



# YENGST ASSOCIATES

## Machinery Market Research

### Short-Term Machinery Forecast SEPTEMBER 2006

<b>INTRODUCTION</b> .....	1
<b>MACHINERY MARKETS</b> .....	1
Equipment Coverage.....	2
Earthmoving Equipment.....	2
Material Handling Equipment.....	5
Forestry Equipment.....	7
Agricultural Equipment.....	7
Other Equipment.....	8
<b>THE U.S. ECONOMY</b> .....	9
<b>INDUSTRY DEMAND FACTORS</b> .....	11
Housing Starts.....	11
Construction Spending.....	12
U.S. Agricultural Economy.....	12
<b>THE CANADIAN ECONOMY</b> .....	13
<b>ECONOMIC INDICATORS</b> .....	15



## INTRODUCTION

This Short-Term Machinery Forecast represents Yengst Associates' 27<sup>th</sup> annual edition for the North American Service. This forecast gives us a chance to reflect back on past years' performance, as well as the first half of this year, and use that knowledge to reevaluate where the markets for machinery are going through 2007. Believed to be an indispensable tool in the areas of corporate and investment planning, this short-term forecast should be thought of primarily as an update to our Long-Term Machinery Forecast, dated March 2006. Please take note that any revisions to estimated production or sales figures contained in previous forecasts are reflective of more precise information that may have come to our attention over the past six months.

The objective of this forecast is to address those topics that most closely affect machinery demand in North America. Key to our analysis is macro-economic activities affecting the U.S. and Canadian economies. This Machinery Forecast covers the following:

➤ **Machinery Markets**

This section serves as an update to our North American Database, with previous and forecasted unit production and sales figures by machine for the years 2003 through 2007. Major categories of machinery include Earthmoving, Material Handling, Forestry and Agriculture.

➤ **The U.S. Economy**

In this section, Yengst Associates reviews key economic indicators, such as gross domestic product (GDP), inflation (consumer price index – CPI), unemployment and monetary policy.

➤ **Industry Demand Factors**

A look at the most important demand factors affecting construction markets, including housing starts and construction spending. As they relate to the agricultural industry, we also examine historical and projected indicators, such as farm cash receipts and net farm income.

➤ **The Canadian Economy**

We take a brief look at key economic indicators and industry demand factors in the Canadian economy, focusing on Canadian GDP, inflation and the country's employment situation.

## MACHINERY SALES / PRODUCTION THROUGH 2007

Yengst Associates has divided the machinery market into five segments: **Earthmoving Equipment, Material Handling Equipment, Forestry Equipment, Agricultural Equipment** and **Other Equipment**, which includes road construction machinery, directional drills and portable air compressors. Forecasted data includes estimated unit sales and production for the North American off-highway machinery markets covered by Yengst Associates. All estimated figures are based on the most up-to-date machinery sales information available to our analysts at the time of publication, including information relative to the various factors of demand that drive the aforementioned markets.

**Equipment Coverage**

As shown below, our product coverage is very comprehensive, accounting for a total of 36 different types of equipment. As part of our *North American Subscription Service*, more detailed analyses of these products can be found in our regularly updated *Equipment Analysis* reports.

**Earthmoving Equipment**

Backhoe/Loaders	Crawler Dozers	Articulated Haulers	Skid-Steer Loaders
Compact Backhoe/Loaders	Crawler Excavators	Rigid Haulers	Trenchers
Crawler Loaders	Wheeled Excavators	Motor Graders	Wheel Loaders
Compact Track Loaders	Mini-Excavators	Scrapers	

**Material Handling Equipment**

Aerial Work Platforms	Hydraulic Cranes	Cable Cranes	Rough-Terrain Lift Trucks
- Scissor Lifts	- All-Terrain Cranes		- Vertical Mast
- Boom Lifts	- Truck Cranes	Industrial Lift Trucks	- Telescopic
	- Rough-Terrain Cranes	- Internal Combustion	
	- Industrial Cranes	- Electric	

**Forestry Equipment**

Wheeled Feller Bunchers
Wheeled Forwarders
Wheeled Harvesters
Wheeled Log Skidders

**Agricultural Equipment**

Agricultural Tractors
Harvesting Combines

**Other Equipment**

Asphalt Pavers
Ride-on Compactors
Horizontal Directional Drills
Portable Air Compressors

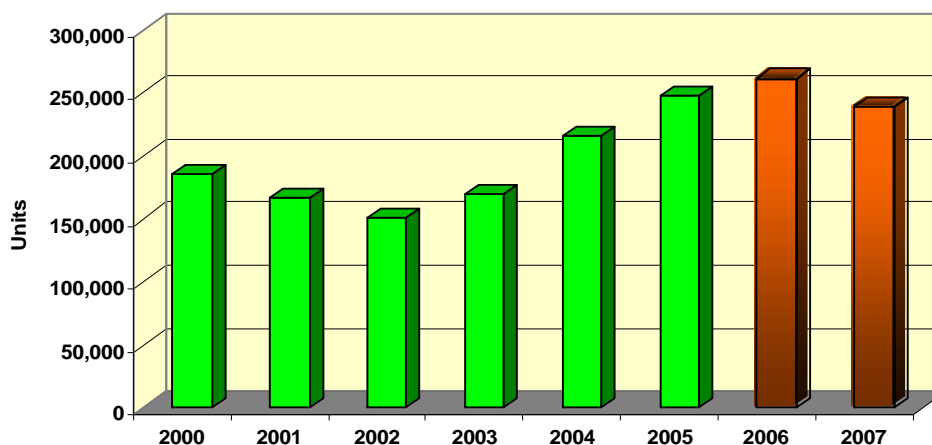
**Earthmoving Equipment**

Our current projections for Earthmoving Equipment have changed somewhat from the information we provided earlier this year. At that time, we were concerned that energy prices would rise and cause economic hardship on many, thus causing a slowing in the overall economy in North America. Furthermore, we believed that interest rates would start to squeeze middle- and low-income families during the year, adding more problems for an economy that could flip-flop either direction. As it turns out, both oil costs and interest rates have risen since the start of the year, but these increases are just now being felt by the consumer and are changing their spending habits. This is slowing down the economy especially in the area of housing and discretionary income. We sense that demand has started to slow in some areas and with some products and that OEMs are starting to adjust production levels accordingly. In summary, the first half of 2006 has been stronger than we anticipated while the second half has started off slower relative to last year for the same period and we look for modestly slower demand in the second half.

Table 1 that follows summarizes our estimates for Earthmoving Equipment sales and production levels through 2007. As seen, our composite at the end of the table suggests that earthmoving machinery sales will grow about 6 percent in 2006, and decline about 8 percent in 2007. We had expected an approximate decline in sales of about 3 percent in overall sales for 2006, with a reasonable gain in the first half of the year and a slower second half. We feel that the second

half will decline, but not at the rate we had earlier expected. For the last eighteen months we have doubted that strong machinery buying could be sustained, particularly with rising energy costs and higher interest rates, but there is a lot of momentum in the marketplace and changes in demand are just getting started.

**Earthmoving Equipment Sales Composite**



We should note that we expect sales growth of compact track loaders, which we highlighted in our Long-Term Forecast, to grow in 2006 but at a more moderate rate, reaching close to our previously published expectations made earlier in 2006. We continue to think that sales of compact track loaders are detracting from sales of skid steer loaders.

We have adjusted our projected production levels from our March Long Term Forecast. In March we estimated that production would increase 7.6 percent in 2006 and decrease 5.7 percent in 2007. We still feel those projections are reasonable. As stated above, several OEMs have already begun to adjust production levels in the third quarter of 2006, and we now expect, as outlined below, that production will increase about 6.0 percent in 2006 and decline 6.8 percent in 2007. **Inventory levels** at the factory and at dealers are acceptable from what we can tell at this time, but manufacturers appear to be monitoring the situation very closely as this cycle progresses. Cuts in production of some products have already been announced leading up to the start of next year, which is actually earlier than we had expected.

**Table 1: Earthmoving Equipment Sales and Production Through 2007**

				-----Forecast-----		Percent Chg (%)	
	2003	2004	2005	2006e	2007e	05-06	06-07
<b>Standard Backhoe / Loaders</b>							
<b>Production</b>	20,350	26,400	28,450	31,000	28,000	9.0	(9.7)
<b>Sales</b>	22,400	27,800	29,400	31,000	27,000	5.4	(12.9)
<b>Compact Backhoe Loaders</b>							
	2003	2004	2005	2006e	2007e	05-06	06-07
<b>Production</b>	2,285	3,000	3,500	3,700	3,400	5.7	(8.1)
<b>Sales</b>	5,000	5,775	6,350	6,700	6,100	5.5	(8.9)

<b>Crawler Dozers</b>				<b>-----Forecast-----</b>		<b>Percent Chg (%)</b>	
	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006e</b>	<b>2007e</b>	<b>05-06</b>	<b>06-07</b>
<b>Production</b>	8,060	11,225	13,600	13,900	12,500	2.2	(10.1)
<b>Sales</b>	10,650	14,700	17,500	18,000	16,550	2.9	(8.1)
<b>Crawler Loaders</b>				<b>-----Forecast-----</b>		<b>Percent Chg (%)</b>	
	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006e</b>	<b>2007e</b>	<b>05-06</b>	<b>06-07</b>
<b>Production</b>	130	0	0	0	0	-	-
<b>Sales</b>	1,250	1,700	1,740	1,700	1,500	(2.3)	(11.8)
<b>Compact Track Loaders</b>				<b>-----Forecast-----</b>		<b>Percent Chg (%)</b>	
	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006e</b>	<b>2007e</b>	<b>05-06</b>	<b>06-07</b>
<b>Production</b>	8,050	15,600	23,150	28,000	30,000	21.0	7.1
<b>Sales</b>	9,125	16,500	24,000	28,000	30,000	16.7	7.1
<b>Crawler Excavators</b>				<b>-----Forecast-----</b>		<b>Percent Chg (%)</b>	
	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006e</b>	<b>2007e</b>	<b>05-06</b>	<b>06-07</b>
<b>Production</b>	8,950	13,370	15,735	17,000	16,000	8.0	(5.9)
<b>Sales</b>	16,700	24,500	28,900	31,000	27,000	7.3	(12.9)
<b>Wheeled Excavators</b>				<b>-----Forecast-----</b>		<b>Percent Chg (%)</b>	
	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006e</b>	<b>2007e</b>	<b>05-06</b>	<b>06-07</b>
<b>Production</b>	390	525	550	550	525	-	(4.5)
<b>Sales</b>	715	925	950	950	875	-	(7.9)
<b>Mini-Excavators</b>				<b>-----Forecast-----</b>		<b>Percent Chg (%)</b>	
	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006e</b>	<b>2007e</b>	<b>05-06</b>	<b>06-07</b>
<b>Production</b>	9,000	11,000	12,000	13,000	13,000	8.3	0.0
<b>Sales</b>	15,500	21,700	27,650	31,500	30,000	13.9	(4.8)
<b>Articulated Haulers</b>				<b>-----Forecast-----</b>		<b>Percent Chg (%)</b>	
	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006e</b>	<b>2007e</b>	<b>05-06</b>	<b>06-07</b>
<b>Production</b>	350	0	450	800	800	77.8	-
<b>Sales</b>	2,060	3,075	3,700	3,900	3,600	5.4	(7.7)
<b>Rigid Haulers</b>				<b>-----Forecast-----</b>		<b>Percent Chg (%)</b>	
	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006e</b>	<b>2007e</b>	<b>05-06</b>	<b>06-07</b>
<b>Production</b>	750	1,075	1,415	1,525	1,600	7.8	4.9
<b>Sales</b>	435	625	830	875	900	5.4	2.9
<b>Motor Graders</b>				<b>-----Forecast-----</b>		<b>Percent Chg (%)</b>	
	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006e</b>	<b>2007e</b>	<b>05-06</b>	<b>06-07</b>
<b>Production</b>	4,260	4,200	4,665	4,800	4,600	2.9	(4.2)
<b>Sales</b>	3,400	3,700	4,165	4,200	3,800	0.8	(9.5)
<b>Scrapers</b>				<b>-----Forecast-----</b>		<b>Percent Chg (%)</b>	
	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006e</b>	<b>2007e</b>	<b>05-06</b>	<b>06-07</b>
<b>Production</b>	375	575	750	775	700	3.3	(9.7)
<b>Sales</b>	375	555	725	750	675	3.4	(10.0)
<b>Skid Steer Loaders</b>				<b>-----Forecast-----</b>		<b>Percent Chg (%)</b>	
	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006e</b>	<b>2007e</b>	<b>05-06</b>	<b>06-07</b>
<b>Production</b>	72,000	81,250	85,560	87,000	82,000	1.7	(5.7)
<b>Sales</b>	58,150	65,650	68,050	69,000	64,000	1.4	(7.2)
<b>Trenchers</b>				<b>-----Forecast-----</b>		<b>Percent Chg (%)</b>	
	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006e</b>	<b>2007e</b>	<b>05-06</b>	<b>06-07</b>
<b>Production</b>	12,000	13,800	16,175	17,500	16,800	8.2	(4.0)
<b>Sales</b>	9,900	11,400	14,600	15,500	14,800	6.2	(4.5)

				-----Forecast-----		Percent Chg (%)	
	2003	2004	2005	2006e	2007e	05-06	06-07
<b>Wheel Loaders &lt;80hp</b>							
Production	125	140	320	400	350	25.0	(12.5)
Sales	1,225	1,575	2,300	2,500	2,200	8.7	(12.0)

				-----Forecast-----		Percent Chg (%)	
	2003	2004	2005	2006e	2007e	05-06	06-07
<b>Wheel Loaders &gt;80hp</b>							
Production	13,160	18,640	21,320	22,500	20,500	5.5	(8.9)
Sales	12,280	18,135	19,500	20,000	18,500	2.6	(7.5)

				-----Forecast-----		Percent Chg (%)	
	2003	2004	2005	2006e	2007e	05-06	06-07
<b>Wheel Loaders All Sizes</b>							
Production	13,285	18,780	21,640	22,900	20,850	5.8	(8.9)
Sales	13,505	19,710	21,800	22,500	20,700	3.2	(8.0)

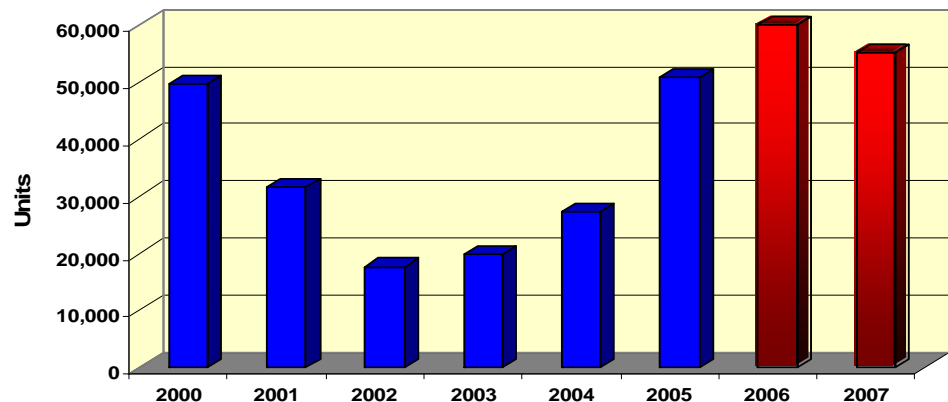
				-----Forecast-----		Percent Chg (%)	
	2003	2004	2005	2006e	2007e	05-06	06-07
<b>Composite: Earthmoving Equipment</b>							
Production	160,235	198,400	224,540	237,950	221,875	6.0	(6.8)
Sales	169,165	218,515	250,360	261,575	239,200	5.7	(8.6)

Source: Yengst Associates

## Material Handling Equipment

Our earlier forecast projected a sales increase for 2006 of 6.5 percent for this product category, but we have increased this to about 9 percent in view of stronger construction spending and continued buying from the rental equipment industry, which is a big user of aerial work platforms. We now expect sales of AWP's to grow roughly 17 percent in 2006 and decrease approximately 8 percent in 2007. There is still a lot of buying of these machines by rental equipment houses, but we believe the appetite for lifts will slow over the next 6 - 8 months as rental fleet age will not be as much of a concern as it has been for the past three years.

**Scissor Lift Sales and Forecast**



Hydraulic crane sales will grow at double digit levels during 2006, but sales will flatten in 2007 as non-residential and public construction spending begin to moderate. Industrial lift truck sales are projected to grow about 5 percent in 2006 over 2005 and then decline in the range of 8 percent in 2007. Telescopic rough-

terrain lift truck sales are still strong this year after an excellent sales year in 2005. We are looking for sales to expand another 6 - 7 percent during 2006, but then decline about 13 percent in 2007. In terms of production, we expect production in all categories except cranes to decrease in 2007. The composite total production is expected to drop about 5 percent in 2007 versus 2006.

**Table 2: Material Handling Equipment Sales and Production through 2007**

Aerial Work Platforms – Scissor Lifts			-----Forecast-----		Percent Chg (%)		
	2003	2004	2005	2006e	2007e	05-06	06-07
<b>Production</b>	24,000	32,300	58,475	69,000	66,000	18.0	(4.3)
<b>Sales</b>	19,750	27,375	50,700	60,000	55,000	18.3	(8.3)
Aerial Work Platforms – Boom Lifts			-----Forecast-----		Percent Chg (%)		
	2003	2004	2005	2006e	2007e	05-06	06-07
<b>Production</b>	11,050	14,925	21,250	24,000	22,000	12.9	(8.3)
<b>Sales</b>	8,800	11,100	15,900	18,000	16,500	13.2	(8.3)
Lattice Boom Cranes			-----Forecast-----		Percent Chg (%)		
	2003	2004	2005	2006e	2007e	05-06	06-07
<b>Production</b>	195	210	260	300	300	15.4	0.0
<b>Sales</b>	185	215	270	325	325	20.4	0.0
All-Terrain Hydraulic Cranes			-----Forecast-----		Percent Chg (%)		
	2003	2004	2005	2006e	2007e	05-06	06-07
<b>Production</b>	50	50	60	70	70	16.7	0.0
<b>Sales</b>	80	140	165	205	215	24.2	4.9
Rough-Terrain Hydraulic Cranes			-----Forecast-----		Percent Chg (%)		
	2003	2004	2005	2006e	2007e	05-06	06-07
<b>Production</b>	725	850	1,040	1,225	1,300	17.8	6.1
<b>Sales</b>	625	730	950	1,150	1,200	21.1	4.3
Hydraulic Truck Cranes			-----Forecast-----		Percent Chg (%)		
	2003	2004	2005	2006e	2007e	05-06	06-07
<b>Production</b>	210	240	300	350	350	16.7	0.0
<b>Sales</b>	210	250	315	350	350	11.1	0.0
Hydraulic Industrial Cranes			-----Forecast-----		Percent Chg (%)		
	2003	2004	2005	2006e	2007e	05-06	06-07
<b>Production</b>	560	675	880	1,025	1,025	16.5	0.0
<b>Sales</b>	550	650	860	1,000	1,000	16.3	0.0
Industrial Lift Trucks (IC)			-----Forecast-----		Percent Chg (%)		
	2003	2004	2005	2006e	2007e	05-06	06-07
<b>Production</b>	60,000	69,500	88,000	94,000	87,000	6.8	(7.4)
<b>Sales</b>	65,000	75,900	95,000	100,000	92,000	5.3	(8.0)
Industrial Lift Trucks (Electric)			-----Forecast-----		Percent Chg (%)		
	2003	2004	2005	2006e	2007e	05-06	06-07
<b>Production</b>	42,700	49,800	63,000	65,000	60,000	3.2	(7.7)
<b>Sales</b>	42,450	48,600	62,200	65,000	60,000	4.5	(7.7)
RT Lift Trucks (Vertical Mast)			-----Forecast-----		Percent Chg (%)		
	2003	2004	2005	2006e	2007e	05-06	06-07
<b>Production</b>	1,990	2,800	4,350	4,500	4,200	3.4	(6.7)
<b>Sales</b>	1,900	2,500	3,900	4,200	3,900	7.7	(7.1)

RT Lift Trucks (Telescopic)				-----Forecast-----		Percent Chg (%)	
	2003	2004	2005	2006e	2007e	05-06	06-07
Production	7,085	10,600	18,000	20,000	23,000	11.1	15.0
Sales	8,800	13,300	21,600	23,000	20,000	6.5	(13.0)

Composite: Material Handling Equipment				-----Forecast-----		Percent Chg (%)	
	2003	2004	2005	2006e	2007e	05-06	06-07
Production	148,565	181,950	255,615	279,470	265,245	9.3	(5.1)
Sales	148,350	180,760	251,860	272,080	249,290	8.0	(8.4)

Source: Yengst Associates

## Forestry Equipment

We have not changed our forecast for forestry equipment since earlier this year, with a minor exception in overall sales. We are expecting a relatively flat sales situation in 2006 versus 2005 and a decline in sales of 9 percent in 2007, which is somewhat greater than we had earlier projected. In our opinion, sales and production of forestry equipment in North America will continue to be weak for the next two years.

**Table 3: Forestry Equipment Sales and Production Levels Through 2007**

Wheeled Feller Bunchers (3-Wheel)				-----Forecast-----		Percent Chg (%)	
	2003	2004	2005	2006e	2007e	05-06	06-07
Production	65	85	85	80	70	(5.9)	(12.5)
Sales	140	160	120	115	100	(4.2)	(13.0)

Wheeled Feller Bunchers (4-Wheel)				-----Forecast-----		Percent Chg (%)	
	2003	2004	2005	2006e	2007e	05-06	06-07
Production	585	700	735	725	675	(1.4)	(6.9)
Sales	550	675	710	700	625	(1.4)	(10.7)

Wheeled Forwarders				-----Forecast-----		Percent Chg (%)	
	2003	2004	2005	2006e	2007e	05-06	06-07
Production	150	200	215	200	175	(7.0)	(12.5)
Sales	175	225	230	225	200	(2.2)	(11.1)

Wheeled Harvesters				-----Forecast-----		Percent Chg (%)	
	2003	2004	2005	2006e	2007e	05-06	06-07
Production	50	65	70	65	60	(7.1)	(7.7)
Sales	60	75	75	70	60	(6.7)	(14.3)

Wheeled Log Skidders				-----Forecast-----		Percent Chg (%)	
	2003	2004	2005	2006e	2007e	05-06	06-07
Production	1,850	2,100	2,145	2,200	2,100	7.2	(4.5)
Sales	1,775	2,000	2,000	2,000	1,850	0.0	(7.5)

Composite: Forestry Equipment				-----Forecast-----		Percent Chg (%)	
	2003	2004	2005	2006e	2007e	05-06	06-07
Production	2,700	3,150	3,250	3,270	3,080	0.6	(5.8)
Sales	2,700	3,135	3,135	3,110	2,835	(0.8)	(8.8)

Source: Yengst Associates

## Agricultural Equipment

As indicated below in Table 4, sales of tractors this year will decline about 3 percent, but our estimates are based on retail sales as reported by the Association of Equipment Manufacturers (AEM) plus our analysis of non-reported sales of tractors,

which now make up about 3 percent of the overall tractor market. In 2006, we are looking for total sales to be in the range of 252,000 units, dropping to 240,000 units in 2007. (Most of the non-reported tractor sales are comprised of tractors rated below 40 hp. A large percentage of these machines are being imported from China, India or Korea.) Sales of large tractors rated over 100 hp and four-wheel drive tractors are already down 15 percent year versus year for seven months. Small tractors are holding up reasonably well. We see no recovery for the large tractors this year or next, with sales declining about 15 – 20 percent this year and 5 – 10 percent in 2007. Small tractor sales will also begin to decline modestly as this year progresses, with additional slowing next year.

**Table 4: Agricultural Equipment Sales and Production Through 2007**

Agricultural and Industrial Tractors	-----Forecast-----					Percent Chg (%)	
	2003	2004	2005	2006e	2007e	05-06	06-07
<b>Production</b>	95,000	110,000	116,525	120,000	115,000	3.0	(4.2)
<b>Sales</b>	224,025	258,400	260,499	252,000	240,000	(3.3)	(4.8)

Harvesting Combines	-----Forecast-----					Percent Chg (%)	
	2003	2004	2005	2006e	2007e	05-06	06-07
<b>Production</b>	6,075	8,600	8,825	8,000	7,500	(9.3)	(6.25)
<b>Sales</b>	5,890	8,247	8,272	7,800	7,000	(5.7)	(10.3)

Composite: Agricultural Equipment	-----Forecast-----					Percent Chg (%)	
	2003	2004	2005	2006e	2007e	05-06	06-07
<b>Production</b>	101,075	118,600	125,350	128,000	122,500	2.1	(4.3)
<b>Sales</b>	229,915	266,647	268,771	259,800	247,000	(3.3)	(4.9)

Source: Yengst Associates

Combine sales are declining this year as this report is being written. We are looking for a 6 percent decline in sales for 2006. For 2007, we are projecting a 10 percent drop from the 2006 level. The same problems confronting tractors is seen for combines. Higher operating costs and slowing government payments are cutting into farm income. OEM production levels will parallel the sales in 2006 and will moderate some in 2007, with a decline of 5 percent overall expected for this category of machines in 2007.

**Other Equipment**

Other Equipment is comprised of road building products and other construction machinery that is difficult to categorize any other way including asphalt pavers, directional drills, compactors, and portable air compressors. Our current assessment of sales for these products indicates modest growth in 2006 of about 6 – 7 percent and a decline of roughly 9 percent in 2007. This is a very little change from our previous projections.

**Table 5: Other Equipment Sales and Production Through 2007**

Asphalt Pavers	-----Forecast-----					Percent Chg (%)	
	2003	2004	2005	2006e	2007e	05-06	06-07
<b>Production</b>	1,850	2,370	2,850	3,100	3,000	12.3	(6.7)
<b>Sales</b>	1,750	2,065	2,675	3,000	2,800	12.1	(6.7)

Construction Compactors	-----Forecast-----					Percent Chg (%)	
	2003	2004	2005	2006e	2007e	05-06	06-07
<b>Production</b>	7,500	9,000	11,000	12,000	11,000	9.1	(8.3)
<b>Sales</b>	7,300	9,900	11,475	12,600	12,000	9.8	(4.8)

	Landfill / Embankment Compactors <sup>1</sup>			-----Forecast-----		Percent Chg (%)	
	2003	2004	2005	2006e	2007e	05-06	06-07
<b>Production</b>	315	360	425	450	400	5.9	(11.1)
<b>Sales</b>	330	375	440	475	425	8.0	(10.5)

<sup>1</sup> Included in Construction Compactors

	Horizontal Directional Drills			-----Forecast-----		Percent Chg (%)	
	2003	2004	2005	2006e	2007e	05-06	06-07
<b>Production</b>	400	1,080	1,300	1,400	1,250	7.7	(7.1)
<b>Sales</b>	375	1,000	1,200	1,300	1,150	8.3	(7.7)

	Portable Air Compressors			-----Forecast-----		Percent Chg (%)	
	2003	2004	2005	2006e	2007e	05-06	06-07
<b>Production</b>	11,925	15,700	20,000	21,000	19,000	5.0	(9.5)
<b>Sales</b>	10,500	13,600	17,500	19,000	17,500	8.6	(7.9)

	Composite: Other Equipment			-----Forecast-----		Percent Chg (%)	
	2003	2004	2005	2006e	2007e	05-06	06-07
<b>Production</b>	21,990	28,510	35,575	37,950	34,650	6.7	(8.7)
<b>Sales</b>	20,255	26,940	33,290	36,375	33,875	9.3	(6.8)

Source: Yengst Associates

We have made changes to our compactor figures since our last Forecast report. We had over estimated sales and production levels for the industry in our previous work, something we learned during the first half of this year. Industry sales will be higher for these machines in 2006, but will drop about 5 percent in 2007. Production levels for the group will be higher this year, as shown in Table 5 above, but we look for a reduction in output of about 7 percent in 2007.

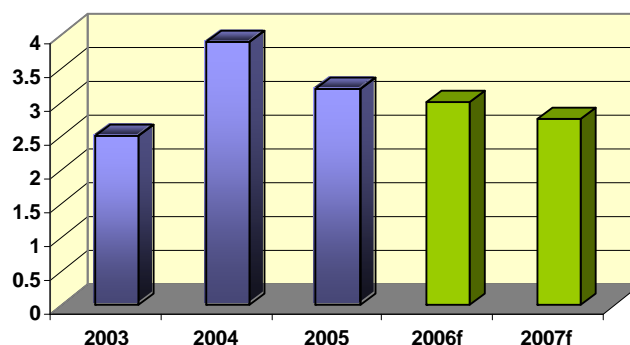
## THE U.S. ECONOMY

Regional economies in the U.S. are facing a broad-based slowdown, most visible in the West as of August 2006. The slow down in the housing markets, lower employment growth and the deterioration of consumer credit quality are factors in this slowdown. We expect the next several months to be volatile as the economy adjusts to higher interest rates and higher energy prices.

Real GDP grew by 2.9 percent in the second quarter of 2006 at an annualized rate. This was well below the 5.6 percent increase seen in the first quarter and one percent below a year ago. This is still not bad, but an omen that we are

going to move through a slower period in economic growth. For the second half of 2006, the growth of the U.S. economy is expected to soften further and likewise reduce inflationary pressures. We are expecting Real GDP to grow just under 3 percent for the second half of the year. Looking to 2007,

Real GDP Annual Growth (%)



Yengst Associates forecasts growth in the U.S. economy to slow down to a moderate pace of 2.6 to 2.9 percent.

During the first seven months of 2006, the **consumer price index** rose at a 4.8 percent seasonally adjusted annual rate (SAAR). This compares with an increase of 3.4 percent for all of 2005. The index for energy, which rose 17.1 percent in 2005, advanced at a 25.3 percent SAAR in the first seven months of 2006. Petroleum-based energy costs increased at a 52.8 percent annual rate while charges for energy services fell at a 2.5 percent annual rate. The food index has increased at a

2.1 percent SAAR thus far this year, following a 2.3 percent rise for all of 2005. Excluding food and energy, the CPI advanced at a 3.1 percent SAAR in the first seven months, following a 2.2 percent rise for all of 2005.

**Table 6: Select U.S. Economic Indicators**

	Real GDP (\$2000)	CPI		Unemployment Rate
	% Change	Seasonally Adjusted Year-end	% Change	% at Year-end
<b>Actual</b>				
<b>2003</b>	+2.5	184.0	+1.9	5.7
<b>2004</b>	+3.9	188.9	+3.3	5.4
<b>2005</b>	+3.2	195.3	+3.4	4.9
<b>Forecast</b>				
<b>2006</b>	+3.0	203.1	+4.0	4.8
<b>2007</b>	+2.75	210.2	+3.5	5.0

Yengst Associates looks

Source: Yengst Associates / Bureau of Economic Analysis

for CPI on a seasonally-adjusted basis to end 2006 up in the range of 4.0 percent even though it is slightly higher than that right now. For 2007, inflation is expected to subside modestly to about 3.5 percent.

The Federal Reserve has been tightening monetary policy for the last eighteen months and the funds rate target is projected to be 5.5 percent at the end of 2006 from 4.16 percent at the end of 2005. The anticipated rise in long-term rates resulted in relatively modest inflation rates, stronger corporate credit demands and China's change in currency policy. A lot will depend on what the Federal Reserve does now that inflation is increasing and energy costs have declined, at least for the last month.

The latest statistics show the **unemployment rate** fluctuating between 4.6 and 4.8 percent through July 2006. We expect the unemployment rate to stay below 5 percent for the rest of 2006 depending on how slow the housing market becomes because lower home prices will drain the economy of wealth. So far through the third week of August 2006 there has not been an increase in lay offs as the economy tries to absorb the change in the housing market, the fluctuating interest rates and energy costs. Construction industries continue to add jobs. Despite the rosy picture, analysts do not expect employment gains to be much stronger in the coming months. A pace of about 205,000 monthly is expected for the second half of the year. This is in contrast to much stronger gains during previous expansionary periods. Lackluster employment gains for the rest of this year should remain the status quo for 2006, with the unemployment rate forecasted to end 2006 at around 5.0 percent.

In summary, there is little doubt that the U.S. economy is decelerating. Consumer spending is not growing as much as last year and is getting squeezed by higher energy prices. The big concern is that the Fed's "soft landing", which has been developing over the past two years through interest rate hikes, will turn into a "hard landing". Housing is the first crack to develop, which could lead to other areas of the economy. The uncertainties brought on by these events and continued problems in the Middle East with Iraq and Iran with its nuclear ambitions make the future difficult to contemplate. If we have these thoughts, we are fairly sure that others have the same concerns.

## INDUSTRY DEMAND FACTORS

### Housing Starts

The latest release from the U.S. Census Bureau shows **new housing starts** dropped 2.5 percent in July, 2006 to an annual rate of 1,795 million units. This is the largest drop in almost two years. Single-family housing starts fell percent to 1,452 million units. This decline was offset by a 3.2 percent increase in multi-family housing starts at 343,000 million units. **New housing sales**, at an annualized rate, fell to 1,070 million units in July a 21.6 percent decrease from 2005 levels. Every region of the country showed a double digit decline in new housing sales over the preceding year.

**Building permits**, which indicate future trends, fell 6.5 percent in July 2006 to an annual rate of 1,747 million units. In the last several months, the housing market has been cooling off from five years of sales records largely due to the increase in interest rates and people trying to sell their investment properties before market prices drop too much. We expect sales to continue to moderate if interest rates remain unchanged but they may fall further if the rates start to increase again. Yengst Associates' offers the following forward thinking thoughts on the market:

**Table 7: New Privately-Owned Housing Units Started\***

(000's of units)	Single-Unit		Multi-Unit		Total	
	Units	% Change	Units	% Change	Units	% Change
<b>Actual</b>						
<b>2000</b>	1,180	(15.8)	363	17.1	1,543	(9.9)
<b>2001</b>	1,251	6.0	429	18.2	1,680	8.9
<b>2002</b>	1,409	12.6	487	13.5	1,896	12.9
<b>2003</b>	1,549	9.9	438	(10.1)	1,987	4.8
<b>2004</b>	1,567	1.2	465	6.2	2,032	2.3
<b>2005</b>	1,642	4.8	465	-	2,107	3.7
<b>Forecast</b>						
<b>2006</b>	1,600	(2.6)	400	(14.0)	2,000	(5.1)
<b>2007</b>	1,450	(9.4)	350	(14.3)	1,800	(10.0)

\*Seasonally Adjusted Annual Rate; Source: Census Bureau / Yengst Associates

July 2006 **sales of existing homes** declined more than 4 percent from June 2006 to 6.33 million annualized units. This represents a more than 11 percent decrease from July 2005. Inventories hit another record high with almost seven and a half months of home on hand, the largest supply of home for sale by that measure since 1993. The building boom of 2005 is partially responsible for the

large inventory in addition to people who made real estate investments trying to get out of the market now that it is cooling. This had also caused prices to fall or stay stagnant. The good news is that mortgage rates dropped some in response to the July home sales numbers, but the real estate market is expected to continue very slowly in most parts of the country for the time being.

We believe that home sales will continue to slow through 2006 and could even decline depending on what the Federal Reserve does with interest rates over the next 12 – 18 months through 2007. Much of the answer to what is going to happen on this front will lie with oil prices, inflation and economic growth.

### Construction Spending

Construction spending is still increasing through June 2006, with total spending up 10.6 percent: a one percent decrease in private construction and a 14 percent increase in public construction. Last year's passage of large spending bills at the Congressional level should help support public construction going forward while we expect private construction spending levels to continue to fall in line with residential construction declines.

**Table 8: Construction Spending**

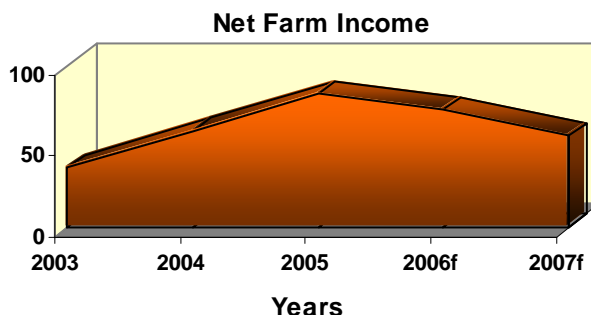
(Seasonally Adjusted Annual Rates in Current Dollars)

(\$-Billions)	Private Construction*		Public Construction		Total	
	Value at Dec.	% Change	Value at Dec.	% Change	Value at Dec.	% Change
<b>Actual</b>						
<b>2003</b>	753.8	12.5	219.2	(2.9)	973.0	8.7
<b>2004</b>	842.4	11.8	232.9	6.25	1,075.3	10.5
<b>2005</b>	940.2	11.6	254.3	9.2	1,194.5	11.1
<b>Forecast</b>						
<b>2006</b>	930.0	(1.1)	290.0	14.0	1,220.0	2.1
<b>2007</b>	854.0	(8.2)	266.0	(8.3)	1,120.0	(8.2)

Source: Yengst Associates / U.S. Commerce Department's Census Bureau \* Includes the following categories of private construction not shown separately: highway - street - conservation - development.

### U.S. Agricultural Economy

The period of 2004 through 2005 was one of unprecedented growth for the U.S. farm sector. Farm income is expected to decline in 2006 and 2007 due to the drop in the value of production and the reduction in government payments. Farmers will also be affected by higher energy costs and labor costs and increasing interest rates. Agricultural prices for crops have remained at 2005 levels. Crop inventories are expected to remain at 2005 levels while livestock



inventories are expected to increase as ranchers rebuild cattle stock, which had been at low levels.

The Agricultural Department expects imports and exports to increase in both 2006

and 2007. It estimates that exports of horticulture products, corn and soy beans account for the bulk of expansion. Exports are expected to reach \$68 billion in fiscal 2006, an increase from \$62.5 billion in 2005, and reach \$72 billion in 2007. Export gains in 2007 are thought to be broad based with foreign demand for corn increasing with the growing demand for ethanol products. NAFTA has had a great impact on exports growing from \$19.6 billion to Canada and Mexico to and expected \$23.7 billion in 2007. Imports are expected to reach \$64.6 billion in 2006 and \$68.5 billion in 2007. As productivity of U.S. agriculture grows faster than domestic demand, farmers will rely increasingly on export market growth. Despite strong international competition, the combination of global economic growth and gains in domestic demand should result in rising market prices and cash receipts, as well as improvements in the financial condition of the agricultural sector.

**Table 9: U.S. Farm Income Statistics**

(\$-Billions)	2002	2003	2004	2005	2006f	2007f
Farm Cash Receipts	\$195.0	\$216.6	\$241.2	\$239.0	<b>\$231.7</b>	<b>220.0</b>
Net Cash Income*	49.5	71.6	85.5	82.8	<b>64.8</b>	<b>63.0</b>
Net Farm Income**	36.6	59.5	82.5	72.6	<b>56.2</b>	<b>54.0</b>

Source: Yengst Associates / U.S. Department of Agriculture \* The return to farm operators from sales and other cash income minus out-of-pocket expenses. \*\*Accounts for changes in farm inventories and non-cash income and expenses. f- Forecast /

Yengst Associates' research shows that the U.S. Department of Agriculture offers the following projections for the near- and long-term state of net farm income:

- Net farm income falls from a record high 2004 level over the next several years, reflecting changes in farm cash receipts that are largely offset by changes in the value of inventory and generally rising farm production expenses.
- Net farm income stabilizes at around \$60 billion. This scenario should play out, particularly after prices for crops rise high enough to eliminate most counter-cyclical payments and stabilize aggregate government payments for farmers. Direct government payments to farmers are projected to fall from over \$24 billion in 2005 to about \$11 billion in 2010-14. They are expected to be \$18.5 billion in 2006.

## **THE CANADIAN ECONOMY**

Canada's gross domestic product softened in the second quarter as annual growth slowed to 2.9% from 3.2% in the first quarter. The annualized quarterly growth rate slipped to 2.0% for the second quarter from 3.6% previously. Consumers continue to spend as interest rates remain low and the labor market continues to firm. The export sector suffered a decline in the first quarter of 2006 primarily in the export of automotive and forest products. This was primarily due to the increase in energy costs however the energy exports increased.

The pace of **Canadian inflation** appears to remain well contained. Inflation has stayed at the same rate it has been for the last four years approximately 2.2 to 2.4 percent. Core inflation, on the hand, remains benign staying at approximately 1.6 percent over the same time period. Overall, there are few

immediate concerns over price pressures in Canada. The Bank of Canada increased its overnight rate in May 2006 to 4.25 percent the seventh increase in nine months. The value of the Canadian dollar reached a 28 year high in May 2006 to 90.25 U.S. cents but has since slipped to 89.12 U.S. cents.

**Canadian unemployment** in May 2006 at 6.1 percent was the lowest it has been in almost three decades, and increased 0.3 percentage points in July to 6.4 percent. The loss of 33,000 manufacturing jobs was nearly offset by the 22,000 jobs created in the construction sector as construction shifts from the housing sector to the commercial, industrial and institutional sectors. Average hourly earnings rose to 3.7 percent on a year-over-year basis, with real wage gains averaging 1.2 percent.

## ECONOMIC INDICATORS

### Output, Demand & Jobs

% change at annual rate

Country	----GDP----		The Economist Poll GDP Forecasts		Industrial Production latest	Unemployment ----Rate %----	
	latest	qtr*	2005	2006		latest	year ago
Australia	+1.9 Q1	+2.8	+2.3	+3.1	1.2 Q1	5.0 Jun	5.6
Britain	+1.7 Q2	+1.5	+2.1	+2.1	-1.9 May	4.8 May††	4.8
Canada	+3.3 Q1	+2.3	+2.7	+3.0	+1.8 May	6.7 Jun	7.2
France	+1.8 Q1	+1.4	+1.5	+1.9	-0.2 May	10.1 Jun	10.0
Germany	+1.1 Q1	+4.2	+1.1	+1.3	+0.8 May	11.6 Jul§	10.6
Italy	-0.2 Q1	-2.0	-0.1	+1.2	-2.1 May	7.8 Mar	8.2
Japan	+1.3 Q1	+4.9	+1.7	+1.7	+0.1 Jun	4.2 Jun	4.6
Sweden	+1.4 Q1	+1.1	+1.9	+2.6	-0.9 May	7.1 Jun†	5.8
United States	+3.6 Q2	+3.4	+3.6	+3.3	+3.9 Jun	5.0 Jun	5.6

\*% change on previous qtr. at an annual rate. ††Mar-May; claimant count rate 2.8% in Jun. §EU harmonized rate 9.2% in Jun. †Not seasonally adjusted.

### Interest & Exchange Rates

Country	Interest rates % a year (Aug 3 <sup>rd</sup> 2005)					
	3-mth money market		Bond yields		Currency units per \$	
	latest	year ago	2-yr gov't	Corp.	Aug 3 <sup>rd</sup>	year ago
Australia	5.65	5.45	5.22	6.30	1.30	1.42
Britain	4.56	4.94	4.23	5.19	0.56	0.55
Canada	2.60	2.05	3.07	5.25	1.21	1.31
Japan	0.02	0.03	0.13	1.45	111	111
Sweden	1.45	1.99	2.03	2.91	7.62	7.63
United States	3.54	1.65	4.01	5.24	--	--
Euro area†	2.13	2.12	2.28	3.54	0.81	0.83

†Germany for bonds.

### Prices & Wages

(% change at annual rate)

Country	Consumer Prices		The Economist Poll Consumer Prices (FCST)		Producer Prices		Wages/Earnings	
	latest	year ago	2005	2006	latest	year ago	latest	year ago
Australia	+2.5 Q2	+2.5	+2.7	+2.6	+6.9 Q2	+2.8	+4.5 Q1	+5.0
Britain	+2.0 Jun*	+1.6	+1.9	+1.9	+2.4 Jun	+2.6	+4.1 May†	+4.6
Canada	+1.7 Jun	+2.5	+2.1	+2.2	+0.2 Jun	+7.0	+1.1 May	+3.9
France	+1.7 Jun	+2.4	+1.8	+1.5	+2.9 Jun	+2.2	+2.9 Q1	+2.8
Germany	+1.9 Jul	+1.8	+1.6	+1.3	+2.2 Jun	+3.5	+0.6 May	+1.9
Italy	+2.1 Jul	+2.3	+2.1	+1.9	+3.7 Jun	+3.2	+3.0 Jun	+3.3
Japan	-0.5 Jun	nil	-0.1	+0.3	+1.4 Jun	+1.5	-0.1 Jun	+1.8
Sweden	+0.6 Jun	+0.5	+0.5	+1.3	+3.2 Jun	+1.5	+1.1 May	+3.1
United States	+2.5 Jun	+3.3	+2.9	+2.6	+3.6 Jun	+4.3	+2.7 Jun	+2.0

\*New Series. RPI inflation rate 2.9% in May. †Feb-Apr.

## EMERGING-MARKET INDICATORS

### Economy & Financial Markets

Country	-----% Change on year earlier-----			Interest Rates Short-term % p.a.	Currency Units per \$	
	GDP	Industrial Production	Consumer Prices		Aug 3 <sup>rd</sup>	year ago
China	+9.5 Q1	+16.8 Jun	+1.6 Jun	2.00	8.11	8.28
India	+7.0 Q1	+10.8 May	+3.3 Jun	5.47	43.4	46.3
Indonesia	+6.4 Q1	+10.1 Mar	+7.8 Jul	8.97	9,755	9,225
Malaysia	+5.7 Q1	-0.4 May	+3.2 Jun	2.88	3.75	3.80
South Korea	+3.3 Q2	+4.1 Jun	+2.5 Jul	3.50	1,018	1,168
Argentina	+8.0 Q1	+2.0 Jun	+9.0 Jun	6.81	2.86	3.01
Brazil	+2.9 Q1	+5.5 May	+7.3 Jun	19.75	2.32	3.06
Chile	+5.7 Q1	+7.4 Jun	+2.7 Jun	3.72	560	644
Columbia	+3.6 Q1	+2.1 May	+4.9 Jul	7.12	2,309	2,611
Mexico	+2.4 Q1	+3.0 May	+4.3 Jun	9.62	10.6	11.5
Venezuela	+7.9 Q1	+28.2 Apr	+15.3 Jul	10.76	2,697§	2,722§
South Africa	+4.2 Q1	+1.2 May	+2.8 Jun	7.10	6.45	6.26
Russia	+5.2 Q1	+6.9 Jun	+13.3 Jun	13.00	28.5	29.2

Source: The Economist, August 6<sup>th</sup>, 2005. §Floating exchange rate.



Charles Yengst, President

• **YENGST ASSOCIATES** For over two decades, corporations throughout the world have relied on our research and consulting services. Our knowledge of the North American and overseas machinery markets, and our on-going contacts allow us to obtain the most accurate and up to date information available. This makes our reports indispensable tools in all areas of corporate and investment planning. We work closely with our clients, offering the highest level of service in a timely and confidential manner.

• **SUBSCRIPTION SERVICES** Through a series of comprehensive reports, we provide extensive research on machinery markets in North America, covering more than 25 types of equipment used in construction, mining, industrial and agricultural applications. Subscribers receive: Equipment Analyses, Company Profiles, Forecasts, Market Reports and Inquiry Privileges. Coverage includes: sales breakdowns, market share and production information, factors of demand, trade data, component use, field population estimates, forecasts and competitive analyses of manufacturers.

• **DATABASE SERVICES** Sales, production and component use in machinery is available to give clients a competitive advantage in the marketplace.

• **ON-LINE SERVICES** Research and database services can be quickly accessed on-line through our website, with the latest news events and commentary.

• **COUNTRY REPORTS** We provide on-going coverage of high-growth markets in global regions.

• **PRIVATE RESEARCH STUDIES** Clients continually seek our help on a wide variety of topics, such as product distribution, pricing, competitive and financial analyses, diversification and acquisitions, market feasibility and end-user surveys, to name a few.

For additional information, please contact:

Yengst Associates, Inc.  
P.O. Box 781  
35 Old Ridgefield Road  
Wilton, Connecticut 06897-0781 USA

Telephone: 1-203-762-8096

Fax: 1-203-762-8330

E-mail: [mail@yengstassociates.com](mailto:mail@yengstassociates.com)

Website: [www.yengstassociates.com](http://www.yengstassociates.com)

