United States Department of Agriculture

Agricultural Marketing Service

June 1999

Grain Transportation Prospects

USDA/STB Grain Logistics Task Force

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The *Grain Transportation Prospects* is a product of the Department of Agriculture (USDA) and Surface Transportation Board (STB) Grain Logistics Task Force (GLTF).The members of the GLTF working group are: Gerald A. Bange, Chairperson, World Agricultural Outlook Board, USDA; Melvin F. Clemens, Jr., Surface Transportation Board; Steve P. Gill, Farm Service Agency, USDA; Mack N. Leath, Economic Research Service, USDA; Brian D. McKee, Grain Inspection, Packers and Stockyards Administration, USDA; Jerry D. Norton, Agricultural Marketing Service, USDA; Robert Riemenschneider, Foreign Agricultural Service, USDA; Jim Schaub, Office of Chief Economist, USDA; and Frederic A. Vogel, National Agricultural Statistics Service, USDA.

Summary

U.S. grain transportation demand has strengthened relative to year-ago levels since the beginning of calendar year 1999. Rail demand has risen modestly during the first months of the year. Rail shipments of grain since January are up 4 percent over the same period in 1998. Barge shipments of grain are also up. First quarter (January-March) barge shipments of grain and soybeans on the Mississippi River System were up 12 percent from the first quarter of 1998 and 5 percent above the 5-year average. Since April, barge shipments have been up 38 percent from year-ago levels and 30 percent above the 5-year average for the same weeks. Grain transportation demand has been up in part because of continued strong domestic demand for grain and soybeans. Transportation demand has also been up because of stronger exports of wheat and corn.

U.S. wheat and corn export inspections for the January-April period were up 8 and 33 percent, respectively, over the same period last year. Strong shipments of wheat, in part the result of the ongoing USDA donation initiative, have driven up demand for rail transportation in the corridors connecting the Central and Southern Plains to the Texas Gulf. Relatively strong export corn demand has contributed to increased shipments of corn to the Louisiana Gulf. Increased demand for export corn, however, has done little to increase westbound rail shipments of export corn from the Central and Northern Plains and the Western Corn Belt. During the January-April period, Pacific Northwest (PNW) corn exports were up only 1 percent above year-ago levels. Ocean freight rates have been low for several months. The spread between rates to the Far East from the Gulf versus (vs.) the PNW has strongly favored shipments from the Gulf. Although ocean rates and the Gulf-vs.-PNW spread have increased in recent weeks, rates are expected to remain lower than normal for several more months and will continue to favor the Gulf over PNW origins for U.S. corn exports.

The first USDA out-year projections for the combined U.S. grain and soybean (excluding rice) crops put 1999/2000 production down 3 percent from 1998/99 at 15,564 million bushels due to lower grain production. Large carry-in stocks and increased soybean production, however, will more than offset the decline in grain production, leaving grain and soybean supplies at their highest levels in more than a decade. Carry-in stocks are currently projected up 39 percent at 3,438 million bushels, their highest level since 1989/90. With imports projected at 248 million bushels, 1999/2000 available grain and soybean supplies are expected to total 19,250 million bushels, up 2 percent from 1998/99 and their highest level since 1987/88. Ending stocks for 1999/2000 are again expected to increase. At 3,565 million bushels, 1999/2000 ending stocks will be up 4 percent from 1998/99 and result in the largest carry out since 1987/88.

Projections for continuing strong domestic demand and expected increases in exports for 1999/2000 suggest a general increase in grain transportation demand for the next several months. U.S. grain and soybean use for 1999/2000 is projected to be a record 15,686 million bushels, up 2 percent from 1998/99 and 367 million bushels higher than the previous record in 1994/95. Domestic use is projected at 11,534 million bushels, down just 32 million bushels from the anticipated record domestic use in 1998/99. Export use is projected up 8 percent from 1998/99. At 4,152 million bushels, export use in 1999/2000 would be at its highest level since 1995/96.

Large grain and soybean stocks are keeping storage demand and utilization at unusually high levels heading into the summer harvest. March 1 grain and soybean stocks in all positions totaled 9,135 million bushels, up 17 percent from a year earlier and 26 percent above the 5-year average for March 1 stocks. Based on these stock numbers, 48 percent of estimated U.S. grain storage capacity was in use. Some of the highest utilizations were in the Corn Belt and Central Plains where harvest-time storage problems occurred in 1998. Carrying incentives currently built into futures market prices for corn, wheat, and soybeans should continue to encourage storage and keep demand for storage capacity strong. Price incentives to hold grain, however, also limit the potential for the types of short-term spikes in transportation demand that can back up railroads and congest the inland waterway system.

Operating performance reports issued by the major railroads indicate that the Nation's rail carriers are easily handling current traffic levels. Train speeds are excellent, and yard dwell time, with a few notable exceptions, shows a steady or declining pattern. One issue that rail shippers and receivers in the Eastern United States will be watching over the next few months is the takeover of Conrail (CR) operations, starting June 1, by CSX Transportation (CSX) and the Norfolk Southern (NS). Although more than 2 years of planning has gone into the CR takeover, some merger-related problems may be inevitable. The June 1 date, chosen by CSX and NS for the takeover was set to coincide with seasonal reductions in traffic that normally occur during the summer. The summer months are when auto plants shut down to retool and coal mines close temporarily for summer vacations. It is also the time in the Southeast

when local supplies of grain begin to become available for feeding. These reductions in traffic demand should allow NS and CSX to work out any unforeseen problems before the start of the busy fall shipping season.

This report is compiled by USDA's Agricultural Marketing Service. It contains information provided by the Surface Transportation Board and by USDA's Agricultural Marketing Service, Economic Research Service, Farm Service Agency, Foreign Agricultural Service, and National Agricultural Statistics Service. It is approved for release by the World Agricultural Outlook Board. For questions concerning this report, contact Jerry D. Norton, USDA-Agricultural Marketing Service, 202-690-1303, "jerry.norton@usda.gov". Unless otherwise referenced, information in the report is based on data from the May 12, 1999, *World Supply and Demand Estimates* and *Crop Production* reports and the March 31, 1999, *Grain Stocks* report.

Grain Market Situation

Grain and Soybeans

Combined grain and soybean production (excluding rice) is projected down slightly for the 1999/2000 marketing year, with the reduction due to lower wheat and corn crops. Large carry-in stocks and increased soybean production, however, will more than offset the decline in grain production, leaving available grain and soybean supplies at their highest levels in more than a decade. Domestic use for 1999/2000 is expected to remain very near the projected record 1998/99 level. This will keep demand for domestic grain and soybean shipments strong. Export use is projected up substantially for 1999/2000. If current projections hold, exports of grain and soybeans during the 1999/2000 marketing year will be the largest since 1995/96. Strong domestic demand, combined with increased exports, should boost transportation demand over the next several months. Pricing signals, however, do not suggest large surges in transportation demand in the near term.

Supplies. The first projections for the 1999/2000 corn, sorghum, barley, oat, wheat, rye, and soybean crops put this year's grain (excluding rice) and soybean production at 15,564 million bushels, down 3 percent from 1998/99. Carry-in stocks are currently projected up 39 percent at 3,438 million bushels, the highest level since 1989/90. With imports projected down 2 percent at 248 million bushels, 1999/2000 available grain and soybean supplies are expected to total 19,250 million bushels, up 2 percent from 1998/99 and the highest level since 1987/88. Ending stocks for 1999/2000 are projected up 4 percent at 3,565 million bushels. At this level, 1999/2000 will be the fourth straight year in which ending stocks have increased and the largest carry out since 1987/88.

Planting intentions, according to USDA's March 31, 1999, *Prospective Plantings* report, indicate grain and soybean acreage for the 1999/2000 crop will be down throughout the United States. Planted grain and soybean acreage, based on farmer intentions, was reported at 234.7 million acres, down 3 percent from last year (figure 1, table 1). For the major grain- and soybean-producing areas in the Plains and Corn Belt, the largest reductions were reported in the Southern Plains where planted acres were reported at 22.1 million, down 7 percent or 1.6 million acres. Reductions were also reported in the Northern Plains where planted acres dropped 1.2 million acres to 33.2 million, a drop of 3 percent. Smaller reductions were reported for the Central Plains, Western Corn Belt, and Eastern Corn Belt. Large reductions in grain and soybean acreage were indicated by farmers throughout the southern growing areas. In addition to the reductions in the Southern Plains, farmers in the Delta and Southeast regions reported intentions to reduce their grain and soybean acreage by 1.8 million acres for 1999/2000. This reduction in southern grain and soybean acreage partly reflects increases in cotton acreage throughout the South.

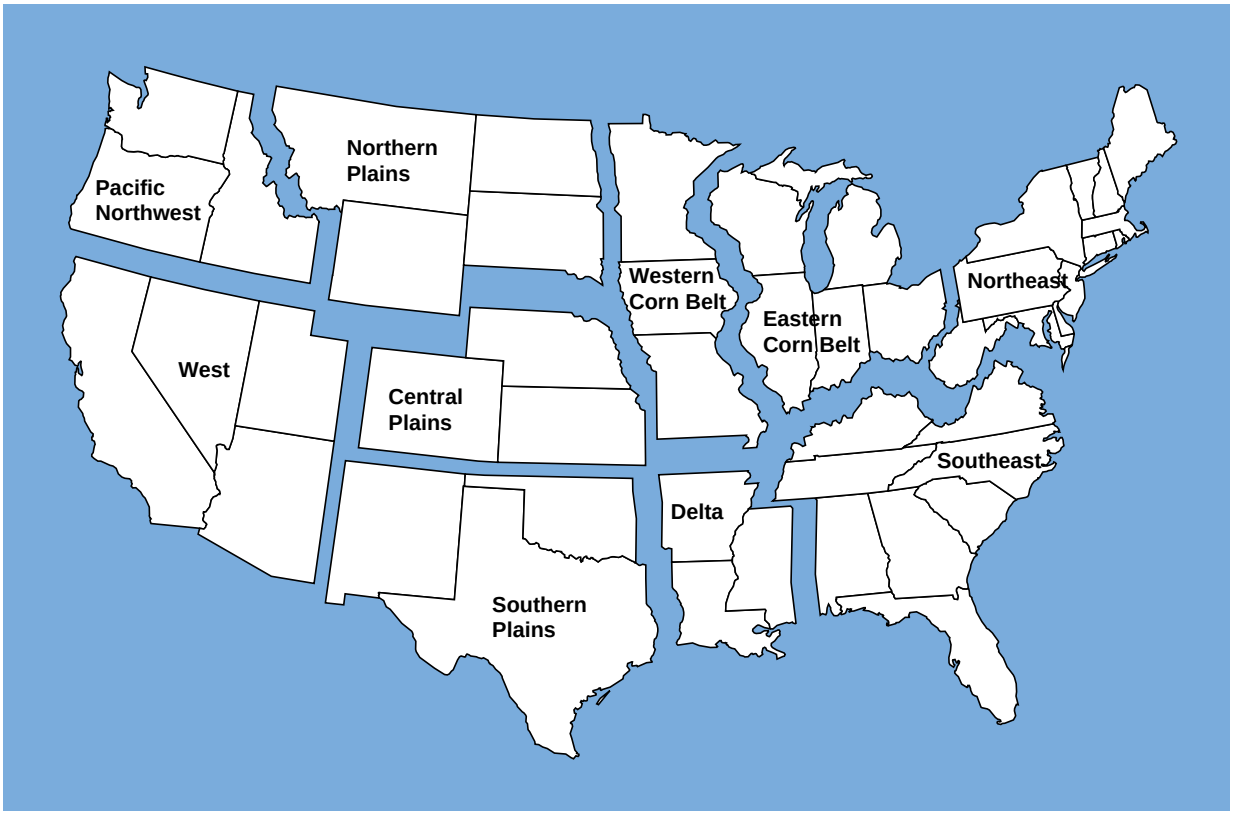
Use. U.S. grain and soybean use is projected at 15,686 million bushels for 1999/2000, up 2 percent from 1998/99 and 367 million bushels higher than 1994/95's record. Domestic use for 1999/2000 is projected at 11,534 million bushels, down just 32 million bushels from the anticipated record domestic use in 1998/99. Export use for 1999/2000 is projected up 8 percent from 1998/99. At 4,152 million bushels, 1999/2000 exports would be the highest since 1995/94 when exports totaled 4,494 million bushels.

Global wheat trade in1999/2000 is projected at 100.6 million metric tons, 5.3 million above the 1998/99 level. World production is forecast to be 572.4 million metric tons, down 15.6 million metric tons from the previous year. Among the major exporters, significant crop decreases are expected to occur in the United States and the European Union. Production in Canada is forecast slightly above the 1998/99 level while crops in Australia and Argentina are projected up 1 million and 1.25 million metric tons, respectively. Production is down in several import markets, including China, Pakistan, Iran, and most of North Africa. While the wheat crop in the former Soviet Union is expected to rebound from the 1998/99 drought-reduced level, output will remain relatively low. Global wheat consumption is expected to be slightly higher and, for the second consecutive year, is projected to exceed production, drawing down world ending stocks by more than 19 million metric tons. The global stocks-to-use ratio is expected to be 19.9 percent, only slightly above the record low of 19.5 percent in 1995/96.

World coarse grain production is projected at 884.7 million metric tons for 1999/2000, while consumption is forecast at 882.4 million metric tons. With world total consumption of coarse grains forecast nearly equal to production, following 3 years of surplus production, global carry-out stocks will be almost unchanged at 144.9 million metric tons.

The initial projection for total 1999/2000 coarse grains trade is at 92.4 million metric tons, up 2.2 million from forecast 1998/99 trade. The boost in trade for coarse grains is largely shared between corn and barley. Trade in corn is forecast for 1999/2000 at 65.4 million metric

Figure 1—U.S. grain production regions



Source: USDA-AMS

Table 1—U.S. grain and soybean acres planted 1994-99

Region	1994	1995	1996	1997	1998	1999	Percent of 1998	Percent of 5-yr. avg.
	-1,000 acres -							
Northeast	6,117	6,087	6,145	6,364	6,422	6,295	98	101
Southeast	14,781	13,331	14,342	14,451	14,208	13,351	94	94
Delta	8,960	8,717	10,017	9,737	9,845	8,950	91	95
Eastern Corn Belt	53,680	52,295	54,490	54,948	54,968	54,847	100	101
Western Corn Belt	47,848	46,228	48,509	49,307	49,807	49,420	99	102
Southern Plains	20,829	20,329	22,507	21,581	22,092	20,541	93	96
Central Plains	39,530	38,523	41,046	40,521	39,768	39,379	99	99
Northern Plains	35,265	32,396	37,960	36,737	34,379	33,195	97	94
Pacific Northwest	6,783	6,758	7,233	7,051	6,925	6,502	94	94
West	2,293	2,286	2,566	2,483	2,458	2,254	92	93
United States	236,086	226,950	244,815	243,180	240,872	234,734	97	98

Note: 1999 acreage based on producer planting intentions reported in the March 31, 1999, *Prospective Plantings.*

Source: USDA-NASS

tons, 1.5 million higher than 1998/99. Barley trade is forecast up almost 1 million metric tons, to 16.4 million. Trade in other coarse grains is forecast substantially unchanged with sorghum at 6.6 million metric tons, up 0.2 million; oats at 2.3 million metric tons, up 0.1 million; and rye at 1.8 million metric tons, down 0.1 million.

Stocks and Storage. The March 31, 1999, *Grain Stocks* report put March 1 grain and soybean stocks in all positions at 9,135 million bushels, up 17 percent from a year earlier and 26 percent above the 5-year average (table 2). Of the total, 55 percent were reported as held on farm. On-farm stocks were up 856 million bushels, or 20 percent from their levels on March 1, 1998. Off-farm stocks were up 444 million bushels, or 12 percent, from year-ago levels. These are the largest March 1 stocks since 1988.

March 1 stocks were up over year-ago levels in every region except the Pacific Northwest (PNW) and Southeast. The largest year-to-year increase was in the Western Corn Belt where stocks were up 559 million bushels, or 24 percent. Large year-to-year increases were also reported in the Eastern Corn Belt where stocks were up 262 million bushels, or 11 percent, the Central Plains where stocks were up 208 million bushels, or 14 percent, and the Northern Plains where stocks were up 171 million bushels, or 26 percent. In the Eastern and Western Corn Belts, on-farm stocks accounted for 54 and 66 percent, respectively, of total stocks for those regions. In the Northern Plains, 76 percent of stocks were on farm. Off-farm storage accounted for the majority of March 1 stocks in the Central and Southern Plains—52 percent of Central Plains stocks and 96 percent of Southern Plains stocks were held off farm.

Year-to-year increases in March 1 stocks have driven up storage capacity utilization throughout most of the United States (table 3). This, of course, would be expected in the absence of substantial expansions in storage capacity. As of March 1, 48 percent of total U.S. grain storage capacity, as reported December 1, 1998, was in use. Of the total, 46 percent of on-farm capacity and 51 percent of off-farm capacity were in use. The highest March 1 utilization rates were in Corn Belt and Central Plains. As of March 1, 58 percent of Western Corn Belt storage and 52 percent of Central Plains storage was in use. In the Eastern Corn Belt, 51 percent of capacity was in use.

The high level of storage capacity in use on March 1 raises questions about the availability of adequate storage capacity for the 1999/2000 crop. Despite the projected 3-percent drop in production for 1999/2000, anticipated large carry-over stocks will bring total supplies to their highest levels in years. The ability of the market to push old crop stocks and new crop production into consumption, especially as exports, will be an important factor in dealing with a potential shortfall of storage capacity that could affect this year's harvest. Particularly critical will be storage availability in the Central Plains and Western Corn Belt where storage capacity has traditionally been the shortest.

Wheat

With the beginning of the 1999/2000 marketing year for wheat on June 1, the size and quality of the winter wheat crop becomes a key factor influencing near-term grain transportation demand in the Southern and Central Plains. This year's winter wheat crop is forecast to be smaller than last year's. Larger carry-in stocks, however, will make available supplies nearly as large as last year. Increases in wheat exports, particularly at the Texas Gulf, in recent weeks and even more recent jumps in outstanding export sales suggest that export demand may be up slightly from year-ago levels during the next few months. Low wheat prices, however, continue to create a strong incentive for the market to store new crop wheat. The amount of carrying premium in the market through the next several months should be sufficient to keep transportation demand for wheat at consistent levels. Strong premiums in the market for delivery later in the year reduce the possibility of short-term transportation demand spikes that often result when prices invert.

Supplies. The first USDA production projections for all classes of wheat in 1999/2000 put this year's wheat crop at 2,245 million bushels, down 12 percent from last year. With imports projected down 3 percent for this marketing year at 95 million bushels, total supplies are projected at 3,309 million bushels, down 61 million bushels, or 2 percent. Ending wheat stocks for the 1999/2000 marketing year are projected to drop 100 million bushels, the first drop in ending stocks since 1995/96. At 869 million bushels, projected ending stocks for 1999/2000 would still be the second largest since 1987/88.

Table 2—U.S. grain and soybean stocks by position, March 1, 1993-99

Region	1993			1994			1995		
	On Farms	Off Farms	Total	On Farms	Off Farms	Total	On Farms	Off Farms	Total
	Million bushels			*Million bushels*			*Million bushels*		
Northeast	74	65	139	56	46	103	62	57	119
Southeast	121	136	257	61	113	173	85	124	209
Delta	10	87	97	7	70	76	10	69	78
Eastern Corn Belt	1,351	1,189	2,540	996	1,123	2,118	1,390	1,244	2,634
Western Corn Belt	1,792	932	2,724	984	792	1,776	1,750	993	2,743
Southern Plains	25	321	347	21	247	268	21	225	246
Central Plains	747	766	1,513	473	635	1,108	660	740	1,401
Northern Plains	559	190	749	486	175	660	538	172	710
Pacific Northwest	46	124	170	47	153	200	32	115	147
West	4	28	32	4	29	34	3	28	31
Unallocated	200	28	228	127	50	176	161	76	236
United States	4,929	3,866	8,796	3,260	3,432	6,692	4,712	3,842	8,554

Region	1996			1997			1998		
	On Farms	Off Farms	Total	On Farms	Off Farms	Total	On Farms	Off Farms	Total
	Million bushels			*Million bushels*			*Million bushels*		
Northeast	40	44	84	64	53	117	39	57	96
Southeast	45	110	154	64	102	165	40	106	146
Delta	6	68	73	7	60	67	0	72	72
Eastern Corn Belt	865	999	1,864	1,013	835	1,848	1,210	1,105	2,315
Western Corn Belt	1,137	935	2,073	1,462	742	2,204	1,499	818	2,318
Southern Plains	10	184	194	15	163	177	11	259	269
Central Plains	328	627	955	616	655	1,271	632	818	1,450
Northern Plains	313	201	514	504	175	679	512	158	670
Pacific Northwest	28	125	153	36	128	164	53	150	204
West	2	24	26	3	30	32	1	34	35
Unallocated	109	68	177	138	53	190	213	49	262
United States	2,882	3,385	6,266	3,920	2,994	6,914	4,209	3,626	7,835

Region	1999			Percent of 1998			Percent of 5-yr. avg.		
	On Farms	Off Farms	Total	On Farms	Off Farms	Total	On Farms	Off Farms	Total
	Million bushels								
Northeast	42	57	99	110	100	104	81	111	96
Southeast	42	104	146	105	99	100	71	94	86
Delta	0	94	94	314	130	130	4	139	128
Eastern Corn Belt	1,388	1,189	2,577	115	108	111	127	112	120
Western Corn Belt	1,892	986	2,877	126	120	124	138	115	129
Southern Plains	14	317	331	128	123	123	90	147	143
Central Plains	788	870	1,658	125	106	114	145	125	134
Northern Plains	643	198	841	126	125	126	137	113	130
Pacific Northwest	46	154	200	86	102	98	116	115	115
West	2	45	47	229	133	135	63	156	149
Unallocated	209	55	264	98	113	101	140	94	127
United States	5,065	4,070	9,135	120	112	117	133	118	126

Source: USDA-NASS

Table 3—U.S. grain storage capacity utilization, March 1, 1994-99

Region	1994			1995			1996		
	On Farms	Off Farms	Total	On Farms	Off Farms	Total	On Farms	Off Farms	Total
	percent			*percent*			*percent*		
Northeast	20	31	24	24	39	30	16	30	21
Southeast	11	31	19	15	35	23	8	32	17
Delta	4	18	14	5	18	14	3	18	14
Eastern Corn Belt	33	53	41	46	59	51	30	47	37
Western Corn Belt	29	46	35	52	58	54	35	55	41
Southern Plains	7	22	19	8	20	18	4	17	15
Central Plains	30	39	34	40	46	43	20	40	30
Northern Plains	29	39	31	33	38	34	20	45	25
Pacific Northwest	17	39	30	12	30	23	10	33	24
West	0	19	22	0	20	22	0	17	18
United States	28	40	33	41	46	43	26	41	32

Region	1997			1998			1999		
	On Farms	Off Farms	Total	On Farms	Off Farms	Total	On Farms	Off Farms	Total
	percent			*percent*			*percent*		
Northeast	28	36	31	17	38	25	18	39	26
Southeast	12	29	19	8	31	17	9	31	18
Delta	4	17	13	0	20	14	0	25	17
Eastern Corn Belt	35	40	37	42	53	46	46	57	51
Western Corn Belt	46	44	45	47	48	47	59	57	58
Southern Plains	6	17	15	5	29	25	6	38	31
Central Plains	38	43	41	39	55	47	48	57	52
Northern Plains	32	39	33	33	36	33	40	44	41
Pacific Northwest	14	33	26	22	39	32	19	40	32
West	0	21	23	0	24	25	0	33	34
United States	36	37	36	38	46	41	46	51	48

Source: USDA-NASS

The first survey information on winter wheat production from the May *Crop Production* report puts the 1999/2000 winter wheat crop at 1,615 million bushels, down 14 percent from 1998/99 (table 4). Production is expected to be down in all the major producing regions (figure 2). The largest decrease is expected in the Southern Plains where this year's crop is estimated to be down 22 percent from last year. In the Central Plains, the key Hard Red Winter (HRW) wheat-producing region, production is estimated to be down 15 percent this year. Production in Kansas, the largest HRW-producing State, is expected to be down 17 percent. Winter wheat production in the Eastern Corn Belt, the key Soft Red Winter (SRW) wheat region, is also estimated to be down for 1999/2000. Current estimates put this region's production down 11 percent from last year, with the biggest drops in Indiana and Ohio down 19 and 15 percent, respectively. Winter wheat production in the Southeast is expected to be up 5 percent, however, despite a reduction of 9 percent in winter wheat acreage in the region.

The most recent *Crop Progress* report indicates that the winter wheat crop is maturing just slightly behind last year but ahead of the 5-year average. As of May 23, 72 percent of the crop was listed as headed compared to 74 percent last year and an average of 66 percent during the previous 5 years for the same week. The crop also appears to be in slightly better condition than last year's crop at this time, with 71 percent reported in good to excellent condition, 22 percent in fair condition, and 7 percent in poor or very poor condition as of May 23. This compares with 69 percent in good to excellent condition, 23 percent in fair condition, and 8 percent in poor or very poor condition last year at this time. Key HRW and SRW States reported even better conditions. Kansas reported 77 percent of its crop in good to excellent condition. Illinois, Indiana, and Ohio

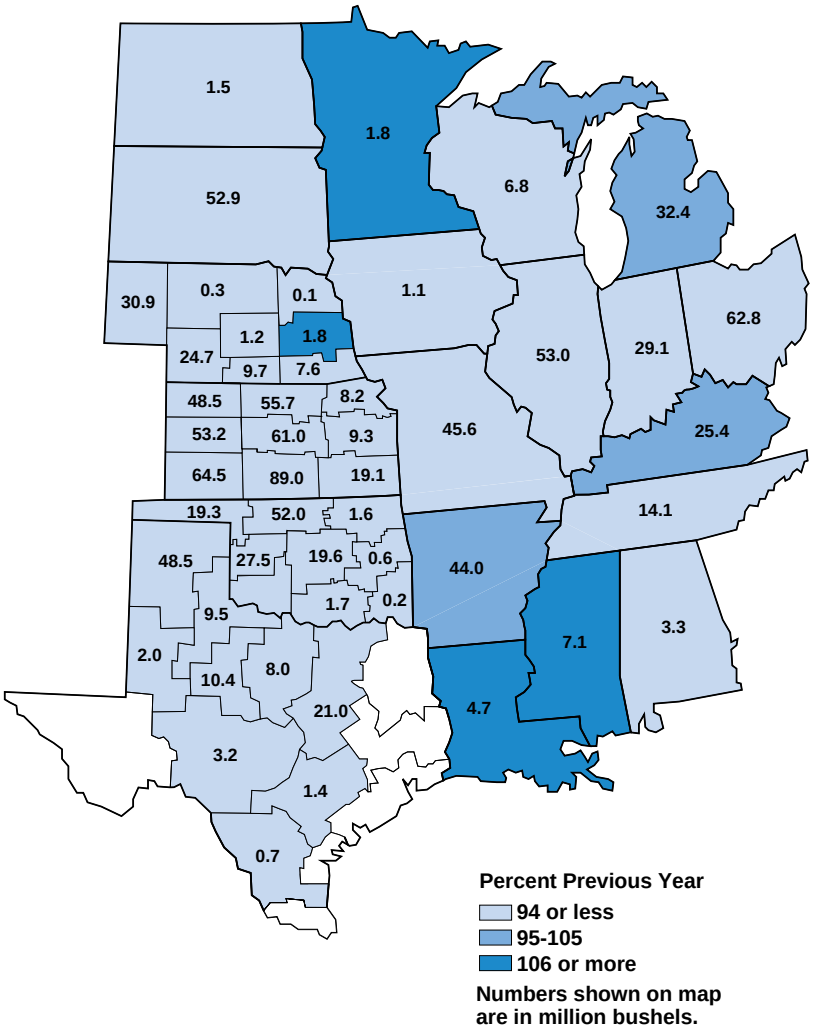
Table 4—U.S. winter wheat production 1994-99

Region	1994	1995	1996	1997	1998	1999	Percent of 1998	Percent of 5-yr. avg.
	Million bushels							
Northeast	32	38	34	39	34	35	102	99
Southeast	128	110	117	125	101	106	105	91
Delta	49	56	84	51	57	56	99	94
Eastern Corn Belt	196	227	149	212	206	184	89	93
Western Corn Belt	54	50	51	61	60	48	80	88
Southern Plains	224	188	173	298	343	266	78	109
Central Plains	580	475	400	660	677	576	85	103
Northern Plains	114	119	124	98	118	100	85	87
Pacific Northwest	237	247	292	264	253	208	82	80
West	48	35	46	38	32	36	115	91
United States	1,662	1,545	1,470	1,846	1,881	1,615	86	96

Note: 1999 production forecast is from the May 12, 1999, *Crop Production.*

Source: USDA-NASS

Figure 2—U.S. 1999/2000 winter wheat production forecast for selected States/districts, May 1, 1999



Source: USDA-NASS

reported 76, 86, and 89 percent of their winter wheat crops in good to excellent condition.

The March 31, 1999, *Prospective Plantings* report indicated that intended spring wheat (excluding durum) acreage is down 2 percent from last year's acreage (table 5). The largest reduction in acreage was in the Northern Plains, which accounts for about 80 percent of all U.S. spring wheat production. North Dakota, the largest producing State, reported spring wheat acreage down 13 percent.

Use. The first projections of total wheat use for 1999/2000 put use at 2,440 million bushels, up 2 percent from 1998/99. Domestic use of all classes of wheat is projected at 1,290 million bushels, down 5 percent from last year. Export use is projected at 1,150 million bushels, up 10 percent from 1998/99. This increase in export use for the 1999/2000 marketing year is due to an expected rise in global imports, especially by China, Iran, Pakistan, and Morocco. Other major exporting countries such as the EU and Canada, however, are also beginning this marketing year with larger carry-in stocks, which will add to competitive pressure on U.S. wheat in the world market.

U.S. export inspections of all wheat were up 8 percent for the January-April period of 1999 as compared to the same months in 1998. The biggest increase during the 4-month period was at the Texas Gulf ports where inspections were up 28 percent over the same period last year. Even at the PNW ports, where inspections of white wheat were down 6 percent for the January-April period, total wheat inspections were up 5 percent from last year. This increase in wheat inspections at the PNW has resulted from increases in exports of rail-delivered HRS wheat from the Northern Plains.

Food aid shipments to Russia and other needy countries that began during the 1998/99 marketing year will continue into the 1999/2000 marketing year. This has increased demand for rail transportation, particularly for shipments of HRW wheat to the Texas Gulf ports.

Stocks and Storage. The March 31, 1999, *Grain Stocks* report put March 1 wheat stocks in all positions at 1,445 million bushels, up 24 percent from a year earlier and 50 percent above the 5-year average (table 6). Of the total, on-farm stocks were reported at 470 million bushels, and off-farm stocks were reported at 975 million bushels, up 18 and 27 percent, respectively, from year-ago levels. Total and off-farm March 1 stocks were their highest since 1988. On-farm March 1 stocks were their highest since 1991.

March 1 wheat stocks were up over year-ago levels in all of the major wheat-producing regions except the PNW. In the Eastern Corn Belt, March 1 stocks were up 75 percent over last year and 101 percent over the 5-year average. In the Southern Plains, stocks were up 167 percent over last year and 114 percent over the 5-year average. In the Northern and Central Plains, which reported the largest stocks, 396 and 334 million bushels, respectively, stocks were up 22 and 12 percent over last year. Stocks in the PNW were down 5 percent this year as comparted to last, but 15 percent above the 5-year average for the region.

In the Northern Plains, 75 percent of all March 1 wheat stocks were held on farm. In the Southern and Central Plains, respectively, 95 and 81 of the March 1 stocks were held off farm. Eastern Corn Belt and PNW stocks were also predominantly held in commercial storage with, respectively, 93 and 78 percent reported as off-farm.

Table 5—U.S. spring wheat (excluding durum) acres planted 1994-99

Region	1994	1995	1996	1997	1998	1999	Percent of 1998	Percent of 5-yr. avg.
				-1,000 acres -				
Eastern Corn Belt	10	10	12	8	8	8	100	83
Western Corn Belt	2,600	2,250	2,550	2,450	1,950	2,100	108	89
Central Plains	45	40	70	53	62	55	89	102
Northern Plains	14,680	13,525	16,130	15,420	12,464	11,915	96	82
Pacific Northwest	965	1,145	1,230	1,155	1,100	1,250	114	112
West	29	34	38	31	33	32	97	97
United States	18,329	17,004	20,030	19,117	15,617	15,360	98	85

Note: 1999 acreage based on producer planting intentions reported in the March 31, 1999, *Prospective Plantings.*

Source: USDA-NASS

Table 6—U.S. wheat stocks by position, March 1, 1993-99

Region	1993			1994			1995		
	On Farms	Off Farms	Total	On Farms	Off Farms	Total	On Farms	Off Farms	Total
	Million bushels			*Million bushels*			*Million bushels*		
Northeast	0	18	18	0	14	14	0	15	15
Southeast	1	15	15	1	13	14	1	18	19
Delta	0	9	9	0	9	9	0	5	5
Eastern Corn Belt	4	67	71	5	67	72	3	87	89
Western Corn Belt	34	44	78	37	53	90	33	45	78
Southern Plains	5	117	122	4	95	99	5	96	101
Central Plains	36	174	210	37	172	209	31	155	186
Northern Plains	259	111	370	242	107	349	236	96	332
Pacific Northwest	29	95	124	30	117	147	21	91	111
West	1	14	15	1	14	15	1	15	15
Unallocated	10	7	17	7	3	10	6	13	19
United States	378	670	1,048	363	665	1,028	335	634	969

Region	1996			1997			1998		
	On Farms	Off Farms	Total	On Farms	Off Farms	Total	On Farms	Off Farms	Total
	Million bushels			*Million bushels*			*Million bushels*		
Northeast	0	14	14	0	13	13	0	21	0
Southeast	0	14	14	0	13	14	1	21	7
Delta	0	5	5	0	7	7	0	9	5
Eastern Corn Belt	2	72	74	2	46	48	5	95	85
Western Corn Belt	23	49	72	35	32	67	31	46	74
Southern Plains	3	78	80	3	51	54	6	111	115
Central Plains	20	144	164	23	126	148	53	245	298
Northern Plains	149	110	259	225	93	318	245	82	325
Pacific Northwest	19	96	114	26	99	125	43	116	159
West	0	12	12	1	14	14	1	16	11
Unallocated	5	9	14	6	7	13	15	5	86
United States	221	603	823	321	501	822	400	767	1,167

Region	1999			Percent of 1998			Percent of 5-yr. avg.		
	On Farms	Off Farms	Total	On Farms	Off Farms	Total	On Farms	Off Farms	Total
	Million bushels								
Northeast	0	23	23	0	111	0	0	153	211
Southeast	1	20	20	80	94	277	148	123	150
Delta	0	23	23	314	249	433	262	325	364
Eastern Corn Belt	9	138	148	188	146	175	278	189	201
Western Corn Belt	40	60	100	127	133	135	125	134	131
Southern Plains	11	182	192	168	164	167	256	211	214
Central Plains	63	271	334	119	111	112	193	161	166
Northern Plains	297	99	396	121	120	122	135	101	125
Pacific Northwest	33	118	151	77	101	95	120	113	115
West	2	26	28	229	166	254	267	186	205
Unallocated	15	15	30	103	291	34	192	194	103
United States	470	975	1,445	118	127	124	143	154	150

Source: USDA-NASS

With substantial carrying incentives currently built into the futures market prices for wheat (out-month contracts trading at premiums to the nearby contracts), strong demand for storage capacity seems likely to continue through the next several months. Prices for December HRW wheat were 24.75 cents per bushel above July prices on the Kansas City Board of Trade on May 24. On the same day, December SRW wheat on the Chicago Board of Trade was 25.75 cents above July, and December HRS wheat was 16 cents above July on the Minneapolis Grain Exchange. With the interest cost to carry wheat running 2-2.5 cents per bushel per month, the market is signaling to store and hold grain.

Given existing stock levels coming into the new marketing year, however, storage capacity will be an issue. As an example, Kansas had 49 percent of its total grain storage capacity in use on March 1 and 56 percent of its off-farm storage capacity in use. This left 607 million bushels of total storage capacity open, with 346 million bushels of that open capacity in off-farm facilities. The 1999/2000 Kansas winter wheat crop, which producers will begin harvesting in June, is currently estimated at 408 million bushels. In 1998/99, Kansas produced 761 million bushels of soybeans and feed grains. Soybean and feed grain acreage in Kansas is up 3 percent for the 1999/2000 crop year which begins September 1. These numbers suggest another year of storage scarcity.

Corn

The first projection of this year's production indicates that the U.S. corn crop will be smaller than in 1998/99. Domestic and export demand for U.S. corn during the new marketing year, beginning September 1, is expected to be up slightly from 1998/99. Exports since January have increased demand for corn transportation, particularly to port areas along the Mississippi River in Louisiana. These increases in corn exports and outstanding export sales are consistent with the projected increase in corn export use for the 1998/99 marketing year. Low ocean freight rates for shipments from the Gulf to the Far East relative to rates from PNW ports to the same markets have kept rail demand for westbound corn shipments low for several months. Continuing futures market premiums for deferred delivery should restrain any large increases in corn transportation demand during the final months of the 1998/99 marketing year.

Supplies. USDA's first projections for the 1999/2000 corn crop put production at 9,445 million bushels based on intended acreage reported in the March 31, 1999, *Prospective Plantings* report and trend yield. This would make the 1999/2000 crop 3 percent smaller than the 1998/99 crop. With beginning stocks for 1999/2000 projected to be up 36 percent from those carried into the current marketing year, total supplies for 1999/2000 are projected at 11,229 million bushels, up 1 percent from projected 1998/99 available supplies. At this level, 1999/2000 available corn supplies would be the largest since 1987/88. Ending stocks for 1999/2000 are projected to be up 3 percent at 1,829 million bushels. Although a smaller increase in carry-over than that projected for 1998/99, this would be the fourth straight year of increasing carry-over stocks and the largest such stocks since 1992/93.

The March 31, 1999, *Prospective Plantings* report indicated that farmers intended to plant 78.2 million acres of corn in 1999, 2 percent fewer acres than in 1998 (table 7). Of the major corn-producing regions, acreage was reported up only in the Eastern Corn Belt where planting intentions suggested farmers would plant 26 million acres of corn, up just 100,000 acres from 1998. In the Western Corn Belt, 1999 planting intentions put corn acres at 22 million acres, down 2 percent, or 450,000 acres, from 1998. Central Plains farmers indicated intentions to plant 12.9 million acres, down 1 percent, or 110,000 acres, from last year. Farmers in the Southeast indicated they would reduce their corn acreage by 9 percent this year to 4.3 million acres. This reduction in Southeast corn acres and, subsequently, the potential for reduced local feed supplies during late summer and early fall have some important implications for rail transportation demand in the Eastern United States. It suggests an earlier than normal start to the fall shipping season again this year for eastern railroads. Last year this problem led to conflicts with summer fertilizer shipping and with positioning grain cars in advance of the heavier fall shipping season.

Use. Total corn use for the 1999/2000 marketing year is projected at 9,400 million bushels, up 1 percent from that projected for 1998/99. If the projections hold, 1999/2000 corn use would be a record, surpassing 1994/95's total use of 9,351 million bushels. Domestic use for 1999/2000 is projected to be up 1 percent at 7,550 million bushels. This would also be a new record and surpass the projected domestic use for 1998/99 of 7,485 million bushels. Food, seed, and industrial uses are expected to increase by 3 percent to 1,925 million bushels in 1999/2000 and account for all the expected rise in domestic use. Projected exports for 1999/2000 are up 1 percent at 1,850 million bushels. This would be up for the second straight year but still well below

Table 7—U.S. corn acres planted 1994-99

Region	1994	1995	1996	1997	1998	1999	Percent of 1998	Percent of 5-yr. avg.
				-1,000 acres -				
Northeast	3,515	3,474	3,682	3,805	3,725	3,661	98	101
Southeast	4,900	4,190	4,910	4,670	4,670	4,270	91	91
Delta	710	625	1,405	1,080	1,485	940	63	89
Eastern Corn Belt	27,650	25,000	26,100	27,250	25,950	26,050	100	99
Western Corn Belt	22,300	20,250	22,850	21,900	22,450	22,000	98	100
Southern Plains	2,473	2,383	2,430	2,335	2,810	2,330	83	94
Central Plains	11,850	11,100	12,000	12,740	12,980	12,870	99	106
Northern Plains	4,710	3,635	4,890	4,725	5,025	5,005	100	109
Pacific Northwest	298	291	345	325	360	402	112	124
West	515	531	617	707	732	691	94	111
United States	78,921	71,479	79,229	79,537	80,187	78,219	98	100

Note: 1999 acreage based on producer planting intentions reported in the March 31, 1999, *Prospective Plantings.*
Source: USDA-NASS

1995/96 when exports totaled 2,228 million bushels. World corn use is expected to increase by 3 percent in 1999/2000, driving increases in world corn trade. The United States is expected to capture about one-half of the growth in corn trade, as competition from Argentina and China will continue strong.

For the remainder of the 1998/99 marketing year, which ends August 31, export demand for U.S. corn is expected to remain moderately strong. Export inspections during the January-April period were up 33 percent over the same period in 1998. Outstanding export sales have also jumped in recent weeks. Outstanding export sales (sold but unshipped) of corn for the 1998/99 marketing year totaled 296.6 million bushels as of May 20, 1999, up 36 percent from last year at this time.

Stronger exports of corn, however, are doing little to increase rail shipments of corn from the western corn-producing areas to PNW export facilities. For the January-April period of this year, corn exports from PNW facilities were up only 1 percent from the same period in 1998 and down 46-50 percent from the same months in 1995-97. Ocean freight rates continue to favor shipments from the Gulf to the Far East. In January and February, demand for export corn at the Gulf drove up demand for southbound rail freight from the Eastern Corn Belt to Baton Rouge and New Orleans, LA. Since the seasonal opening of the Upper Mississippi River in mid-March, stronger exports of corn have contributed to rises in traffic volume and rates for barge freight to the Louisiana Gulf.

Stocks and Storage. The March 31, 1999, *Grain Stocks* reported March 1 corn stocks in all positions at 5,696 million bushels. This is up 15 percent from a year earlier and 25 percent above the 5-year average (table 8). On-farm stocks, which accounted for 63 percent of the total, were up 595 million bushels, or 20 percent, from a year ago and 32 percent above the 5-year average. Off-farm stocks were up 8 percent, or 161 million bushels, from year-ago figures and 15 percent above the 5-year average.

Large increases in March 1 corn stocks were reported in every region except the Southeast and Southern Plains. The largest percentage increase was in the Northern Plains where March 1 stocks were up 41 percent, or 76 million bushels, over last year and 56 percent above the 5-year average. The largest volume increases were in the Western Corn Belt where total stocks were up 428 million bushels, or 25 percent, from those a year ago. This was 32 percent above the 5-year average. Most of this increase was in on-farm stocks, which grew by 318 million bushels, or 28 percent, from last year's level. Stocks were also up substantially in the Central Plains, where this year's March 1 stocks were up 168 million bushels, or 19 percent. Central Plains on-farm stocks grew by 124 million bushels. Eastern Corn Belt stocks were up 110 million bushels, or 6 percent, from 1998 with on-farm stocks up 102 million bushels, or 10 percent. Reductions in March 1 stocks in the Southeast and Southern Plains reflect last year's drought-reduced southern corn crop.

Table 8—U.S. corn stocks by position, March 1, 1993-99

Region	1993			1994			1995		
	On Farms	Off Farms	Total	On Farms	Off Farms	Total	On Farms	Off Farms	Total
	Million bushels			*Million bushels*			*Million bushels*		
Northeast	65	35	100	49	22	71	56	28	84
Southeast	94	70	164	44	53	97	53	59	112
Delta	0	12	12	0	18	18	0	18	18
Eastern Corn Belt	1,133	891	2,024	804	804	1,608	1,145	888	2,033
Western Corn Belt	1,433	612	2,045	735	501	1,236	1,401	624	2,025
Southern Plains	10	67	77	9	67	76	10	71	81
Central Plains	577	319	896	362	275	637	529	355	884
Northern Plains	153	23	176	107	18	125	178	24	202
Pacific Northwest	0	5	5	0	8	8	0	8	8
West	0	8	8	0	8	8	0	6	6
Unallocated	165	7	172	100	10	110	130	10	140
United States	3,630	2,048	5,678	2,210	1,786	3,996	3,502	2,090	5,592

Region	1996			1997			1998		
	On Farms	Off Farms	Total	On Farms	Off Farms	Total	On Farms	Off Farms	Total
	Million bushels			*Million bushels*			*Million bushels*		
Northeast	35	27	62	60	37	97	35	32	67
Southeast	28	56	83	48	56	104	39	58	97
Delta	0	12	12	0	13	13	0	23	23
Eastern Corn Belt	666	679	1,345	825	579	1,404	978	801	1,779
Western Corn Belt	844	591	1,435	1,150	488	1,638	1,151	529	1,680
Southern Plains	4	59	63	6	58	64	0	90	90
Central Plains	253	321	574	497	336	833	496	378	874
Northern Plains	84	31	115	173	37	210	156	29	185
Pacific Northwest	0	6	6	0	10	10	0	9	9
West	0	7	7	0	9	9	0	10	10
Unallocated	87	11	98	111	2	113	120	7	127
United States	2,000	1,799	3,800	2,870	1,624	4,494	2,975	1,965	4,940

Region	1999			Percent of 1998			Percent of 5-yr. avg.		
	On Farms	Off Farms	Total	On Farms	Off Farms	Total	On Farms	Off Farms	Total
	Million bushels								
Northeast	39	28	67	111	89	101	83	96	88
Southeast	41	51	92	105	88	95	97	91	93
Delta	0	27	27	0	118	118	0	162	162
Eastern Corn Belt	1,080	809	1,889	110	101	106	122	108	116
Western Corn Belt	1,469	639	2,108	128	121	125	139	117	132
Southern Plains	0	84	84	0	93	93	0	122	113
Central Plains	620	422	1,042	125	112	119	145	127	137
Northern Plains	221	40	261	142	138	141	158	144	156
Pacific Northwest	0	11	11	0	128	128	0	137	137
West	0	11	11	0	109	109	0	141	141
Unallocated	100	4	104	83	51	82	91	44	88
United States	3,570	2,126	5,696	120	108	115	132	115	125

Source: USDA-NASS

Carrying incentives currently built into the futures market prices for corn will encourage storage and keep demand for storage capacity strong through the next several months if this year's crop continues to progress as it has. Strong incentives to hold grain also suggest that demand for corn transportation in the next few months is not likely to exceed normal seasonal levels. Prices for December corn on the Chicago Board of Trade were 14.5 cents per bushel above July prices on May 24. With the interest cost to carry corn running under 2 cents per bushel per month, the market is signaling to store and hold grain. Given the high level of expected ending stocks for the 1998/99 marketing year, the likelihood of another good corn crop following on the heels of a good wheat crop will make storage capacity a concern, particularly in the Central and Northern Plains and in the Western and Eastern Corn Belts.

Soybeans

Large U.S. soybean stocks, heavy world supplies of oilseeds, and a projected record U.S. soybean crop leave U.S. supplies outpacing demand for the remainder of the 1998/99 marketing year and through the 1999/2000 marketing year which begins September 1. Although domestic use and exports are expected to increase in 1999/2000, exports during the first 4 months of calendar year 1999 have fallen below year-ago levels, and outstanding export sales have fallen in recent weeks to their lowest levels of the marketing year. Continuing weak demand for export soybeans and carrying incentives in the soybean market suggest little short-term increase in the demand for soybean transportation, at least until the 1999/2000 crop begins to be harvested.

Supplies. The first USDA projections for the coming year's soybean crop have 1999/2000 soybean production at 2,880 million bushels, up 4 percent from 1998/99 and a record crop for the third straight year. With beginning stocks at 430 million bushels, up 115 percent from those for 1998/99, total supplies for 1999/2000 will be up for the fourth straight year at 3,315 million bushels, a year-to-year increase of 12 percent. Despite projected increases in soybean use, 1999/2000 ending stocks are projected to increase by 38 percent to a record 595 million bushels.

Soybean acreage, as reported in the March 31, 1999, *Prospective Plantings* report, based on farmer planting intentions, will be up 1 percent at 73.1 million acres (table 9). Soybean acreage will be up in the major soybean-producing areas of the Eastern and Western Corn Belts, which together will account for 64 percent of all soybean acreage in 1999. Soybean acreage is also reported up in the Central and Northern Plains. The biggest percentage and acreage increases will be in the Central Plains where farmer intentions put 1999 planted acres up 9 percent over 1998, an expansion of acreage totaling 550,000 acres. Western Corn Belt soybean acreage is expected to increase by 2 percent, or 400,000 acres, for 1999. Eastern Corn Belt acreage is expected to be up 350,000 acres, or 1 percent, over last year. Northern Plains acreage continues to expand, with this year's soybean planting intentions up 6 percent or 300,000 acres. Acreage, however, will be down throughout the southern growing areas. Combined soybean acreage in the Delta and Southeast regions was reported down 650,000 acres for 1999. With broiler production expected to increase 6 percent in calendar year 1999, these reductions in soybean production in

Table 9—U.S. soybean acres planted 1994-99

Region	1994	1995	1996	1997	1998	1999	Percent of 1998	Percent of 5-yr. avg.
	-1,000 acres -							
Northeast	1,255	1,245	1,120	1,268	1,305	1,265	97	102
Southeast	5,615	5,000	5,415	5,767	5,660	5,460	96	99
Delta	6,500	6,370	6,450	7,150	6,800	6,350	93	95
Eastern Corn Belt	20,510	21,130	22,370	22,610	23,850	24,200	101	110
Western Corn Belt	19,100	19,800	19,600	22,000	22,500	22,900	102	111
Southern Plains	520	540	590	760	910	730	80	110
Central Plains	5,050	5,200	5,100	6,000	6,350	6,900	109	125
Northern Plains	3,070	3,210	3,550	4,450	5,000	5,300	106	137
United States	61,620	62,495	64,195	70,005	72,375	73,105	101	111

Note: 1999 acreage based on producer planting intentions reported in the March 31, 1999, *Prospective Plantings.*

Source: USDA-NASS

the key poultry-producing regions of the Delta and Southeast should drive demand for rail-delivered Eastern and Western Corn Belt soybeans and soymeal.

Use. Total soybean use for 1999/2000 is projected at 2,720 million bushels, up 7 percent from 1998/99. Domestic use is projected at 1,790 million bushels, or 2 percent higher than 1998/99. Domestic crush is projected at 1,635 million bushels, up 5 percent over the projected crush for the current marketing year. Export use for 1999/2000 is projected at 930 million bushels, up 21 percent from 1998/99. This is an increase of 160 million bushels from 1998/99's projected export use and would be a record level for soybean exports. This projection of substantial increases in soybean exports in 1999/2000 is based on reductions in oilseed production outside the United States, harvesting problems in Argentina, and soybean prices which could reach their lowest levels since 1972.

Current soybean export demand remains weak, despite the strong export projections for 1999/2000. U.S. exports for January-April were down 3 percent from the same period in 1998 and down 16, 14, and 22 percent from the same months in 1997, 1996, and 1995, respectively. Outstanding export sales have fallen in recent weeks to their lowest levels of the marketing year. Despite this drop, current numbers are still running ahead of last year at this time. Outstanding export sales (sold but unshipped) of soybeans for the 1998/99 marketing year totaled 78.1 million bushels as of May 20, 1999, up 46 percent from last year at this time.

Stocks and Storage. March 1 soybean stocks in all positions were reported in the March 31, 1999, *Grain Stocks* at 1,458 million bushels, up 21 percent, or 255 million bushels, from a year earlier and 25 percent above the 5-year average (table 10). On-farm stocks accounted for 56 percent of the total and were up 28 percent, or 178 million bushels, from a year ago. March 1 on-farm stocks were also up 50 percent above their 5-year average. Off-farm stocks were up 77 million bushels, or 14 percent, over 1998 and 3 percent above the 5-year average.

The largest increases in March 1 soybean stocks were in the Eastern and Western Corn Belts, which together accounted for 75 percent of U.S. soybean stocks on March 1. In the Eastern Corn Belt, stocks were up 99 million bushels, 24 percent over last year and 23 percent above the 5-year average. Eastern Corn Belt on-farm stocks were up 70 million bushels, 32 percent above year-ago levels and 49 percent above the 5-year average. Western Corn Belt stocks were up 107 million bushels, 22 percent over 1998 and 30 percent over the 5-year average. On-farm stocks in the Western Corn Belt were up 64 million bushels, 22 percent over last year and 44 percent over the 5-year average. Central Plains soybean stocks for March 1 were up 9 million bushels or 8 percent for 1999. The increase in Central Plains soybean stocks was the result of increases in on-farm stocks that more than offset decreases in off-farm stocks in the region. March 1 on-farm stocks in the Central Plains were up 19 million bushels, 46 percent above year-ago levels and 74 percent above the 5-year average.

Futures market prices for soybeans continue to encourage storage over the coming months. Prices for January soybeans on the Chicago Board of Trade were 22.5 cents per bushel above July prices on May 24. With the interest cost to carry soybeans forward running 3-3.5 cents per bushel per month, the market is signaling to store and hold soybeans. Market incentives to hold soybeans will add to existing storage pressure, particularly in the areas and regions where storage capacity was at or beyond its limits last fall.

Table 10—U.S. soybean stocks by position, March 1, 1993-99

Region	1993			1994			1995		
	On Farms	Off Farms	Total	On Farms	Off Farms	Total	On Farms	Off Farms	Total
	Million bushels			*Million bushels*			*Million bushels*		
Northeast	0	8	8	0	8	8	0	11	11
Southeast	27	49	75	16	44	60	32	45	77
Delta	9	57	66	6	36	42	9	44	53
Eastern Corn Belt	190	201	391	170	222	392	226	248	474
Western Corn Belt	268	212	480	177	185	362	282	253	535
Southern Plains	0	13	13	0	5	5	0	6	6
Central Plains	47	83	129	29	58	87	41	85	126
Northern Plains	25	10	35	20	10	30	33	14	48
Unallocated	12	7	18	9	27	36	13	29	42
United States	577	639	1,216	426	596	1,022	635	735	1,370

Region	1996			1997			1998		
	On Farms	Off Farms	Total	On Farms	Off Farms	Total	On Farms	Off Farms	Total
	Million bushels			*Million bushels*			*Million bushels*		
Northeast	0	2	2	0	2	2	0	2	2
Southeast	17	38	55	15	30	46	0	25	25
Delta	5	48	53	6	39	45	0	39	39
Eastern Corn Belt	183	229	413	171	193	364	219	187	406
Western Corn Belt	245	238	483	245	177	422	294	193	487
Southern Plains	0	6	6	0	0	0	0	3	3
Central Plains	29	75	104	33	59	92	41	75	116
Northern Plains	25	18	42	31	14	45	36	16	52
Unallocated	8	24	32	12	27	39	47	25	72
United States	512	678	1,190	514	542	1,056	637	566	1,203

Region	1999			Percent of 1998			Percent of 5-yr. avg.		
	On Farms	Off Farms	Total	On Farms	Off Farms	Total	On Farms	Off Farms	Total
	Million bushels								
Northeast	0	3	3	0	129	129	0	61	61
Southeast	0	33	33	0	128	128	0	89	62
Delta	0	42	42	0	108	108	0	101	90
Eastern Corn Belt	289	216	505	132	115	124	149	100	123
Western Corn Belt	358	236	594	122	122	122	144	113	130
Southern Plains	0	3	3	0	76	76	0	66	66
Central Plains	60	65	125	146	88	108	174	93	119
Northern Plains	43	22	65	119	133	124	149	152	150
Unallocated	65	24	89	138	99	125	365	92	202
United States	815	643	1,458	128	114	121	150	103	125

Source: USDA-NASS

Transportation Situation

Ocean Freight Rates

Ocean freight rates for bulk vessels used to transport grain have remained low for several months now, especially in the key grain routes from the United States to Japan. Low freight rates in 1998 and 1999 are largely a function of the economic recession throughout Asia. The depressed Asian economies have lowered demand for bulk vessel shipments, thus increasing the number of vessels available for charter and decreasing ocean rates offered for the transport of bulk commodities. During 1993-97, before the influence of the Asia economic recession, first quarter ocean freight rates to Japan for a vessel carrying about 55,000 metric tons of heavy grain (e. g., corn) averaged $23.55 per metric ton (mt) from the Gulf and $14.01 mt from the PNW. During 1998, ocean freight rates to Japan averaged $15.25 mt from the Gulf and $10.43 from the PNW. During the first quarter of calendar year 1999, ocean freight rates to Japan from the Gulf averaged $14.86 mt, and shipments from the PNW averaged $11.36 mt. These rates are at 6-year lows.

The current spread between the Gulf and PNW rates to Japan favor corn shipments from the Gulf. The first quarter 1999 spread for the two routes averaged $3.50 mt as compared to the same quarters in 1993-97 when the spread averaged $9.54 mt. Second quarter ocean freight rates for calendar year 1999 have increased slightly as demand for vessel charters picked up, including increased U.S. grain exports. Although the spread has increased with increases in rates, it still favors Gulf origins for U.S. corn shipments. Early in the second quarter of 1999, ocean freight rates to Japan from the Gulf were averaging $16.06 mt and $9.50 mt from the PNW resulting in a spread of $6.56 mt. Second quarter ocean freight rates during 1993-97 averaged $22.83 mt from the Gulf and $11.55 mt from the PNW with a spread of $11.28 mt.

Ocean freight rates during third quarter 1999—the slow shipping period for bulk vessels—are expected to remain lower than normal as the Asian economies continue to recover. Third quarter rates to Japan during 1993-97 averaged $22.17 mt from the Gulf and $11.26 mt from the PNW for a spread of $10.91 mt. Low rates should continue to result in a spread that favors the Gulf over the PNW as the origin point for U.S. corn exports.

Barge

First quarter barge volumes vary considerably because during the winter months most of the Upper Mississippi River (UMR) is closed to navigation due to ice, scheduled maintenance, and repairs. Continuous barge traffic from Minneapolis-St. Paul, MN, generally begins during the last half of the first quarter. Mississippi River Locks and Dam No. 15 (L&D 15), a mid-point of the UMR located at Rock Island, IL, reported 1999's first grain lockage during the week of March 7-13. Last year, that site's first lockage was during the week of February 21-28. Over the past 5 years, L&D 15 has opened between the last week of February and mid-March and closed during the last half of December. The Illinois River remains open throughout the year and usually ships more per week during the first quarter than any other.

Barge shipments of grain have been up so far for calendar year 1999. During the first quarter of 1999 (January-March), barge shipments of grain (including oilseeds) on the Mississippi River System averaged 29.1 million bushels, or 554 barges per week (table 11).[1] This is up 12 percent from the first quarter of 1998 and 5 percent above the 5-year average. During the same period, grain shipments through the LaGrange Lock & Dam at Versailles, IL, the last lock on the Illinois River, averaged 14.5 million bushels, or 276 barges per week. This is up 11 percent from the first quarter of 1998 but 3 percent below the 5-year average. During April to mid-May, weekly average barge movements on the Mississippi River System increased to 37.5 million bushels, or 714 barges, 38 percent more than in second quarter 1998 and 30 percent above the 5-year average. The surge in barge activity can be attributed to an increased demand for corn by Mississippi Gulf exporters.

Grain barge rates typically peak in the fall while reaching their lowest levels in the late spring and early summer. Spot market barge rates for grain shipped from Minneapolis-St. Paul to Mississippi River Gulf ports averaged 213 percent of tariff for the first quarter of 1999 (table 12). Barge rates are quoted in terms of differentials from barge tariff benchmarks.[2] The tariff rate

[1] Grain barge shipments are monitored by USDA from specially prepared lock reports provided by the U.S. Army Corps of Engineers. The collective data from Mississippi River Locks 27, Ohio River Locks 52, and Arkansas Norrell Lock are considered to be the total volume of barged grain since each lock is the last one on its respective river. A typical covered grain barge is 195 feet long by 35 feet wide, with a 1,500 ton or 52,500 bushel capacity.

[2] The benchmarks were derived from the Bulk Grain and Grain Products Freight Tariff No. 7, which was issued by the Waterways Freight Bureau (WFB) of the Interstate Commerce Commission (ICC). In 1976, the United States Department of Justice entered into an agreement with the ICC and made Tariff No. 7 no longer applicable. Today, the WFB no longer exists, and the ICC has become the Surface Transportation Board of the United States Department of Transportation. However, the barge industry continues to use the benchmarks as rate units.

Table 11—Average weekly barge grain shipments by quarter, 1994-99

Year	1st quarter (Jan-Mar)	2d quarter (Apr-Jun)	3d quarter (Jul-Sep)	4th quarter (Oct-Dec)	Annual (Jan-Dec)
			- 1,000 bushels -		
1994	24,521	25,406	29,699	38,083	29,427
1995	32,097	28,752	40,706	44,462	36,504
1996	29,971	35,459	25,811	39,847	32,772
1997	26,383	27,024	28,138	39,864	30,352
1998	25,932	27,198	30,391	37,545	30,267
1999	29,074	37,507			
5-yr. avg.	27,781	28,768	30,949	39,960	31,864

Notes: Data for 2d quarter 1999 based on shipments through May 15, 1999. All averages based on shipments through Mississippi L&D 27, Ohio L&D 52, and Norrell L&D on the Arkansas River.

Source: U.S. Army Corps of Engineers

Table 12-Average weekly barge rates by quarter, 1994-99

Region/year	1st quarter (Jan-Mar)	2d quarter (Apr-Jun)	3d quarter (Jul-Sep)	4th quarter (Oct-Dec)
			percent of tariff	
Minneapolis-St. Paul to New Orleans:				
1994	152	129	171	265
1995	253	221	347	347
1996	no rates	180	151	236
1997	165	146	179	249
1998	164	166	241	325
1999	213	177		
5-yr. avg.	184	168	217	284
St. Louis to New Orleans:				
1994	96	85	140	214
1995	205	155	263	197
1996	180	99	106	148
1997	118	90	122	140
1998	93	106	199	189
1999	123	100		
5-yr. avg.	139	106	165	178

Notes: Twin Cities 100 percent tariff rate is $6.19 per ton. St. Louis 100 percent tariff rate is $3.99 per ton.
Data for 2nd quarter 1999 based on rates reported through May 12, 1999.

Source: USDA-AMS

from Minneapolis-St. Paul to the Gulf is $6.19 per ton; therefore, the spot market rate quoted is 2.13 times $6.19 or $13.18 per ton. The 213-percent rate is the highest first quarter rate for Minneapolis-St. Paul since 1995, a windfall year for the barge industry when both rates and grain volumes were high. Barge rates for grain shipped from St. Louis, MO, to the Gulf were 123 percent of tariff during the first quarter of 1999, up 32 percent from last year and 13 percent lower than the 5-year average. Second quarter rates (as of mid-May) for both Minneapolis-St. Paul and St. Louis were 177 and 100 percent of tariff, respectively. For both points, current second quarter rates represent little variation from last year and the 5-year average.

The barge companies offer freight at spot market rates for the current week, 1 month out, and 3 months out. Barge rates for the first 2 weeks of May 1999 were 158 percent of tariff for grain shipments from Minneapolis-St. Paul to the Gulf. June 1999 rates (1 month out) were quoted at 170 percent of tariff. August 1999 rates (3 months out) were quoted at 192 percent of tariff. During the first 2 weeks of May 1999, rates were quoted at 92 percent of tariff for shipments from St. Louis to the Gulf. June 1999 rates for the same points were at 101 percent of tariff, and the August 1999 rates were at 134 percent of tariff. Generally, the gradually increasing rates for future months indicates that barge companies anticipate an expanding demand for barge services throughout the rest of the year.

Last fall, a surge in steel imports caused an unusually high demand for upbound barges. This was contrary to the more typical fall demand which is driven predominantly by downbound grain shipments. During October 1998, barge rates from Minneapolis-St. Paul to the Gulf averaged 363 percent of tariff, a 41-percent increase over October 1997 and a 23-percent increase compared to the 5-year average. For the past several years, northbound barge shipments of nongrain commodities, such as coal, chemicals, and steel, have been experiencing significant increases. While these northbound movements do not compete directly with grain for barge space, northbound loaded barges must be unloaded and cleaned before they can return southbound with grain. The increased turnaround time necessary to unload and reposition barges making northbound hauls reduces the number of available barges and causes southbound rates to increase. Last fall, Hurricane Georges also slowed or postponed the arrival of grain vessels in the Gulf of Mexico, and empty grain barges were delayed in returning upriver, further tightening barge supplies.

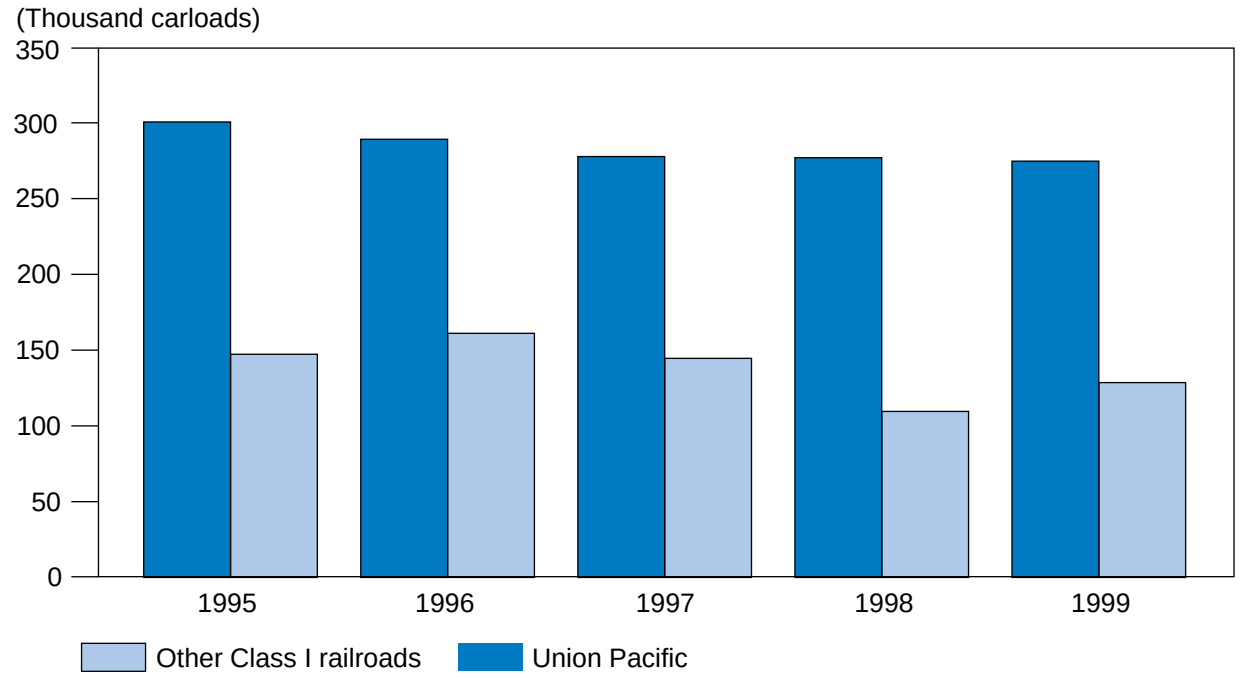
Rail

U.S. rail demand rose modestly in early calender year 1999. For the period January-April 1999, grain carloadings totaled 403,269, up 4 percent over the comparable period in 1998. However, much of the increase in carloadings can be attributed to continued recovery of the Union Pacific Railroad (UP) from the service problems that plagued it through much of 1997 and 1998. UP has accounted for most of the volatility in rail shipments the past 3 years (figure 3).

Year-to-date, grain car deliveries to ports, a key indicator of export demand, is down a bit more than 1 percent from year-ago levels. Of course, 1998 figures were also low, and year-to-date rail deliveries of grain to ports are down more than 24 percent from the 1995-1998 average. In recent weeks, however, the grain deliveries to ports have increased sharply. For the month of April, total grain deliveries to ports were up 24 percent from year-ago levels, with a 33-percent increase to the PNW ports. Increases in rail shipments to the PNW in April have been driven largely by rate reductions for westbound wheat shipments. Wheat export shipments have been particularly strong to the Texas Gulf ports. The Food Donation Initiative is driving much of this demand through food aid shipments to Russia and other needy countries. So far this year, rail grain deliveries to the Texas Gulf are up nearly 18 percent from 1998 levels and are 6 percent higher than the 1995-98 average.

Premiums for August and September car service guarantees on the western railroads have increased in recent weeks in the secondary market; however, premiums are still below their levels last year at this time. Guaranteed freight on Burlington Northern Santa Fe (BNSF) is currently at $21 per car for August and $64 per car for September. Last year at this time car service guarantees on BNSF were running $86 per car for August and $187 per car for September. Premiums for guaranteed service on UP are also down from last year. Currently, UP car service guarantees are going at $51 per car for August and $97 per car for September. Last year at this time guaranteed car service on UP was trading for $122 per car for August and $157 per car for September. This year's smaller premiums for guaranteed service in the forward months suggest that shippers are expecting less demand for rail transportation this year going into the fall shipping season

Figure 3—Rail carloadings of grain, January-April 1999



Note: Southern Pacific grain carloadings are combined with those on the Union Pacific for 1995-96 prior to the merger.
Source: Association of American Railroads

In January 1999, the Class I carriers began issuing weekly reports detailing their operating performance. These *Railroad Performance Measures* indicate that railroads are easily handling current traffic levels (tables 13-15). Train speeds are excellent, and yard dwell time, with a few notable exceptions, shows a steady or declining pattern.

Western Railroads

Burlington Northern Santa Fe. Weakness in export grain traffic, particularly Asian-bound corn shipments, has cut agricultural traffic by 5 percent on BNSF compared to year-ago levels, and grain carloadings are down 10 percent from the 1995-98 average. These figures would have been even worse had not BNSF received a boost by reducing rates on wheat shipments originating in the Upper Great Plains. BNSF's train speeds are excellent, averaging nearly 25 miles per hour (MPH) for all traffic and 21 MPH for grain unit trains. Yard dwell times have been improving, particularly at BNSF's Fort Worth, TX, and Minneapolis, MN, yards.

Union Pacific. UP continues its recovery from the service woes of 1997-98, with traffic up 17 percent from year-ago levels. UP is the only Class I carrier which has had higher grain traffic each week this year than during the comparable week in 1998. Nevertheless, grain traffic is still down 9 percent from the 1995-98 average, which demonstrates how difficult early 1998 was for UP.

UP's train speeds have also improved dramatically. In March 1998, UP's system speeds averaged 12.7 MPH; in April 1999, that number had risen to 25.2 MPH, a number bested only by the two Canadian Class I carriers, Canadian National and Canadian Pacific. In April 1999, grain traffic moved at 23.4 MPH, best among all Class I roads and an improvement from the 21.9 MPH UP averaged in January 1999. UP's yard dwell times have also improved significantly. For example, in Houston, dwell time fell from 41.2 to 30.7 hours in the Englewood yard and from 38.7 to 29.9 hours in the Settegast yard.

Table 13—Freight cars on line, January-April 1999

Car type/railroad	January	February	March	April
		Number of railcars		
All freight cars:				
CSX Transportation	199,529	205,218	203,147	201,876
Norfolk Southern	149,170	150,706	150,090	152,363
Illinois Central	32,642	32,358	31,957	32,170
Burlington Northern Santa Fe	211,231	210,575	208,100	209,069
Kansas City Southern Railway	33,692	32,907	32,398	29,126
Union Pacific	316,349	315,945	310,389	310,389
All railroads	942,613	947,709	936,081	934,993
Covered hoppers:				
CSX Transportation	48,864	51,400	51,563	50,667
Norfolk Southern	31,225	31,864	31,183	31,468
Illinois Central	11,229	10,930	10,635	10,575
Burlington Northern Santa Fe	64,291	64,045	63,397	63,672
Kansas City Southern Railway	6,939	9,113	9,281	8,618
Union Pacific	103,434	102,190	101,177	99,982
All railroads	265,982	269,542	267,236	264,982

Notes: The number of cars on line is an average of the inventory of railroad and privately owned freight cars on each railroad's system.
For information and specific definitions for individual railroads, see www.railroadpm.org.

Source: Association of American Railroads, Railroad Performance Measures

Table 14—Average train speed, January-April 1999

Train type/railroad	January	February	March	April
		Miles per hour		
All trains:				
CSX Transportation	18.4	17.9	17.7	18.9
Norfolk Southern	16.1	20.6	20.8	18.8
Illinois Central	22.5	23.2	23.9	25.0
Burlington Northern Santa Fe	23.4	24.5	24.9	24.9
Kansas City Southern Railway	23.0	23.6	23.3	23.2
Union Pacific	24.1	24.7	24.6	25.2
All railroads	21.4	22.4	22.5	22.7
Grain trains:				
CSX Transportation	17.3	18.2	18.2	17.6
Norfolk Southern	17.9	17.2	17.4	18.8
Illinois Central	20.4	21.8	21.2	22.0
Burlington Northern Santa Fe	20.1	20.3	20.9	21.3
Kansas City Southern Railway	21.5	19.1	18.9	19.6
Union Pacific	21.9	22.4	22.8	23.4
All railroads	20.1	20.3	20.6	21.1

Notes: Average train speed is calculated by dividing train-miles by hours operated for the line-haul portion of the movement and excludes time spent in terminals (dwell time).
For information and specific definitions for individual railroads, see www.railroadpm.org.

Source: Association of American Railroads, Railroad Performance Measures

Table 15—Average dwell times for selected terminals by railroad, January-April 1999

Railroad/selected terminal/city and State	January	February	March	April
		hours		
CSX Transportation:				
Cincinnatti, OH	35.8	34.7	31.1	26.9
Corbin, KY	21.0	20.4	20.5	20.4
Hamlet, NC	32.7	32.4	30.9	32.8
Louisville, KY	42.1	44.0	36.0	32.5
Nashville, TN	34.8	41.8	39.1	34.7
Norfolk Southern:				
Chattanooga, TN	26.6	31.0	31.0	33.8
Columbus, OH	15.3	17.8	19.4	22.2
Knoxville, TN	30.4	32.4	27.7	31.4
Linwood, NC	26.9	30.5	30.2	37.8
Macon, GA	25.8	30.3	29.1	35.0
Illinois Central:				
Memphis, TN	11.8	11.8	12.2	14.1
Burlington Northern Santa Fe:				
Barstow, CA	29.0	29.0	29.0	30.0
Fort Worth, TX	26.0	23.0	26.0	20.0
Houston, TX	14.0	12.0	14.0	15.0
Kansas City-Argentine, KS	30.0	26.0	25.0	26.0
Minn./St. Paul-Northtown, MN	33.0	28.0	30.0	25.0
Pasco, WA	25.0	24.0	24.0	23.0
Kansas City Southern Railway:				
Kansas City, KS	18.0	24.0	22	21
Shreveport, LA	34.0	35.0	35	36
Union Pacific:				
Fort Worth-Centennial, TX	39.9	33.8	37.3	32.3
Houston-Englewood, TX	41.2	31.9	32	30.7
Houston-Settegast, TX	38.7	35.5	34.4	29.9
Kansas City-Neff, MO	36.0	32.0	29.2	31.5
North Platte-East, NE	37.5	33.1	31.4	36.2
North Platte-West, NE	34.5	36.2	24.9	35.1
Roseville, CA	31.7	33.1	30.3	28.3

Notes: Dwell time is the total time, on average, that a car spends at a terminal location. A terminal can be a single or multiple yard facility. For information on additional terminals and specific definitions for individual railroads, see www.railroadpm.org.

Source: Association of American Railroads, *Railroad Performance Measures*

Kansas City Southern Railway. Traffic on the Kansas City Southern (KCS) has increased sharply this year, compared both to the 1998 levels and the 1995-98 average—traffic is up more than 10 percent over prior-year patterns and up nearly 6 percent over the 1995-1998 average. The increased traffic can be attributed to export wheat flowing toward the Texas Gulf Ports. An indication of the magnitude of these shipments is the number of covered hoppers on the KCS system; in January, KCS averaged 6,939 covered hoppers, but in the February-April period, KCS averaged 9,004 covered hoppers on line. It must be recognized, however, that KCS handles only a small fraction of all western rail traffic. This year, KCS has handled only 4.5 percent of all western grain carloadings, although this is up from the 3.9 percent KCS averaged over the 1995-98 timeframe.

Eastern Railroads

In the East, all eyes are on the June 1, 1999, takeover of the Conrail (CR) system by Norfolk Southern (NS) and CSX Transportation (CSX). This long-planned transaction will bring effective rail competition to much of the Northeast and boost North-South rail traffic in the truck-dominated I-95 corridor. More than 2 years of planning have gone into the CR acquisition, and that, accompanied by the Surface Transportation Board's requirements for fully implemented safety integration, labor agreements, information technology conversion, and training programs, should serve to avoid some of the problems experienced by the western railroads in 1997-98.

The June 1 date for the takeover was set to coincide with the seasonal reductions in traffic that normally occur during the summer. The summer months are when auto plants shut down to retool and coal mines close temporarily for summer vacations. It is also usually the time in the Southeast when local supplies of grain begin to become available for feeding. These reductions in service demand should allow NS and CSX to work out any of the problems that can arise as a result of the takeover and to do so before the start of the busy fall shipping season. Nonetheless, in a transition of this scope, some service problems are almost unavoidable.

CSX Transportation. Grain carloadings on CSX are up a little more than 3 percent so far this year and up less than 1 percent compared to the 1995-98 average. This steadiness reflects the dependability of CSX's key grain market, the Southeast livestock and poultry feeding markets. The eastern carriers tend to run their trains somewhat slower than their western counterparts, so it comes as no surprise that CSX's grain trains averaged only 17.8 MPH so far this year—tied with NS for the slowest average grain train speed. Offsetting its slower speeds, CSX has been doing a good job pushing cars through its yards, and dwell times at key yards are down somewhat this year.

Norfolk Southern. So far this year, grain traffic is down slightly at NS. Compared to the comparable period of 1998, grain carloadings are down nearly 2 percent and down 3 percent against the 1995-1998 average. Given the pending takeover of Conrail, it may be of some concern that NS yard dwell times have crept up in recent months.

Illinois Central. The Illinois Central has also benefitted from the export increases at the Gulf Ports. Traffic is up 8 percent from year-ago levels and up 7 percent from the 1995-98 average. However, much of this traffic moved in January and February when the Upper Mississippi was closed to navigation. When barge traffic resumed in mid-March, rail carloadings slumped.

Additional Sources of Information

More detailed information on grain and oilseed production and stocks is available from the National Agricultural Statistics Service in:

Crop Production,
http://jan.mannlib.cornell.edu/reports/nassr/field/pcp-bb
Grain Stocks,
http://jan.mannlib.cornell.edu/reports/nassr/field/pgs-bb
Small Grains Summary,
http://jan.mannlib.cornell.edu/reports/nassr/field/pcp-bbs

More detailed information on grain and oilseed supplies and use is available from the Economic Research Service in:

Feed Outlook,
http://usda.mannlib.cornell.edu/reports/erssor/field/fds-bb
Wheat Outlook,
http://usda.mannlib.cornell.edu/reports/erssor/field/whs-bb
Oil Crops Outlook,
http://usda.mannlib.cornell.edu/reports/erssor/field/ocs-bb

The latest and most detailed grain and oilseed supply and demand information is available from the World Agricultural Outlook Board in:

World Agricultural Supply and Demand Estimates,
http://www.usda.gov/oce/waob/wasde/wasde.htm

More detailed information on grain and oilseed exports, trade, and outstanding sales is available from the Foreign Agricultural Service in:

Grains: World Markets and Trade,
http://www.fas.usda.gov/grain/circular/1998/98-08/graintoc.htm
Oilseeds: World Markets and Trade,
http://www.fas.usda.gov/oilseeds/circular/1998/98-08/toc.htm
Export Sales, http://www.fas.usda.gov/export-sales/esrd1.html

For additional information on grain and rail transportation see:

USDA-AMS, *Grain Transportation*,
http://www.ams.usda.gov/tmd/grain.htm
U.S. Surface Transportation Board,
http://www.stb.dot.gov
Association of American Railroads, http://www.aar.org
Burlington Northern Santa Fe, http://www.bnsf.com
CSX Transportation, http://www.csx.com
Illinois Central, http://www.icrr.com
Kansas City Southern, http://www.kcsi.com
Norfolk Southern, http://www.nscorp.com
Union Pacific, http://www.up.com