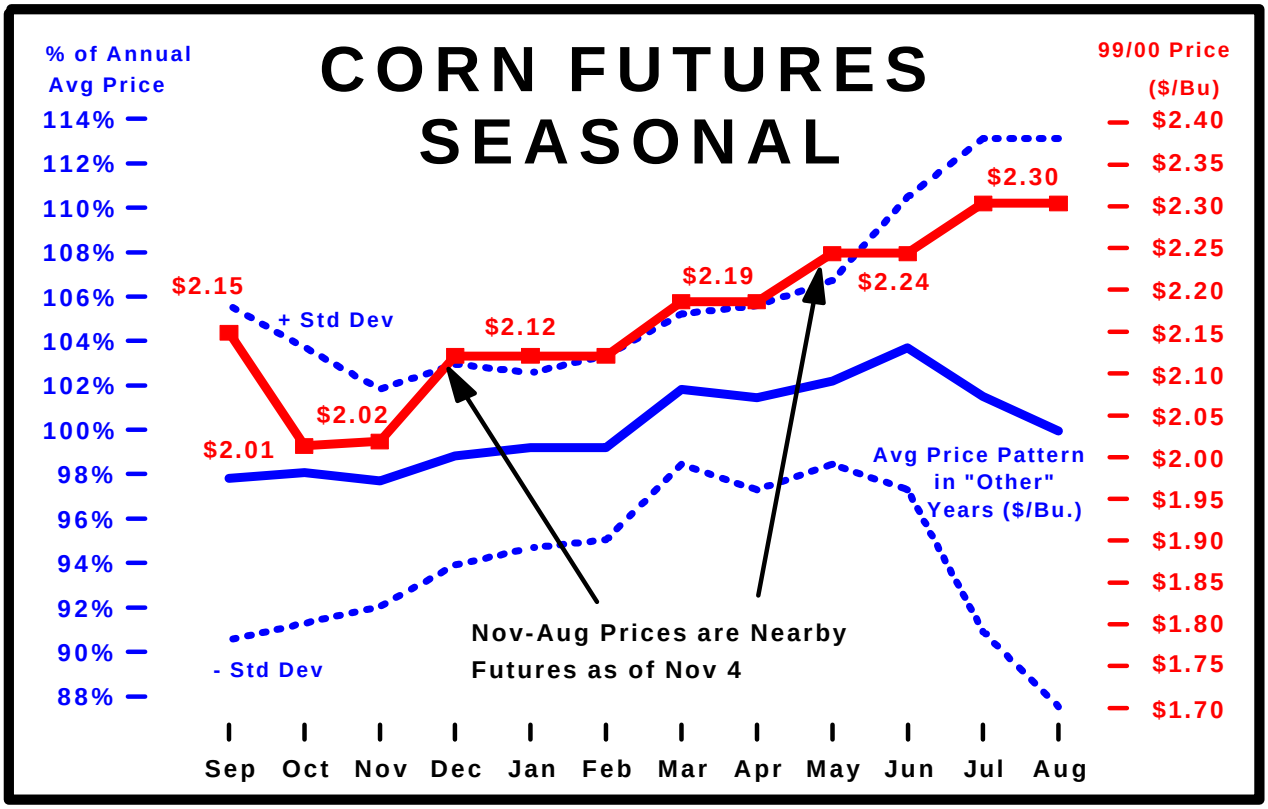

Figure 18