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Reason for Report:
Industry Overview

Related Companies:	Share Price:
AGCO	51.26
BG	63.48
CNH	42.49
DE	87.55
MON	77.34
TRMB	51.35

Agriculture & Industrial Biotech

Mechanizing Brazil’s Sugarcane Industry; An Overlooked Growth Opportunity

CONCLUSION:

Rising demands on sugarcane production, upcoming regulatory changes, and new government-sponsored funding programs are each contributing to increased mechanization within Brazil’s sugarcane farming sector. We view this trend as a positive for Neutral-rated DE, Overweight-rated CNH, and Overweight-rated TRMB – and believe it represents a significant growth opportunity between now and 2014 when the first regulations are imposed on field burning (which is used for manual harvesting). New harvester introductions from DE and CNH that improve efficiency and precision devices from TRMB that extend the yield of sugarcane fields each have wide market applications and should experience strong growth over the next 2-3 years.

- **Multiple factors are converging that will likely drive increased mechanization in Brazil's sugarcane industry.** While it's difficult to separate bad luck (drought conditions for two straight growing seasons) from under-investment, it was clear during our week-long tour of Brazil's farm sector that upgrading and optimizing sugarcane production is a key priority of both the regulatory overseer (Embrapa) and the sugar mill operators that use cane as a feedstock. Brazil does not want a repeat of 2011 where 1 billion gallons of corn-ethanol was imported from the U.S. We believe increased mechanization is an emerging trend in Brazil's sugarcane market. In total, tractor concentration is two-thirds of that in the U.S. and in sugarcane we believe the disparity is even wider. We believe new cane harvesters and tractors from Deere and CNH that boost efficiency and mitigate root damage, along with wider adoption of precision agriculture devices (TRMB), present compelling growth opportunities that are overlooked by many investors.

- **New government-backed funding programs and upcoming regulations on field burning provide catalysts for investment.** Under-investment in sugarcane is not a new topic of debate; however, we believe new catalysts are in place over the next 2 years to drive increased investment. New funding programs from government-supported financial institutions are being put into place to provide low-interest loans to spur investment in replanting and mechanization. Additionally, regulations on in-field burning (flat fields cannot be burned after 2014, hilly fields have until 2017) will result in increased mechanized harvesting.

- **DE, CNH, and TRMB appear to be best positioned for this 2-3 year growth opportunity.** Based on discussions with mill operators in Sao Paulo state, we believe Deere and CNH are best positioned for growth in sugarcane mechanization. The emphasis being place on sugarcane-specific equipment, including in the precision ag device market, was evident at the Show Rural farm show in Cascavel, Brazil last week. TRMB is targeting the sugarcane market (as noted by the U.S. Sugar customer announcement in January) and we believe investors underestimate its potential to move the needle over the next 2 years.

RISKS

Fluctuations in grain prices and farm income, weather, competition, acquisition integration, general economic conditions.

Multiple factors are converging in Brazil to drive a trend toward mechanization in sugarcane production. Following a disappointing sugarcane crop last year (and drought this year that is likely to limit a significant y/y increase in production), we believe an increased focus is being placed in Brazil on driving productivity improvements in sugarcane to avoid the eyesore of importing ethanol from the U.S. to meet domestic demand. Sugarcane mills in Brazil only operate for ~8 months out of the year due to feedstock supply issues (and the fast spoilage rate of the sugarcane crop, which must be processed within 36 hours of harvest unlike corn that can be stored for a year or longer). In 2011, Brazil imported ~1 billion gallons of ethanol from the U.S. to meet ethanol demand coming from Brazil's rising population of flex fuel vehicles. Brazilian consumers are wise to the fuel economy of ethanol (in relation to gasoline). As such, 'pure' ethanol (93% ethanol, 7% water) at the pump in Brazil sells at 70% of the price of gasoline – during our visit this translated into retail price of ethanol of $7.75 per gallon. With the price of gasoline controlled by a state-owned company, there is pressure to limit inflation and as a result the rising cost of raw sugar – without a commensurate rise in ethanol – has led mills to consider shifting production away from ethanol.

Putting this together, the production of sugarcane (or other similar crops) must become cheaper and more plentiful to incentivize the mills to make ethanol. During our meeting with Brazil's Embrapa organization this week in Brasilia, it was clear that boosting sugarcane production (and mill productivity) is a key priority of this influential government agency with agricultural policy. To support improvement in the sugarcane industry, Brazilian development bank BNDES has established a program that provides 4 billion Rials ($2.3 billion) in low interest loans for farmers/mills. Banco do Brasil is expected to unveil a similar program later this year.

We believe the combination of government policy with increased funding support will provide the appropriate incentives to boost sugarcane production in Brazil, though it will take time. Sugarcane in Brazil averages 70-75 MT per hectare of yield over the 5-year life of the crop – starting at 120-130 and dropping to 50-55 by year 5. The average age of Brazil's cane crop is estimated to be just under 4 years old, with a target of moving this number closer to 3.
We believe increased planting rates and higher yields will spur investments in mechanization – this has been the trend in other row-crops around the globe and in soybeans/corn in Brazil over the past 10 years. Another driver of mechanization will be an upcoming regulatory ban on in-field burning. Starting in 2014, large mills – mostly in Sao Paulo state which controls more than 50% of Brazil's sugarcane production – will be banned from burning cane in the field which is traditionally followed by manual harvesting. The ban is phased in through 2017. Large, vertically-integrated mill operators that we spoke with during our trip to Brazil last week are already preparing for this mandate by evaluating high-horsepower equipment. These large operators represent key customer opportunities for the equipment makers: Cosan owns/operates 50% of its sugarcane needs; Bunge is at 60% with plans to go to 70%.

The farm equipment providers are mobilizing to introduce new machines to the market that drive efficiency. At the Show Rural tradeshow last week in Parana state, we were impressed by new product introductions from DE and CNH that allow farmers to harvest two rows in one pass – which should serve to improve efficiency and potentially yield results. Deere has established a partnership with Cosan (Brazil's largest sugarcane mill operator and industry thought-leader) to develop new equipment for the market, including tractors with wider wheel bases to limit root damage during in-field use. Based on discussions with mill operators it appears that DE and CNH are in the driver's seat for this mechanization wave; it appears that AGCO's recently accuired cane harvester business Santal has struggled to keep pace with DE & CNH in recent years. Bolstering Santal's distribution platform by leveraging AGCO's strength in Brazil should help recapture mindshare with farmers as Santal was at one time a leader in the industry.

We believe that precision agriculture will also play an important role in mechanization and the stated objective to boost cane production. Since sugarcane is a perennial, it is important to not damage the roots with heavy, mechanized equipment that is working in the field. Guidance and auto-steering are already being used by early-adopter farm operators to mitigate damage to the fields. Claims have been made that precision agriculture has the potential to extend the yield life of a sugarcane crop from 5 years to 6 and maybe even 7 years; it is still early days in this technology adoption, so its difficult to say whether this actually proves to be correct, but should this be the case it would undoubtedly drive strong market adoption of the equipment – aside from the time savings and efficiency gains of the precision equipment. A Trimble Navigation reseller that we spoke with in Brazil that had geographic coverage of the southern half of the country (which encompasses a wide range of crops) indicated that ~50% of sales are already to the sugarcane market. The precision equipment used in the sugarcane is the same as what is used in corn, soybeans and other crops, so the technology is already ready for the market. We believe Trimble's recent customer announcement with U.S. Sugar demonstrates TRMB's dedication to the crop and we believe it provides an incremental driver to the company's Field Solutions segment.

BG and MON could be tangential beneficiaries of efforts being made to optimize sugarcane production. Within our coverage Neutral-rated Bunge and Overweight-rated Monsanto are also potential beneficiaries of an increased emphasis on optimizing sugarcane production. With 21 million metric tons of crush capacity, Bunge has struggled to source adequate sugarcane supply to run at high utilization rates. In 2011, Bunge reached 14 million MT – or 67% utilization rate. In 2012, the company is guiding to 17-19 million MT following an ambitious new planting program last November in which 27% of the company's owned and contracted acres were replanted. In a normal year, approximately 16% of the acreage would be replanted. Monsanto entered into the sugarcane business with the acquisition of Aly Participacoes – which had two operating businesses CanaVialis and Alellyx – in 2008 at a price tag of $290 million. To date, we believe Monsanto has little to show for this acquisition holding a very small market share in Brazil's large sugarcane market. Sugarcane is a polyploid which makes doing transgenic work on the crop very difficult by comparison to corn, soybeans, and vegetables. Brazil's sugarcane breeding is dominated by CTC, which is a research consortium owned & funded by the major Brazilian sugarcane mill operators, and Embrapa. It remains to be seen how successful Monsanto will be in developing and commercializing transgenic sugarcane that has certain stress resistance characteristics, though should Monsanto be first to market with insect-resistance or drought tolerant traits we believe market adoption would ramp up sharply.

Ratings, Price Targets, and Risks:
AGCO Corp. (AGCO) – Neutral / $53 Price Target. Our $53 price target is based on 11x our FY13 EPS estimate. Risk factors include: fluctuations in grain prices, changes in farm income, acquisition integration, general economic conditions (particularly in Europe).

Bunge (BG) - Neutral / $63 Price Target:Our $63 price target is based on 9x our FY13 EPS estimate. Risk factors include: fluctuations in grain prices, changes in farm income, weather conditions, acquisition integration, managing financial instruments intended to mitigate risk within Bunge's spread businesses.

CNH Global (CNH) – Overweight / $52 Price Target. Our $52 price target is based on 12x our FY13 EPS estimate. Risk factors include: fluctuations in grain prices, changes in farm income, large parent company stock ownership, global construction activity.

Deere & Co. (DE) - Neutral / $90 Price Target. Our $90 price target is based on 12x our FY13 EPS estimate. Risk factors include: fluctuations in grain prices, changes in farm income, geographic concentration in North America, global construction activity.

Monsanto (MON) - Overweight / $95 Price Target: Our $95 price target is based on a sum-of-parts valuation, including 25x our Seeds & Traits profit estimate for FY13 and 10x our Ag Productivity profit estimate for FY13. Risk factors include: farmer acceptance of new products/technology, competition, fluctuations in grain prices, weather.

Trimble Navigation (TRMB) - Overweight / $64 Price Target. Our $64 price target is based on 22x our FY13 EPS estimate.
Risk factors include: global economic trends and construction activity, fluctuations in grain prices (particularly corn), acquisition integration, new product acceptance.

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