

World food shortages are inevitable in wake of the Great Flood of 1993

by Marcia Merry, Suzanne Rose, and Robert Baker

Just a look at the map will show why all the sweet talk about how little impact the Great Flood of '93 will have on food supplies is bunk.

Look simply at the location of the record wet weather: It coincides exactly with the North American breadbasket. In an average or "good" crop year, the combined output of the farm belt in the upper Mississippi and Missouri river basins accounts for 70% of the annual U.S. corn crop and 62% of the soybean crop. The best estimates of crop losses already sustained are that 10 million acres of corn and soybeans are gone — making a total loss of 15.5 million tons of corn and close to 4 million tons of soybeans. Still more crop may yet be lost as a result of lingering effects throughout the crop season.

The crop already destroyed is equivalent to fully 30% of the coarse grains (corn, sorghum, etc.) traded internationally each year. These U.S. loss estimates result from calculations crosschecked from local press coverage, state officials, and first-hand reports, as measured against published U.S. Department of Agriculture (USDA) statistics from past averages for crop area planted and harvested.

USDA officials and commodity cartel officials have access to up-to-date, *square-meter* satellite photos on the state of vegetation throughout this entire affected multi-state region; but so far they have refused to provide information to the public, or even to lawmakers. These officials — functioning as a de facto arm of the commodity cartel companies (Cargill, Archer Daniels Midland/Töpfel, Bunge, Louis Dreyfus, ConAgra, Pillsbury, and a few others) — stated throughout July that they would stick to their "business-as-usual" schedule of releasing their first corn and soybean reports on Aug. 11.

The following *EIR* survey and conclusions were complete as of Aug. 5, and are based on published photographs of 20×20 meter square satellite surveys of the affected region, made available by the National Oceanographic and Atmospheric Administration of the Commerce Department.

The two crops considered are corn and soybeans, because the rains and floods hit the center of this production zone. The loss estimates refer to actual damage to crops in the fields. Losses to food supplies this year will be even greater

because of the amount of grain that will be ruined in storage and transit.

Nine farm states declared disasters

As of the end of July, nine farm states in the upper regions of the Mississippi-Missouri river basins were officially declared disaster areas. Close to 300 counties in these states are official disaster counties. The states are, going from north on the Canadian border, where Manitoba is also extremely wet, southward: North Dakota, Minnesota, South Dakota, Wisconsin, Nebraska, Iowa, Illinois, Missouri, and Kansas. As of August, some counties in Kentucky and other states were also applying for disaster designation because of flooding.

In the heart of this is Iowa, all of whose 99 counties were designated as disaster zones early in July. Iowa's western border is defined by the Missouri River, and its eastern border by the Mississippi, both of which were in flood, along with their tributaries, inundating the capital Des Moines and the state's second-largest city, Cedar Rapids.

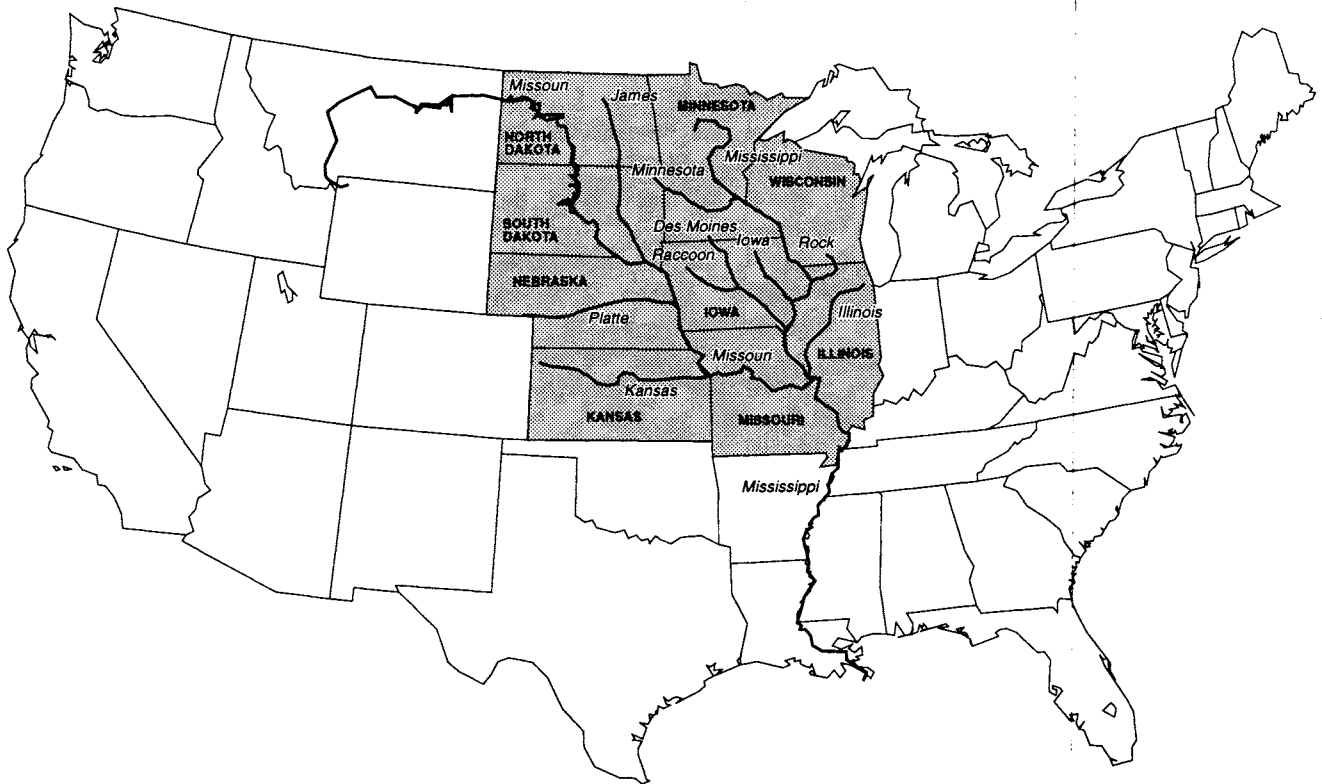
For crops and livestock, the nature of the immediate disaster is twofold. First, the rising rivers have sent floodwater over stream banks and levees, inundating farmsteads, pastures, cropland, grain storage, and much more. Second, vast "ponding" has occurred, where rain falls to the extent that the ground is completely saturated, all drainage flow stops, and even the water table rises above ground level. The second problem is far more extensive than the first, and can be equally damaging to crops.

As of the end of July, the rainfall rate slackened off, and the water began to recede. However, the swollen river levels are not expected to go down below flood stage until some time in September; and the sodden soils will pose problems for even longer. Some of the implications of these situations are discussed in summary below.

Extent of crop damage

Iowa state officials estimate that at the very least, 10% of the expected harvestable corn and soybean acreage is now wiped out. Iowa had roughly 20 million acres planted in corn and soybeans (at about an 11:9 ratio), and of that, at least 2 million acres — either corn or soybeans — are completely lost.

Nine states declared disaster areas in the upper Mississippi-Missouri basins



¹ For each of the other nine states, there is a similar loss estimate for corn and soybeans, depending on local factors: Iowa 10%, Illinois 3%, Nebraska 3%, Minnesota 40%, Wisconsin 10%, Missouri 10%, North Dakota 3%, South Dakota 40%, Kansas 3%.

These percentage losses are only the first phase of what stands to be lost this crop year. These loss rates come about because of the actual flooding out of fields, or crop kill from ponding, etc. There are many more dangers lurking in remaining weeks of the growing season that stand to increase the crop loss percentages in each state, especially the northerly ones.

Table 1 shows that, as measured against a recent average crop year, the first-phase losses add up to 8% of the national output of corn and 7.7% of the national output of soybeans.

Additional crop problems

Besides destruction of crops from outright flooding and ponding, there are other conditions that may severely limit the harvest or kill crops:

- Even for plants that have survived so far, there are all kinds of root diseases that may occur under the wet conditions.
- The growing degree days are an issue. *The potential*

for economic loss from the retarded growth regimen could be at least as great as the loss from the floods. How many sunny days will occur, and how long will the frosts stay away? In Iowa at present, the daytime temperatures are running only in the range of 70°F or just above, and at night, the temperature is dropping to 50°F or just above. The crop growth in these regions is 2-3 weeks behind. In Wisconsin, Minnesota, and South Dakota, some of the crop is four weeks behind. In general, for every 100 miles northward from the central corn belt, the frost is a week earlier. That is why corn and soybean losses in southern Minnesota and South Dakota may be up to 50% in some areas; while in Missouri, they may be less so.

- Shallow root growth is a problem. Under more normal rainfall patterns in the planting and growing season, corn plants would have a 3-6-foot root development. Most of the root growth is in the upper one foot of soil at present. Ironically, this now means that if there is not adequate water for the plant in this layer for the next month — i.e., one rain every week or so — then the plant will suffer for lack of water!

- Special costs. Where possible, some farmers are attempting to cultivate their soybeans, to aerate the soil and enhance the growing conditions. This involves extra expenses. The variety of soybeans used is light-sensitive, and it is

TABLE 1

Ten million acres of corn and soybeans ruined in nine-state aread in first stage of losses

	Area (millions acres)				Volume (millions metric tons)			
	Corn		Soybeans		Corn		Soybeans	
	Average Harvested	Estimated Lost	Average Harvested	Estimated Lost	Average Output	Estimated Lost	Average Output	Estimated Lost
Iowa	11.83	1.83	8.13	0.813	36.26	3.63	8.64	0.86
Illinois	10.7	0.321	8.86	0.266	31.76	0.95	9.13	0.27
Nebraska	6.93	0.208	2.41	0.072	22.32	0.67	2.24	0.07
Minnesota	5.6	2.24	4.78	1.912	16.45	6.58	4.51	1.81
Wisconsin	2.83	0.283	0.362	0.036	7.85	0.78	0.34	0.03
Missouri	2.22	0.222	4.67	0.467	5.84	0.58	3.93	0.39
North Dakota	0.48	0.014	0.542	0.016	0.97	0.03	0.38	0.01
South Dakota	2.78	1.112	1.59	0.636	5.39	2.16	1.23	0.49
Kansas	1.25	0.038	1.84	0.055	4.08	0.12	1.42	0.04
Total 9 states	44.62	5.621	33.184	4.273	130.92	15.5	31.82	3.97
Total U.S.	65.58		59.288		189.23		51.53	

Sources: U.S. Department of Agriculture, *Agriculture Statistic*; *EIR*.

possible, under the right conditions, for the plants to bloom, pod, and set beans all during the month of August in the greater Iowa region — if everything goes right.

- Harvest costs will involve the expenses of extra propane gas to dry the corn crop. And the value of crop will be reduced by the light test weight to be expected from the difficult growing conditions.

Storage and transit

A chain reaction of grain storage and transportation bottlenecks could occur from the Mississippi River grain terminal outlets all the way back to unharvested fields of corn and soybeans this fall.

- Inside the bins: Even in normal weather, dried grain in storage bins must be aerated at regular intervals, or else the grain will go out of condition. Natural convection currents occur within the stored grain as the temperature outside the bins increases during the day and decreases at night. Without mechanical aeration, the cooling off at night causes condensation to form on the inside wall of the grain bin next to the dried grain. After a certain amount of accumulation, this moisture activates the grain kernels to germinate. They then die from lack of sunlight, and the grain becomes mushy. The moisture in the mushy corn slowly moves from the outside walls to the inside of the grain bin, causing a chain reaction of germination, which, if not stopped, can turn the entire amount of grain in the bin into mush like rotten apples.

This can happen in normally dry weather to grain bins that do not have proper ventilation, electronic moisture sensors, and aeration fans, all of which are usually located at the bottom of the grain storage bin.

Some of the largest grain terminals in the United States are next to the Mississippi River, and some of those elevators ended up standing in several feet of flood water, threatening to soak the grain and knock out the aeration systems. There were frantic efforts to remove the good grain off the top before rot set in.

The cartel company owners refused to issue any information on the condition of stored grain, despite nightly broadcasts showing the flooded elevators on the news.

The same fate of flooded river terminals also affected the tens of thousands of grain storage bins containing millions of bushels on the farms that are located along thousands of miles of numerous flooded river tributaries, and in farmsteads hit by standing high water.

- Transportation: From April through August, most inland grain terminals located on the prairies are unloading their bins and hauling the grain to the river terminals to be loaded onto barges. Not being able to clean out the bins for the new fall harvest could pose a huge transportation bottleneck this fall, which could tie up the truck transportation normally needed to get the grain out of the fields. This fall, if the inland grain elevators are still accommodating what's left of last year's grain and the transportation system is tied up transporting last year's crop to the river terminals and seaports this fall, then the currently growing corn crop may have to remain standing in the field and may not be harvested until very late, which could cause heavy field losses.

- Frost: Millions of acres of grain may not be matured before the fall frosts hit the grain belt. Immature grain that is frosted will be low quality, low protein, low test weight, and very susceptible to aflatoxin infestation.