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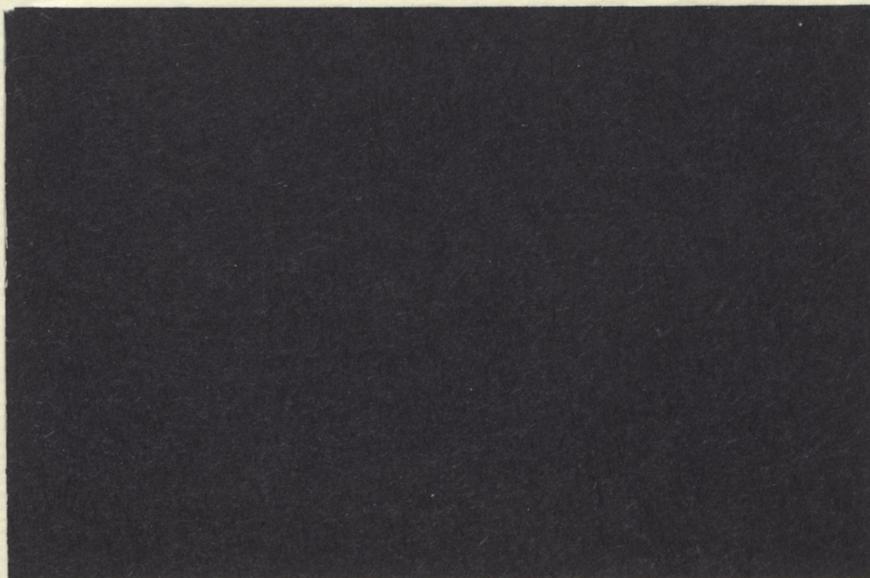
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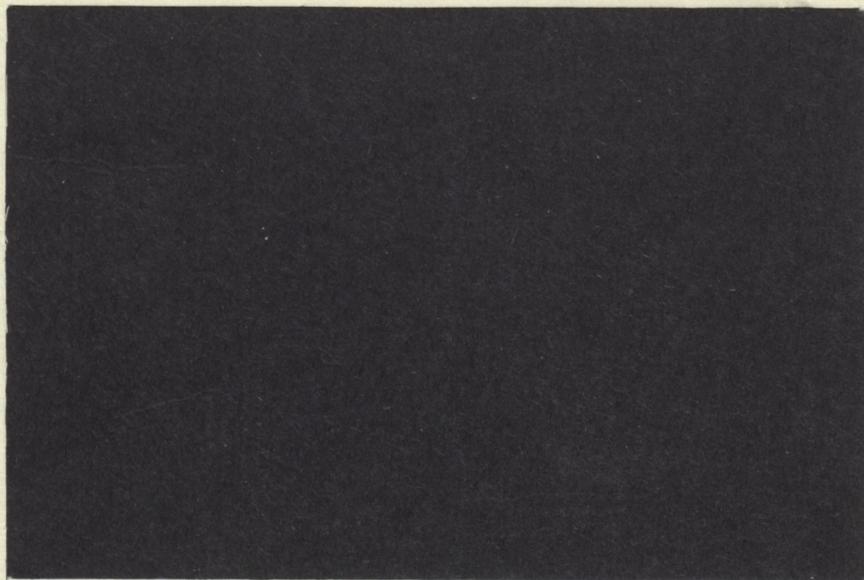


FAPRI Staff Report

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**The Drought of 1988:
Possible Market Impacts
and Policy Implications**

by Patrick Westhoff, William H. Meyers
S.R. Johnson, Jon Brandt, and Abner Womack

FAPRI Staff Report #2-88
July 1988

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The Drought of 1988: Possible Market Impacts and Policy Implications

Even in mid July, the impacts of the drought of 1988 on crop production are still uncertain. Already the drought has resulted in sharply higher crop prices, increased livestock marketings, the formation of several dozen task forces, and innumerable drought inspection tours by politicians and journalists. While it is clear the situation is serious, it is still too early to speak with confidence of the full implications of the drought for commodity markets and agricultural policy.

Reflecting the uncertainty surrounding the effect of the drought on crop yields, this report examines two possible drought scenarios. Commodity models maintained by the Food and Agricultural Policy Research Institute (FAPRI) are used to develop estimates of the likely market impacts given different assumptions concerning 1988 crop yields. After presenting results of the analysis, the report discusses implications for the design of drought relief measures.

Analysis of Alternative Drought Scenarios

Yield assumptions used in conducting the drought analysis are shown in Table 1. The U.S. and Canadian yields listed under "Normal Weather" are based on historical trends, and indicate the yields that might have been expected had there been no drought this year. These yields are used in developing a baseline projection for the corn, soybean and wheat markets. This baseline updates the FAPRI Ten-Year International Agricultural Outlook, which was released in March 1988.

The yields specified for the two drought scenarios are intended to provide a range of possible outcomes,

given the crop conditions prevailing in mid July. The moderate drought scenario utilizes USDA crop production forecasts, as reported in the July issue of World Agricultural Supply and Demand Estimates. The severe drought scenario can be thought of as a worst-case scenario, where very little rain falls during the rest of the growing season. Ideal weather in the weeks to come could raise soybean yields above those assumed in the moderate drought scenario. Corn and wheat yields are more likely to fall between those specified in the moderate and severe drought scenarios.

U.S. corn yield reductions range from 26% under the moderate drought scenario to 45% in the case of a severe drought. For U.S. soybeans, the reductions range from 13% to 24%, and for wheat, from 8% to 14%. Canadian wheat and barley yields are reduced by 25% in the moderate scenario and 38% in the severe drought scenario. More uncertainty exists for the Canadian yields, but the assumed impacts are similar in magnitude to those estimated by Agriculture Canada.

Table 2 summarizes the impacts of the two alternative drought scenarios on 1988/89 crop supply and demand, 1989/90 planted acreage, and 1989 livestock production and prices. The results are discussed on a commodity-by-commodity basis, but it is important to remember that the markets are closely interrelated. Thus, for example, the "moderate drought" results for corn are contingent not only on the assumed corn yield for that scenario, but also on the assumed yields for U.S. soybeans and wheat, and Canadian wheat and barley.

Table 1:
Yield Assumptions Under Alternative 1988 Drought Scenarios

	Normal Weather	Moderate Drought	Severe Drought
U.S. Corn (bu./ac.)	118.5	87.1	65.0
U.S. Soybeans (bu./ac.)	33.1	28.9	25.0
U.S. Wheat (bu./ac.)	38.3	35.2	33.0
Canadian Wheat (bu./ac.)	30.1	22.6	18.8
Canadian Barley (bu./ac.)	52.2	39.1	32.6

Table 2:
Impacts of Alternative 1988 Drought Scenarios

	Normal Weather	Moderate Drought	Severe Drought
Corn			
Yield (bu./ac.)	118.5	87.1	65.0
Production (mil. bu.)	7,143	5,200	3,838
Domestic Use (mil. bu.)	6,066	5,699	5,509
Exports (mil. bu.)	1,806	1,646	1,560
Ending Stocks (mil. bu.)	3,561	2,222	1,188
Market Price (\$/bu.)	\$1.93	\$2.85	\$3.42
Part. Net Returns (\$/ac.)	\$143.57	\$89.58	\$65.59
Non-Part. Net Returns	\$82.43	\$101.90	\$76.02
1989 ARP Rate (%)	20.0%	10.0%	0.0%
1989 Part. Rate (%)	76.1%	54.7%	56.8%
1989 Area (mil. ac.)	67.8	76.0	79.7
Soybeans			
Yield (bu./ac.)	33.1	28.9	25.0
Production (mil. bu.)	1879	1650	1437
Domestic Use (mil. bu.)	1239	1157	1067
Exports (mil. bu.)	665	625	584
Ending Stocks (mil. bu.)	258	159	83
Market Price (\$/bu.)	\$6.34	\$8.91	\$11.92
Net Returns (\$/ac.)	\$140.21	\$187.86	\$228.36
1989 Area (mil. ac.)	59.4	63.5	67.3
Wheat			
Yield (bu./ac.)	38.3	35.2	33.0
Production (mil. bu.)	2,099	1,840	1,693
Domestic Use (mil. bu.)	1,101	1,085	1,070
Exports (mil. bu.)	1,352	1,489	1,545
Ending Stocks (mil. bu.)	926	547	359
Market Price (\$/bu.)	\$2.85	\$3.71	\$4.33
Part. Net Returns (\$/ac.)	\$62.99	\$57.85	\$52.04
Non-Part. Net Returns	\$48.93	\$70.21	\$82.66
1989 ARP Rate (%)	10.0%	5.0%	0.0%
1989 Part. Rate (%)	82.1%	66.5%	61.1%
1989 Area (mil. ac.)	76.1	80.2	83.7
Cattle (1989)			
Production (bil. lbs.)	22.49	22.10	21.60
Omaha Steer Price (\$/cwt)	\$68.03	\$71.15	\$73.50
Hogs (1989)			
Production (bil. lbs.)	16.22	15.20	14.60
7-Market Price (\$/cwt)	\$37.41	\$46.50	\$50.50
Chicken (1989)			
Production (bil. lbs.)	16.29	16.45	16.14
12-City Price (\$/cwt)	\$45.91	\$52.50	\$55.00

Corn

If there had been no drought, 1988 corn production would have been likely to exceed 7 billion bushels. The moderate and severe drought scenarios reduce U.S. corn production to 5.2 and 3.8 billion bushels, respectively. Lower production results in higher prices and associated rationing of domestic utilization. Feed use is particularly affected, for three reasons:

1) Higher grain prices encourage farmers to reduce feeding rates,

2) Higher feed prices result in earlier livestock marketings, so that fewer animals are being fed, and

3) Corn prices increase more than wheat and soymeal prices, so that corn becomes less competitive as a feedstuff relative to the other commodities.

Higher corn prices also reduce industrial demand for corn. As corn prices increase relative to sugar prices, processors reduce corn sweetener production. Gasohol production may also be curtailed in response to higher grain prices, especially at a time of relatively low fuel prices. The analysis assumes that the U.S. government offers gasohol producers the incentives necessary so that the drought does not reduce gasohol production.

The net effect of the drought on U.S. corn exports is relatively small, in spite of higher corn prices. This export result depends crucially on the Canadian barley yield assumption. If Canadian barley production and exports were not limited by the drought, the estimated decline in U.S. corn exports would be much more pronounced. Higher corn prices both encourage foreign production and discourage foreign utilization of U.S. grain.

Carryover stocks of corn vary more by scenario than utilization. Under normal weather, projected stocks on September

1, 1989 total 3.6 billion bushels, which is down sharply from year-earlier levels, but still well above "normal" carryover. The moderate drought scenario increases prices enough that less corn is put under loan and more Commodity Credit Corporation (CCC) stocks are exchanged for generic certificates, reducing carryover to 2.2 billion bushels. A severe drought would almost empty the Farmer Owned Reserve (FOR), and would likely pressure the CCC to release most of the grain it owns, and ending stocks could fall as low as 1.2 billion bushels.

Even a moderate drought results in substantial increases in corn prices, from \$1.93 per bushel in the baseline to \$2.85. Prices increase more if yields are further reduced. However, price increases are somewhat constrained by the stocks which enter the marketplace when prices exceed the FOR release price (\$3.03 per bushel now; \$2.93 after September 1). If yields were even lower than under the severe drought scenario, prices could go much higher, since government stocks are almost depleted under the severe scenario. If Canadian barley yields were higher, U.S. corn prices would be lower, due to increased competition from Canada in world feed grain markets.

Net returns over variable production costs for corn program participants fall with corn yields, while a moderate drought actually increases net returns to the typical non-participant. For non-participants, higher market prices more than offset lower yields in the case of a moderate drought, but not in the case of a severe drought. For program participants, the drought increases market returns, but results in an even larger negative effect on deficiency payments. Until market prices exceed the target price (\$2.93 in 1988/89), every increase in the market price reduces deficiency payments by the change in price multiplied by the program yield. While the impacts for particular farms depend on the effect of the drought on

yields, the average program participant loses in a moderate drought, but the average non-participant gains.

Effects on planted corn area in 1989 depend on the response of both farmers and policymakers to the drought. Higher prices and lower carryover stocks are likely to induce the Secretary of Agriculture to reduce the Acreage Reduction Program rate in 1989. This would reduce the number of acres idled by program participants, and there are likely to be fewer participants because of the increase in market prices. Since the drought of 1988 is likely to result in non-participant net returns above participant net returns, the participation rate in the corn program during 1989 is likely to fall below 60%.

The net result of the price increase and probable policy actions is that the area planted to corn in 1989 is likely to increase from 67.8 million acres for normal 1988 weather to 76.0 and 79.7 million acres in the moderate and severe drought scenarios, respectively. Most of the increase is due to the expected relaxation of ARP requirements and the reduction in program participation rates. In fact corn acreage increases by less than the reduction in acreage idled by the program, since some of the idled acreage shifts to soybean production.

Soybeans

In early June, USDA projected 1988 soybean production at 1.88 billion bushels, based on trend yields. The moderate and severe drought scenarios reduce soybean production to 1.65 and 1.44 billion bushels, respectively. Domestic soybean crush falls due to reduced demand for soy meal and soy oil, both in the U.S. and abroad. Domestic meal demand falls because of higher meal prices and lower livestock numbers. Soy oil demand falls because of higher soy oil prices and more competition from other oils. Foreign demand for meal and oil fall because of higher prices. U.S. exports of both soy meal and soy oil fall sharply.

The decline in soybean exports is relatively modest in the two drought scenarios. Importing countries can be expected to maintain domestic crushing industries. Thus, the decline in demand for meal and oil is reflected primarily in lower U.S. exports of soybean products. Increased competition from Brazil and Argentina accounts for most of the reduction in U.S. soybean exports.

Even under normal weather, soybean stocks at the end of the 1988/89 crop year were expected to be tight. This is the principal reason for the significant increase in soybean prices under the moderate and severe drought scenarios—unlike the case of corn, there are no stocks from which to draw. There is some uncertainty as to whether prices will actually go as high as indicated. Since the prices are without historical precedent, there is a question whether historical relationships between prices and utilization would continue to hold. If demand and foreign production are more responsive to price changes when prices reach high levels, it is possible that prices would not increase as much as indicated.

As is the case for corn non-participants, average net returns per acre increase when yields fall. The soybean producer with average yield losses actually benefits from the drought, as higher prices more than offset lower yields. The increase in soybean net returns and the relaxation of corn acreage reduction requirements are expected to result in substantial increases in soybean area planted in 1989. From 59.4 million acres given normal 1988 weather, 1989 soybean area planted increases to 63.5 and 67.3 million acres under the moderate and severe drought scenarios, respectively.

Wheat

Normal weather would probably have resulted in a wheat crop of approximately 2.1 billion bushels. The

moderate and severe drought scenarios reduce wheat production to 1.84 and 1.69 billion bushels, respectively. Unlike corn and soybeans, the drought is not projected to have a major impact on domestic use of wheat. Food uses of wheat change little in response to changes in wheat prices, since wheat typically accounts for only a small proportion of the final cost of processed foods. Feed use is much more responsive to changes in prices. However, while higher wheat prices discourage feed use, the even greater increase in corn prices results in some substitution of wheat for corn in feed rations. The net effect on wheat feed use is small.

Wheat exports actually increase in response to the drought, given the assumptions of the analysis. The primary reason for this counterintuitive result is that the drought is assumed to sharply reduce exportable supplies from Canada. In spite of higher prices, U.S. exports actually increase, as the U.S. replaces Canada as the supplier to many importing countries.

Another reason that wheat exports increase is that corn and soybean prices increase more than do wheat prices. Even though the price of wheat increases in absolute terms, it falls in relative terms. Finally, wheat exports increase because it is assumed that the Export Enhancement Program (EEP) will continue at the same level as under normal weather. If the EEP is scaled back or eliminated to help dampen price increases, U.S. wheat exports would increase less or actually fall.

Since domestic use is essentially unchanged and exports increase, carryover stocks of wheat actually fall more than production. As for corn, the moderate and severe drought scenarios result in the liquidation of most CCC and FOR stocks. Projected carryover under the severe drought scenario is already extremely low. Thus, if the drought reduces yields even more, prices would

need to increase sharply in order to ration demand, given all the other assumptions of the analysis.

The target price for wheat in 1988/89 is \$4.23 per bushel. This target price is exceeded only in the severe drought scenario. Thus, farmers receive at least some deficiency payment in the moderate drought scenario. Participant net returns fall and non-participant returns increase as yields fall for the same reasons outlined in the case of corn.

The 1989 ARP rate for wheat is assumed to be reduced from the already announced 10% in the case of the moderate and severe drought scenarios. This and higher wheat prices result in an increase in 1989 wheat acreage, from 76.1 million acres in the case of normal 1988 weather, to 80.2 and 83.7 million acres in the moderate and severe drought scenarios, respectively.

Livestock

The drought has already caused some beef and pork producers to sell parts of their breeding herds, and prices for feeder pigs and feeder cattle have fallen. By increasing current slaughter, the drought is resulting in lower livestock prices in 1988. With higher prices for feed and forage, this price decrease due to breeding herd adjustment puts a severe squeeze on livestock producer profits.

Herd liquidation in 1988 is likely to result in higher livestock prices in 1989. This is most pronounced for hogs, where 1989 production is projected to fall sharply in response to the drought. At the reduced production levels, hog prices should increase enough to offset much of the increase in feed prices. If crop production returns to normal in 1989, feed prices should fall and profits in the pork industry should actually increase in 1990.

For the cattle industry, current sales of breeding stock have only a limited impact on 1989 beef production, due to the length of the biological reproduction cycles involved. As a result, beef production may be reduced more in 1990 because of the drought than in 1989. Production changes are relatively minor, as are changes in beef prices in 1989.

Chicken production also changes little in 1989 in response to the drought. Higher feed prices are offset by higher chicken prices, so that profit margins are not severely affected. Price increases are more modest than in the case of hogs, because chickens are more efficient at converting feed into meat.

Not included in the table are impacts on the dairy industry. Higher feed and forage costs are resulting in higher cow slaughter this summer, which should reduce milk production in 1988 and 1989. Under normal weather, it appeared likely that net removals by the CCC would be large enough that the Secretary of Agriculture would announce another \$0.50 per hundredweight reduction in the support price next January 1. The drought will certainly reduce net removals, but it is not clear if the effect will be large enough that the support reduction can be avoided. The drought relief bill before Congress suspends the price support decline for 1989, even if projected net removals are above the target level.

Policy Implications

While the effects of the drought are still very uncertain, it is possible to draw a number of policy implications from the analysis:

1) Consequences of the drought vary considerably by commodity, geographic region, and producer. It is important that drought relief measures target benefits to those farmers who are suffering real economic losses. As noted

earlier, some crop farmers may actually be better off because of the drought, even if their yields have been reduced.

The importance of targeting relief measures is shown clearly in Table 3, which is for a typical Midwestern farmer, who has 100 acres of corn base and plants an additional 100 acres of soybeans. The first column shows what happens if there is no drought and the farmer's yields equal the national average. For both corn and soybeans, net returns per acre average about \$140. The farmer's total net returns above variable production costs are about \$28,000.

The second column in Table 3 assumes that the moderate drought scenario prevails nationally, but that local weather conditions are favorable. Thus, the farmer harvests the same amount of corn and soybeans as in the normal weather case. Since corn and soybean prices have increased, the farmer obviously gains. Total net returns increase by \$9,000.

The third column in Table 3 again assumes that the moderate drought scenario prevails nationally, but it also assumes that the farmer gets the national average yield. In this case, lower yields are almost exactly offset by higher prices. Total net returns remain essentially unchanged. It should be pointed out, however, that the producer's net returns from corn production fall due the loss of deficiency payments, while soybean net returns increase.

Finally, the fourth column shows what happens when the drought affects the farmer more severely than it does the typical producer. When the farmer's corn yields fall to 50 bushels per acre, almost all the net returns to corn production disappear, in spite of prices well above baseline levels. Soybean net returns fall slightly below the levels that prevail under normal weather. Total

Table 3:
Net Returns for a Corn Program Participant in 1988

	Normal Weather, National & Local	National Moderate Drought*		
		Normal Local Weather	Moderate Local Drought	Severe Local Drought
Corn Base (ac.)	100.0	100.0	100.0	100.0
Corn Area Planted (ac.)	70.0	70.0	70.0	70.0
ARP Area (ac.)	20.0	20.0	20.0	20.0
PLD Area (ac.)	10.0	10.0	10.0	10.0
Corn Yield (bu./ac.)	118.5	118.5	87.1	50.0
Program Yield (bu./ac.)	105.0	105.0	105.0	105.0
Corn Production (bu.)	8,295	8,295	6,097	3,500
Corn Market Price (\$/bu.)	\$1.93	\$2.85	\$2.85	\$2.85
Target Price (\$/bu.)	\$2.93	\$2.93	\$2.93	\$2.93
Deficiency Payment (\$/bu.)	\$1.00	\$0.08	\$0.08	\$0.08
Diversion Payment (\$/bu.)	\$1.75	\$1.75	\$1.75	\$1.75
Corn Marketings (\$)	\$16,009	\$23,641	\$17,376	\$9,975
Deficiency Payment (\$)	\$7,350	\$588	\$588	\$588
Diversion Payment (\$)	\$1,838	\$1,838	\$1,838	\$1,838
Corn Gross Receipts (\$)	\$25,197	\$26,066	\$19,802	\$12,401
Corn Var. Costs/ac. (\$)	\$146.28	\$146.28	\$146.28	\$146.28
Idled Acre Costs/ac. (\$)	\$20.00	\$20.00	\$20.00	\$20.00
Corn Variable Costs (\$)	\$10,840	\$10,840	\$10,840	\$10,840
Corn Net Returns (\$)	\$14,357	\$15,227	\$8,962	\$1,561
Soybean Area Planted (ac.)	100.0	100.0	100.0	100.0
Soybean Yield (bu./ac.)	33.1	33.1	28.9	20.0
Soybean Production (bu.)	3,310	3,310	2,890	2,000
Soybean Price (\$/bu.)	\$6.34	\$8.91	\$8.91	\$8.91
Soybean Marketings (\$)	\$20,985	\$29,492	\$25,750	\$17,820
Soybean Gross Receipts (\$)	\$20,985	\$29,492	\$25,750	\$17,820
Soybean Var. Costs/ac. (\$)	\$69.64	\$69.64	\$69.64	\$69.64
Soybean Variable Costs (\$)	\$6,964	\$6,964	\$6,964	\$6,964
Soybean Net Returns (\$)	\$14,021	\$22,528	\$18,786	\$10,856
Total Net Returns (\$)	\$28,379	\$37,755	\$27,748	\$12,417

*National average yields of 87.1 bu./ac. for corn and 28.9 bu./ac. for soybeans

net returns fall \$16,000 below baseline levels.

While generalizations are dangerous, it is safe to say that geographic regions where yields are reduced most by the drought will also suffer the largest economic losses, especially if they produce crops that are also produced in areas less affected by the drought (so that price increases are limited). In general, participants in government programs will not fare as well as non-participants, unless special drought relief measures are made available.

While many crop farmers will suffer large losses, the typical crop farmer will probably be less severely affected than the average livestock producer, at least in the short run. In the short run, livestock producers have to deal with lower output prices and increased feed costs, higher death loss and reduced rates of gain. And due to adjustments in breeding herd size it will take time for output prices to increase sufficiently to restore profitability. The livestock producers with the lower losses in the short run are those who hedged against potential increases in feed costs and reductions in livestock prices. Relaxation of haying and grazing restrictions on set side and conservation reserve land area may help ameliorate effects of the drought for some beef producers.

2) If policy makers decide to enact relief measures, funding for programs will be available. Although no specific estimates were prepared, it is clear that even a moderate drought would result in several billion dollars in reduced deficiency payments. In the case of a severe drought, no deficiency payments would be made under current formulas. If properly targeted, the savings in the programmed government expenditures could provide compensation to most or all farmers affected by the drought without increasing total government expenditures. In this situation, the full cost of the drought would be passed on

to consumers, who would pay higher prices for food.

3) Depending on the severity of the drought, it may be desirable to relax ARP requirements for 1989, as is assumed in the analysis. However, the analysis also indicates that there is little need to take additional action to increase production in 1989. Assuming a return to normal weather in 1989, the production which would result from increased planted acreage would meet expected demand and allow a modest increase in carryover stocks, returning stocks to more normal levels.

4) The Conservation Reserve Program (CRP) should be considered carefully. The 1989 acreage projections assume that the CRP will continue to expand. Since "normal" 1989 prices can be obtained merely by relaxing annual ARP requirements, there appears to be little need, in the short run, to place restrictions on CRP sign-up. Indeed, if the CRP is to expand, special incentives will be necessary to encourage enrollment, in light of the higher market returns currently available to crop producers. On the other hand, if the CRP grows to the projected 40-45 million acres, the ability of USDA to encourage increased supplies in the event of another drought or a sharp increase in demand may be limited.

Table 4 summarizes the acreage situation for corn, soybeans and wheat. Even under the severe drought scenario, 1989 planted area is substantially below record levels. However, adding the number of acres enrolled in the CRP to 1989 planted area results in a total acreage planted and idled which is greater than the number of acres planted in record years. This indicates that the CRP may limit the flexibility of policymakers and farmers to respond to a tight supply situation. On the other hand, the fact that the sum of planted and idled acres was considerably greater in 1983 (the PIK year) than is projected in 1989 indicates that the CRP is not

Table 4:
Planted Acreage and the Conservation Reserve Program

	Corn	Soybeans	Wheat
Record Planted Acreage (Year)	84.6 (1976/77)	71.4 (1979/80)	88.3 (1981/82)
Record Planted + Idled Area (Year)	92.4 (1983/84)	71.4 (1979/80)	106.2* (1983/84)
1989 Planted Acreage			
Normal Weather	67.8	59.4	76.1
Moderate Drought	76.0	63.5	80.2
Severe Drought	79.7	67.3	83.7
1989 ARP & PLD Acreage**			
Normal Weather	15.0	0.0	6.5
Moderate Drought	4.3	0.0	2.6
Severe Drought	0.0	0.0	0.0
1989 CRP Acreage***	5.5	5.0	10.0
1989 Planted + Idled Area			
Normal Weather	88.3	64.4	92.6
Moderate Drought	85.8	68.5	92.8
Severe Drought	85.2	72.3	93.7

* Other than the PIK years of 1983/84 and 1984/85, planted plus idled wheat area never exceeded 94.6 million acres.

** Acres idled under the Acreage Reduction Program and the Paid Land Diversion Program.

*** Conservation Reserve Program base reductions for wheat and corn, estimated effect on planted soybean acreage.

likely to be a major constraint to production increases in the short run. In 1989, the relaxation of annual acreage diversion programs is sufficient to meet anticipated demand.

5) The drought is likely to bring the EEP and other export promotion programs into question. The analysis assumes the continuation of the EEP during the 1988/89 crop year, albeit at a reduced level. If the United States wants to keep pressure on the European Community for policy reform, even larger subsidies will be necessary, since

higher world prices reduce the subsidies the European Community must pay to export grain. Even larger export subsidies would be unpopular politically, both here and in the European Community, when domestic food prices are increasing and stocks are being reduced to very low levels. Reducing or eliminating the EEP and other programs could moderate domestic price increases and provide a signal of cooperation to the EC, but it would come at great cost to countries now receiving subsidized grain, and it would likely reduce future U.S. exports.



**Food and Agricultural
Policy Research Institute**

Early Implications of Drought on Commodity Markets

Three weather scenarios have been considered for the 1988/89 crop. Possible ranges include the following:

	1988/89		(U.S. Avg.)			
	<u>Yield</u>	<u>% Chng.</u>	<u>Price</u>	<u>% Chng.</u>		<u>% Chng.</u>
<u>CORN</u>						
Base	118.5		\$1.93			
Moderate	87.1	(26%)	\$2.85	48%		
Severe	65.0	(45%)	\$3.42	77%		
<u>SOYBEANS</u>					<u>Meal</u>	
Base	33.1		\$6.34		\$204.23	
Moderate	28.9	(13%)	\$8.91	41%	\$266.81	31%
Severe	25.0	(24%)	\$11.92	88%	\$343.00	68%
<u>WHEAT</u>						
Base	38.3		\$2.85			
Moderate	35.2	(8%)	\$3.71	30%		
Severe	33.0	(14%)	\$4.33	52%		

Livestock Impacts

	Avg. Weather Baseline		Moderate 88 Average 89		Severe 88 Average 89	
	<u>1988</u>	<u>1989</u>	<u>1988</u>	<u>1989</u>	<u>1988</u>	<u>1989</u>
<u>CATTLE</u>						
Prod.						
Bil lb	22.74	22.49	22.74	22.10	22.19	21.60
Omaha Steers \$/Cwt.	\$66.81	\$68.03	\$66.81	\$71.15	\$66.06	\$73.50
<u>HOGS</u>						
Prod.						
Bil lb	15.23	16.22	15.50	15.20	15.60	14.60
7 Market \$/Cwt.	\$44.64	\$37.41	\$43.95	\$46.50	\$43.45	\$50.50
<u>BROILERS</u>						
Prod						
Bil lb	16.14	16.29	16.14	16.45	16.00	16.14
12 City \$/Cwt.	\$46.04	\$45.91	\$47.50	\$52.50	\$49.00	\$55.00

