

CONCENTRATION OF AGRICULTURAL MARKETS

April 2007

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CR4 is the concentration ratio (relative to 100%) of the top four firms in a specific food industry.

BEEF PACKERS **CR4 = 83.5%***

	<u>Daily Slaughter Capacity**</u>	<u>Historical CR4</u>				
		1990	1995	1998	2000	2005
1. Tyson	36,000 head					
2. Cargill	28,300 head					
3. Swift & Co.	16,759 head	72%	76%	79%	81%	83.5%
4. National Beef Packing Co.	13,000 head					

Source: *Cattle Buyer's Weekly: Steer and Heifer Slaughter reported in *Feedstuffs* 6/16/03.

**Feedstuffs Reference Issue 2006 (9/13/06) as reported in *Feedstuffs* 1/29/07.

Note: Smithfield Foods is the 5th largest beef packer after a series of acquisitions.

BEEF FEEDLOTS

<u>Capacity</u>	<u>One-time</u>	<u>Top Cattle Feedlots 1998</u>	
1. Five Rivers (Smithfield and ContiBeef)	811,000	1. Continental Grain Cattle Feeding	405,000
2. Cactus Feeders Inc.	510,000	2. Cactus Feeders Inc.	350,000
3. Cargill (Caprock Cattle Feeders)	330,000	3. ConAgra Cattle Feeding	320,000
4. Friona Industries	275,000	4. National Farms Inc.	274,000
		5. Caprock Industries (Cargill)	263,000
		Source: <i>Beef Today</i> , Nov-Dec. 1998	

Source: *Feedstuffs* Reference Issue 9/13/06 as quoted in *Feedstuffs* 10/23/06

PORK PACKERS **CR4 = 66% (Estimated)***

	<u>Daily Capacity**</u>	<u>Historical CR4</u>				
		1987	1989	1990	2001**	2005***
1. Smithfield Foods	102,900					
2. Tyson Foods	72,800					
3. Swift & Co.	46,000	37%	34%	40%	59%	64%
4. Cargill	36,000					

** *Feedstuffs* Reference Issue 2001.
 *** 2007 *Feedstuffs* Reference Issue

Source: *Smithfield is reported to process 27 million hogs per year and account for 26% of the total market. From this figure, we estimated the CR 4. *New York Times* 1/26/07 ** Daily Capacity from 2007 *Feedstuffs* Reference Issue.

PORK PRODUCTION

	<u>Number of Sows*</u>	<u>Number of Sows In 2001**</u>	
1. Smithfield Foods	1,200,115	Smithfield Foods	710,000
2. Triumph Foods	399,800	PSF	211,100
3. Seaboard Corporation	213,600	Seaboard	185,000
4. Iowa Select Farms	150,000	Triumph	140,000

** *Successful Farming Pork Powerhouses* (October 2001)

Source: * *Successful Farming Pork Powerhouses* (October 2006). Notes: Smithfield includes sow numbers from PSF that is pending acquisition. Triumph markets pork through Seaboard.

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BROILERS CR4 = 58.5%*

1. Pilgrim's Pride
2. Tyson
3. Perdue
4. Sanderson Farms

Historical CR4				
1986	1990	1994	1998	2001
35%	44%	46%	49%	50%

Source: **Feedstuffs* 1/15/07
 Note: The CR2 in this sector is 47%.

TURKEYS CR4 = 55%*

	Slaughter Capacity	Historical CR4				
		1988	1992	1996	2000	2005
1. Butterball LLC**	1,420 Million #s					
2. Hormel Foods (Jennie-O Turkey Store)	1,265 Million #s	31%	35%	40%	45%	51%
3. Cargill	961 Million #s					
4. Sara Lee	260 Million #s					

Source: **Feedstuffs* 10/9/06 (CR 4 is extrapolated from market share of new company.)
 ** Butterball LLC was created through a joint venture between Smithfield (49%) and Maxwell Foods (51%) that bought ConAgra's turkey operations.

ANIMAL FEED PLANTS

ANNUAL CAPACITY*

1. Land O'Lakes LLC/Purina Mills	12.5 million tons
2. Cargill Animal Nutrition (Nutrena)	8.0 million tons
3. ADM Alliance Nutrition	3.2 million tons
4. J.D. Heiskell & Co.	2.8 million tons

Source: * 2007 *Feedstuffs Reference Issue* (9/13/06)

FLOUR MILLING CR4 = unknown

	Daily Milling Capacity*	Historical CR4			
		1982	1987	1990	2005
1. Cargill/CHS (Horizon Milling)	291,500 cwts				
2. ADM	277,800 cwts	40%	44%	61%	63%
3. ConAgra	248,600 cwts				

} CR3=55%**

Source: * *Milling and Baking News* 10/10/06 and 2006 *Grain and Milling Annual*
 ** Total US 24-Hour Milling Capacity is 1,492,456 cwts (*Milling and Baking News* 6/20/06)

SOYBEAN CRUSHING

CR4 = 80%*

		Historical CR4		
		1977	1982	1987
1. ADM	} CR3=71%**	54%	61%	71%
2. Bunge				
3. Cargill				
4. Ag Processing Inc.				

Census of Manufacturing

Source: *2002 Census of Manufacturing (released 6/06); ***Wall Street Journal* 7/22/02

ETHANOL PRODUCTION**CR4 = 31.5%**

Million Gallons/Year (Capacity)

		Historical CR4			
		1987	1995	1999	2002
1. ADM	1070				
2. US Biofuels	250	73%	73%	67%	49%
3. VeraSun Energy Corporation	230				
4. Hawkeye Renewables	220				

Source: <http://www.ethanolrfa.org/industry>

Note: Farmer owned ethanol plants accounted for 39% of total capacity.

TOP DAIRY PROCESSORS IN U.S. AND CANADA

	Annual Sales *
1. Dean Foods	\$10,106 Million
2. Kraft Foods (Majority owner is Philip Morris)	\$ 4,400 Million
3. Land O'Lakes	\$ 3,901 Million
4. Saputo Inc.**	\$ 3,461 Million

Source: **Dairy Foods: Dairy 100* (2006)

Notes: ** Over 40% of Saputo Inc. plants are in Canada.

INPUT MARKET NOTES

Corn Seed: CR2=58%*

The CR2 in the U.S. corn seed market has remained relatively stable, changing little from a CR2 of 56%** that existed in 1997. However, while Pioneer dominated the market 10 years ago, now DuPont (Pioneer) and Monsanto have roughly equal shares.

Source: **Wall Street Journal*, 1/22/2007; ** Jorge Fernandez-Cornejo, 2004, USDA-ERS, The Seed Industry in the US.

Globally, Monsanto has its genetically modified seeds for corn, cotton, soybeans and canola on more than 90% of acreage that uses GMO seeds. By comparison, Syngenta is in 2nd place with about 4% of global biotech acreage using its seed.

Source: *Financial Times*, 11/16/2006.

Globally, four seed firms, DuPont (Pioneer), Monsanto, Syngenta and Limagrain have about 29% of the world market for commercial seeds.

Source: *Tracing the Trend Towards Market Concentration*. UN Conference on Trade and Development. 2006.**Global Phosphate, Nitrogen, Potash and Feed Phosphate Fertilizer Companies**

1. Yara (6% of world's fertilizer market)*
2. Mosaic (Cargill owns 67% with ICM owning 33%)
3. Potash Corp

Source: * Dow Jones Commodities Service 2/14/07

U.S. FOOD RETAILING**CR5 = 48%***

Supermarket	Sales in Thousands			Change '04-'06
	2006	2005	2004	
1)Wal-Mart	\$ 98,745,400	\$ 79,704,300	\$66,465,100	48.57%
2)Kroger	\$ 58,544,668	\$ 54,161,588	\$46,314,840	26.41%
3)Albertson's**	\$ 36,287,940	\$ 36,733,840	\$31,961,800	13.54%
4)Safeway	\$ 32,732,960	\$ 29,359,408	\$29,572,140	10.69%
5)Ahold	\$ 23,848,240	\$ 21,052,200	\$25,105,600	-5.01%

Historical CR5

1997	2001	2004
24%	38%	46%

Source: * *Progressive Grocer's Super 50* (5/1/05) *Progressive Grocer* reports only grocery sales from supermarkets and does not report general merchandise, drug or convenience sales. **Note the CR5 is from 2005, and has most likely grown larger given the rates of change from 2004 to 2005.** In February 2005, the top 50 supermarkets accounted for 82% of total supermarket sales nationally.

** Supervalu completed their acquisition of 60% of Albertsons in June 2006. The remaining 40% was sold to Cerebus Capital Management. **Supervalu is now the 3rd largest supermarket.** *Progressive Grocer* 2/1/07.

WORLD'S TOP GROCERY RETAILERS 2006

1.	Wal-Mart Stores (United States)	\$312.4 billion annual sales
2.	Carrefour (France)	\$ 92.6
3.	Tesco (United Kingdom)	\$ 69.6
4.	Metro Group (Germany)	\$ 69.3
5.	Kroger (United States)	\$ 60.6
6.	Ahold (The Netherlands)	\$ 55.3
7.	Costco (United States)	\$ 52.9
8.	Rewe (Germany)	\$ 51.8
9.	Schwarz Group (Germany)	\$ 45.8
10.	Aldi (Germany)	\$ 45.0

Source: *Supermarket News* 5/29/06

TOP U.S. FOOD PROCESSING COMPANIES:

Company	2005 Food Sales	2002 Food Sales
(Fiscal year in parentheses if different from calendar year)	(\$ millions)	(\$ millions)
1. Tyson Foods Inc. (10/1/05)	23,899	21,285
2. Kraft Foods Inc.	23,293	21,485
3. Pepsico Inc.	21,186	17,363
4. Nestle (US & Canada)	19,941	13,110
5. Anheuser-Busch Cos. Inc.	11,546	10,574
6. Dean Foods Co.	10,505	8,992
7. General Mills (5/28/06)	9,803	9,206
8. Smithfield Foods Inc. (4/30/06)	9,614	7,356
9. ConAgra Foods Inc. (5/28/05)	8,195	22,521
10. Swift & Company (5/29/05)	7,847	8,476

Source: *Food Processing*, Vol. 67(8):34-48, August 2006.

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