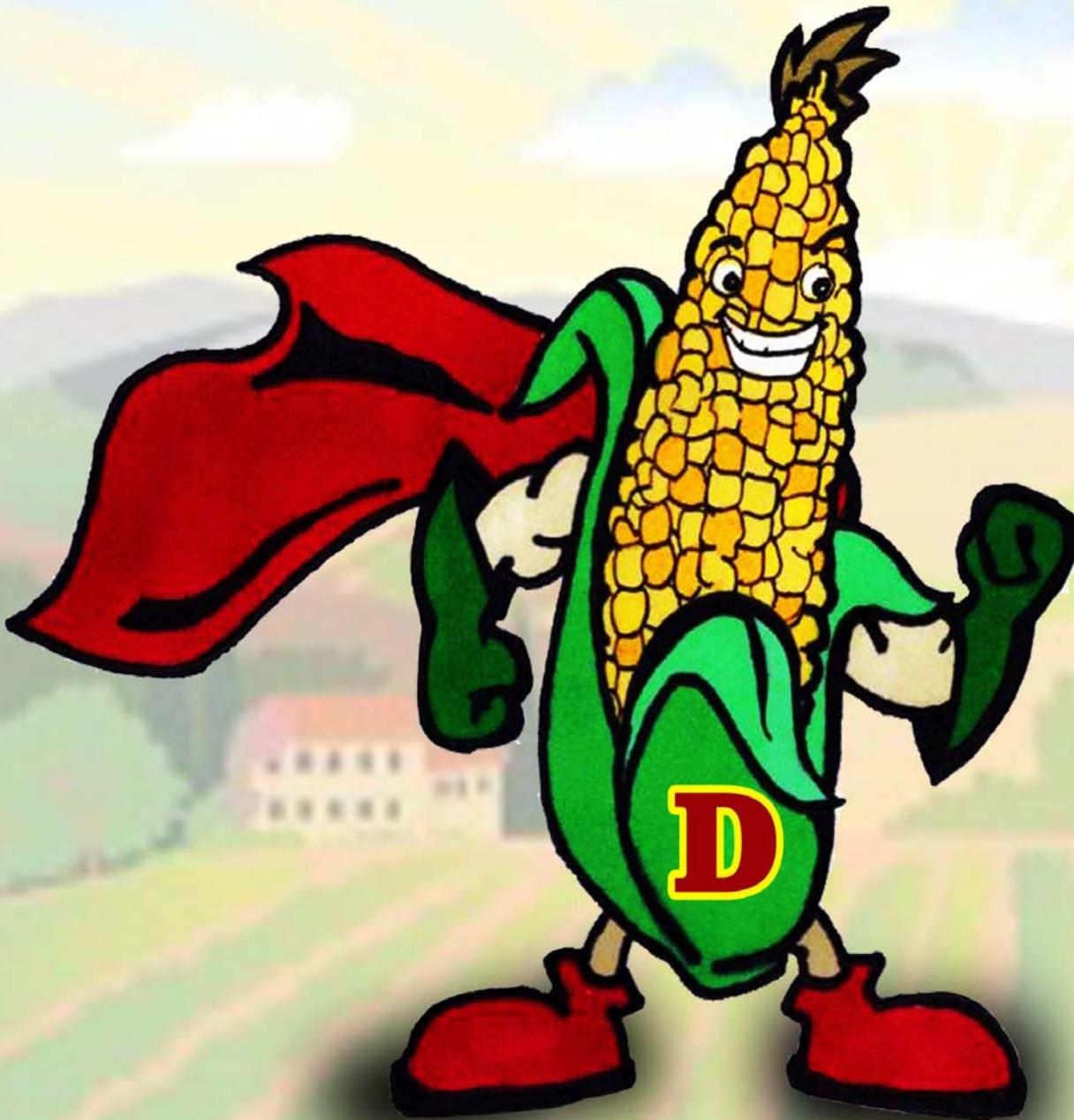


Monsanto India



Taking a big leap

Niket Shah (Niket.Shah@MotilalOswal.com); +91 22 3982 5426

Atul Mehra (Atul.Mehra@MotilalOswal.com); +91 22 3982 5417

Investors are advised to refer through disclosures made at the end of the Research Report.

Monsanto India: Taking a big leap

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Monsanto India

BSE SENSEX
22,758

S&P CNX
6,815

CMP: INR1,600

TP: INR2,150

Buy



Bloomberg	MCHM IN
Equity Shares (m)	17.3
52-Week Range (INR)	1,770/528
1, 6, 12 Rel. Per (%)	3/123/156
M.Cap. (INR b)	26.5
M.Cap. (USD b)	0.4

Financials & Valuation (INR b)

Y/E March	2014E	2015E	2016E
Sales	5.8	7.4	9.1
EBITDA	1.5	1.9	2.5
NP	1.4	1.8	2.3
EPS (INR)	79.9	104.6	134.4
EPS Gr. (%)	104.7	31.0	28.4
BV/Sh. (INR)	290.2	369.2	477.9
RoE (%)	30.4	31.7	31.7
RoCE (%)	33.8	35.3	35.3

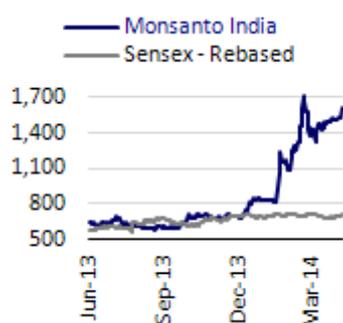
Valuation

P/E (x)	20.0	15.3	11.9
P/BV (x)	5.5	4.3	3.3
EV/EBITDA (x)	17.9	13.2	9.7
EV/Sales (x)	4.6	3.4	2.6

Shareholding pattern (%)

As on	Dec-13	Sep-13	Dec-12
Promoter	72.1	72.1	72.1
Dom. Inst	2.1	2.1	2.1
Foreign	1.4	1.4	1.4
Others	24.4	24.4	24.4

Stock performance (1 year)



Monsanto India limited (MIL), the flagship company of Monsanto company, is a subsidiary and the only listed Monsanto entity outside the United States. MIL has partnered with farmers for over four decades. In India, the Monsanto group operates through 3 entities i.e. (1) the listed entity Monsanto India Ltd (MIL) which is primarily involved in Maize seeds and Herbicides; (2) 50:50 JV between Mahyco and Monsanto Holdings Pvt. Ltd known as Mahyco Monsanto Biotech (MMB) which is sub-licensed to distribute BT cotton technology in India; and (3) Monsanto Holding.

Taking a big leap

Market share gain to drive earnings growth and re-rating

- Monsanto operates through 100 year old brand called Dekalb and it is India's largest selling hybrid maize seed brand with 25% market share.
- It currently derives 40% of its revenues from products launched in last 2 years.
- Monsanto has been able to reduce the age profile of its portfolio from 10 years in 2009 to 8 years in 2013 and further plan to reduce to 6 years going forward.
- Operational efficiencies and consolidation measures have helped reduce seed write offs to less than 7% of revenues from an average of 20% for last 3 years. Additionally sales return has come down by 15% there by driving growth.
- Monsanto has a ~60% market share in the global USD5.4b glyphosate industry and ~25% market share in the Indian INR8b glyphosate industry, under the 'Roundup' brand.
- Monsanto enjoys a premium positioning in the market place with its glyphosate selling price at INR 340 per litre and competitors around INR 310-320 per litre.
- GM food crops and RR Flex can be game changer events for Monsanto India.

Focus on market share gain and reduction in write offs to drive growth

Monsanto operates through 100 year old brand called Dekalb acquired from Cargill in 1998 and it is India's largest selling hybrid maize seed brand with 25% market share. Over last 2 years it has aggressively launched 7-8 hybrids leading to regain of market share from players like pioneer and DuPont which are around 20-23% market each. It currently derives 40% of its revenues from products launched in last 2 years. This has also helped Monsanto gained market share in FY14 but also helped to reduce the age profile of its portfolio from 10 years in 2009 to 8 years in 2013. Monsanto has a very strong Rabi portfolio as compared to Kharif. The management plans to aggressively roll out newer hybrids for Kharif going forward which has been under development since last 3-4 years there by driving margins. Over last few years operational efficiencies and consolidation measures has helped reduce seed write off to less than 7% of revenues from average of 20% for last 3 years and reduction of sales return by 15% there by driving growth.

MFAS and DDFS differentiated services to connect with farmers

Launched in 2010, MFAS is a service which offers timely and customized crop management advisory to enable maize, cotton and vegetable farmers to enhance farm yields and profitability. It currently has 1mn farmers connected with presence in 16 states across 7 languages. Other companies like Pioneer etc and government agencies tried to replicate this model through outsourcing model

but have unable to get breakthrough. MIL provides a toll free number 1800 3000 0303 after purchase of any Dekalb® maize hybrid seeds packet and is operational 365 days from 7am to 9pm. MIL has opened the free advisory centre in Malad, Mumbai, for farmers where 40 agro experts are employed to assist the farmers. We believe this is one of key differentiators that Monsanto has build over last 5-7 years with huge investments in backend which adds value to farmers and is not easily replicable.

Herbicide penetration provides huge scalability opportunities

Weeds are plants which can cause yield losses up to almost 60% of the crop potential. Labor shortage, rising wages due to NREGA implementation (15% CAGR in wages post FY08) and rising urbanization trends have accelerating demand for herbicides. Herbicides market in India is highly underpenetrated with its share in agro-chemicals standing at 20% as against global standards of 48%. Glyphosate is a leading safest herbicide and accounts for 30% of global herbicide sales and 70% of Indian herbicide sales. Monsanto has a ~60% market share in the global USD5.4b glyphosate industry and ~25% market share in the Indian INR8b glyphosate industry selling products under the 'Roundup' brand. Monsanto enjoys a premium positioning in the market place with its glyphosate selling price at INR 340 per litre and competitors around INR 310-320 per litre. In FY14 cost for glyphosate has gone by 30-35% leading to price increases of around 15-20% to protect margins and drive growth.

GM food crops and RR flex (BG2RR) approval - Game changer events

Once approved by all bodies all companies can start the field trials for GM food crops, thereby providing significant opportunities of newer growth avenues. Monsanto, Syngenta, Pioneer, Dow has been working on field trials across various crops prior to monotorium imposed by government and hence are much ahead of other competitors. MIL has been working on Roundup Ready® and Yieldgard® in-the-seed technologies to offer maize farmer's choice of superior insect protection, with convenient, flexible and effective weed management, to optimize maize yields. Currently Monsanto GM corn is currently at BRL2 stage and management has guided that it will take atleast 3 -4 years for commercial launch to happen. The initial research and trials suggest that Monsanto GM corn can increase yields by 20-40%. Our interaction with management highlight that not only the GM corn but the technology for GM corn as well will remain in Monsanto India. This in our view will lead to substantial re rating for the stock post commercial launch. Monsanto's current technology of BT is likely to be replaced by RR Flex (BG 2 RR). RR flex has gone through RCGM and is awaiting final approval from GEAC. RR-Flex has trait of herbicide tolerancy thereby negating chances of damage to crop due to usage of herbicide and also reducing labour cost.

Valuation and view

We expect topline to grow at 25% CAGR and PAT at 30% CAGR over FY14-16E. We believe the investments done in FY09-FY12 will start paying off for Monsanto India in terms of new product launches and market share gain. We also remain excited about the huge potential and scalability opportunity it has to offer over the long term from GM food and RR Flex. The stock is currently trading at 15.3x FY15E and 11.9x FY16E EPS. We value the stock at 16x FY16E EPS and arrive at a target price of INR 2150 on the stock. We initiate coverage with a **Buy**.

Company Description

Monsanto Company

The group company generated total revenue of USD 13.5b with ~75% of that from seeds and genomics for crops

Monsanto Company is a leading global provider of technology-based solutions and agricultural products that improve farm productivity and food quality. Monsanto remains focused on enabling both smallholder and large-scale farmers to produce more from their land while conserving more of our world's natural resources such as water and energy. The group company generated total revenue of USD 13.5b with ~75% of that from seeds and genomics for crops (corn, soybean, cotton and vegetables) and the remainder from herbicides for agricultural productivity.

Headquarters: St. Louis, Missouri, United States; Facilities: 404 facilities in 66 countries.

Globally, its business is structured in two segments:

- a. Seeds and Traits: The Seeds and Traits segment consists of the Company's global seeds and traits business, and genetic technology platforms - including breeding, biotechnology and genomics.
- b. Crop Protection: The Crop Protection segment consists primarily of agricultural and industrial, turf and ornamental herbicide (weed management) products

Monsanto India limited (MIL)

MIL has partnered with farmers for over four decades

Monsanto India limited (MIL), the flagship company of Monsanto company, is a subsidiary and the only listed Monsanto entity outside the United States. MIL has partnered with farmers for over four decades. In India, the Monsanto group operates through 3 entities i.e. (1) the listed entity Monsanto India Ltd (MIL) which is primarily involved in Maize seeds and Herbicides; (2) 50:50 JV between Mahyco and Monsanto Holdings Pvt. Ltd known as Mahyco Monsanto Biotech (MMB) which is sub-licensed to distribute BT cotton technology in India; and (3) Monsanto Holding.

MIL is a R&D-focused agriculture company, which aims to improve farmers' lives by offering farmers wide access to cutting-edge, high-yielding maize hybrid seeds researched and developed through advanced seed breeding techniques; and herbicides for weed management. Our team comprises of over 375 employees, a majority of whom are from rural backgrounds

Footprints in India: 1. Mumbai, 2. Chandigarh, 3. Eluru, 4. Hubli, 5. Kolkata, 6. Coimbatore, 7. Siliguri, 8. Silvassa

R&D, Quality and Manufacturing Sites:

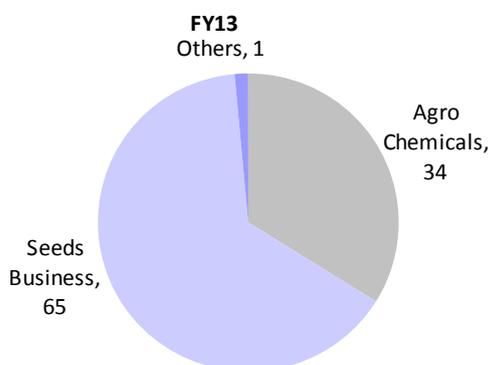
- Three Corn Seed Research Breeding stations at Udaipur, Bangalore and Jalandhar.
- A Biotechnology Research Centre at Bangalore
- A Seed Processing Facility at Hyderabad
- A Quality Assurance Laboratory at Hyderabad
- A Chemistry Plant in Silvassa

Key Milestones

Year	Milestone
1949	Monsanto Chemicals of India Limited incorporated
1975	Launched Machete – India’s first rice weed herbicide, helped farmers reduce rice yield loss by ~40 per cent
1978	Launched Lasso – soybean weed herbicide, helped farmers reduce soybean yield loss by ~40 per cent
1979	Launched Roundup – world’s number one weed control herbicide, helped farmers reduce labour cost and crop loss caused by general weeds
1989	Listed on the Bombay Stock Exchange (BSE)
1998	Invested in Agrochemicals plant at Silvassa
1996	Launched Leader – wheat weed herbicide, helped farmers reduce wheat grain loss by ~70 per cent, helping secure India’s wheat production
2000	Acquired corn hybrid and sunflower businesses, post Monsanto's global acquisition of Cargill Inc.'s International Seed Operations in 1998
	Monsanto Chemicals of India Limited renamed as Monsanto India Limited
	Listed on the National Stock Exchange (NSE)
	Launched Fastmix – India’s first rice weed control herbicide for water-scarce areas
	Invested in Corn Processing Plant at Elluru, Andhra Pradesh
2001	Leader becomes India’s number one wheat weed herbicide
2002	Integrated all corn hybrid seed varieties under ‘Dekalb’ brand
2003	Voted among ‘India’s Best Places to Work’ by Great Places to Work Institute
2004	Dekalb becomes India’s number one corn hybrid seed brand
	Voted among ‘India’s Top 25 Best Employers’ by Hewitt Associates
	Invested in Corn Research Breeding facility at Ghaziabad, Uttar Pradesh
2006	Divested Leader – wheat weed herbicide to Sumitomo Chemicals
2007	India identified as an independent region within Monsanto Company
	Quality Assurance (QA) Lab at Hyderabad commissioned to meet current & future testing needs of India & Asia-Pacific
	Voted among ‘India’s Top 25 Best Employers’ by Hewitt Associates
	Divested hybrid sunflower business to Devgen Seeds and Crop Technology Pvt. Ltd. to increase focus on core businesses
	Invested in Corn Drier facility at Shamirpeth, Andhra Pradesh
2008	Voted as ‘India’s Best Places to Work’ by Great Places To Work Institute
	Divested Machete, Fastmix & Lasso to Sinochem India Company Private Limited to increase strategic focus on core businesses. Today, MIL is sharply focused on its world-class products - Dekalb corn hybrid seeds and Roundup herbicide businesses, that continue to be the number one choice of Indian farmers

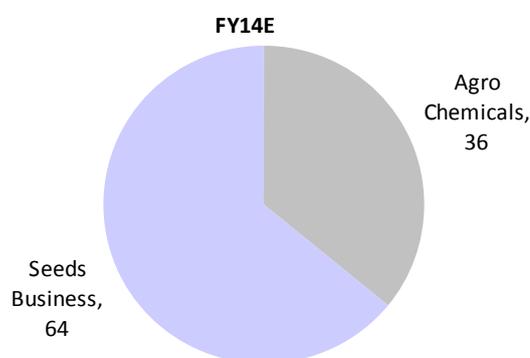
Source: Company, MOSL

Revenue breakup for FY13 (%)



Source: Company, MOSL

Revenue breakup for FY14E (%)



Source: Company, MOSL

Dekalb: Strong Brand focus on market share gain

- Monsanto operates through 100 year old brand called Dekalb acquired from Cargill in 1998 and it is India's largest selling hybrid maize seed brand with 25% market share.
- Monsanto has launched 7-8 hybrids in last 2 years leading of regain of market share from players like pioneer and DuPont which are around 20-23% market each.
- Monsanto India currently derives 40% of its revenues from products launched in last 2 years.
- Aggressive launch of newer products has not only helped Monsanto gained market share in FY14 but also helped to reduce the age profile of its portfolio from 10 years in 2009 to 8 years in 2013.
- Operational efficiencies and consolidation measures have helped reduce seed write offs to less than 7% of revenues from an average of 20% for last 3 years. Additionally sales return has come down by 15% there by driving growth.
- Monsanto has a very strong Rabi portfolio as compared to Kharif. The management plans to aggressively roll out newer hybrids for Kharif going forward which has been under development since last 3-4 years there by driving margins.

Entered hybrid corn with acquisition of Cargill

Monsanto started as Herbicide Company in India prior to 2000s. In 1998, Monsanto global acquired Cargill's international seed operations in central and South America, Asia, Africa and Europe (excluding the UK) for USD1.4b as part of its strategy to quickly spread the use of its GM seed worldwide. Monsanto Chemicals was a pure manufacturer of agrochemicals. Monsanto Enterprises looked after the marketing and distribution functions and was the marketing arm of the US parent with a marketing and distribution infrastructure and rights for the entire range of parent's products; while Monsanto India was the holding company of the group's operations in India. Seeds and other biotechnology products were introduced through the parent's 100% subsidiary, Monsanto Technologies. All this subsidiaries have now been integrated with Monsanto Chemicals, which subsequently became Monsanto India Ltd in 1999-2000. This restructuring was aimed at making Monsanto India an "integrated agri-business company" and was formally put through in June 2000.

Restructuring done to focus on seeds business in 2008

Post consolidation, the company had branded seed products like DeKalb maize hybrids (HiShell, AllRounder, Prabal, Sheetal, Double etc.), Asgrow sunflower hybrids (SH3322, SH41, SH177, SH416, SH88 etc.), Frontline paddy hybrids (RH 257, RH664 etc.) in addition to Herbicides like Roundup (Glyphosate), Machete (Butachlor), Leader (Sulfasulfuron) and FastMix (Butachlor). This consolidation also resulted in promoters share increasing in listed Monsanto India from 40% to 72%. However, during the fiscal year 2007-08, Monsanto India divested its Butachlor and Alachlor businesses to Sinochem India Company Private Limited and Sunflower seeds business to Devgen Seeds and Crop Technology Pvt. Ltd. Profits of INR458m from some of these divestitures in 2007-08 significantly bolstered Monsanto's net profit; this was distributed to shareholders through a special dividend of INR180 per share in 2008. Today, Monsanto had made Dekalb corn seeds and Roundup herbicide as its core business in India, in addition to the biotech traits business.

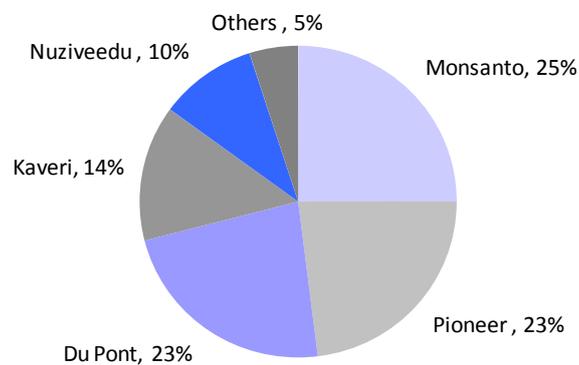
Consolidation also resulted in promoters share increasing in listed Monsanto India from 40% to 72%

Dekalb® is India's largest selling hybrid maize seed brand

Decalb 100 year old brand, leader with 25% market share

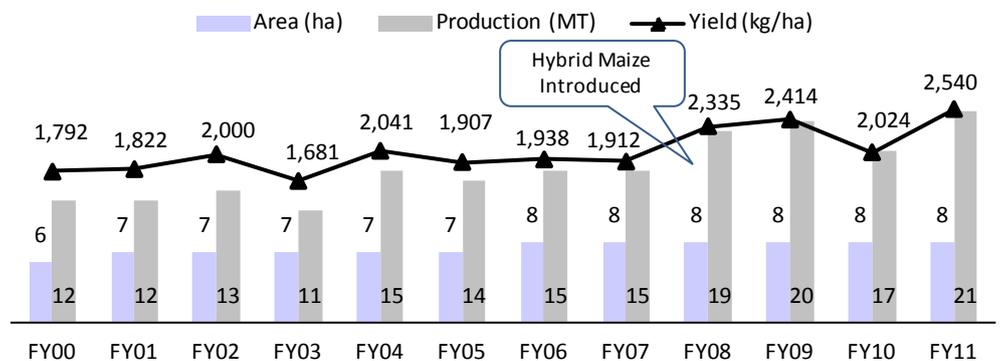
Monsanto operates in hybrid corn segment through 100 year old brand called Decalb acquired from Cargill in 1998. Dekalb® is India's largest selling hybrid maize seed brand renowned for its rich and diverse maize germplasm pool and enjoys 25% market share with other players like Pioneer, DuPont having 22-23% each, Kaveri at 14% and Nuziveedu at 10% respectively. Monsanto currently has 17-18 hybrids and sells across in 18 major states of India. Around 90% of the Corn is produced in 6-7 States namely TN, AP, Maharashtra, Gujarat, MP, UP, Rajasthan, Bihar for Rabi. Monsanto India started launching its own product from FY08 onwards under the DeKalb brand. In early 2000s Monsanto derived 80% of its revenues from herbicide business, however post success of Decalb brand, seeds revenues now stand at 65% of FY14 revenues for Monsanto with herbicide at 35%.

Monsanto continues to gain market share



Source: Company, MOSL

Hybrid maize introduction led to increase in Yield



Source: Company, MOSL

Monsanto India has 7 R&D Seed Breeding Stations, Corn Seed Drying & Processing Plant in Hyderabad, State-of-the-art QA Seed Testing Laboratory and AgroChem facility, Silvassa. It also has more than 300 acreages of farmer land available for breeding and around 40, 000 acres for seed production. It engages 21,000+ growers for seeds production.

1999- 2007 – scaled up but 2007-2012 saw loss of market share

Post acquisition of Dekalb brand in 1998, Monsanto acquired leadership position with more than 40% market share in hybrid corn market in early 2000s. Dekalb was very strong brand with products like Dekalb 900M, Dekalb Super 900M, Dekalb SUPERME, Dekalb lishell, Dekalb double, Dekalb prabhal and Dekalb Allrounder.

Monsanto acquired leadership position with more than 40% market share in hybrid corn market in early 2000s

Amongst the entire portfolio Dekalb 900M, Dekalb Super 900M were the best products in the portfolio with more than 70% market share in 2002-03, a testimony of strong positioning of Monsanto in early 2000s.

However 2007-2012 saw a period of consolidation in market share for Monsanto due to numerous factors like:-

- 1) Lack of investments in breeding in 2002-2007 hence lack of newer product launches in 2008-2013, as it takes 5 years to launch a product. Eg: - Product launched in 2008 is actually effort of last 5 years of R&D which includes crossing, testing, etc.
- 2) Lack of MNC interest in bringing Germplasm into India.
- 3) Increased in competition intensity with companies like Syngenta, Pioneer, Kaveri, Nuziveedu etc launching newer hybrid corn given success of BT Hybrid cotton in India.
- 4) Non participation in lower end of hybrid corn market in the range of INR 60-80 per kg which has grown significantly in last 5 years especially in AP during the Kharif season.
- 5) Focus on Rabi market which was more premium in nature as compared to kharif which was more of lower price market.
- 6) Non participation in subsidy business which is currently around 25-30% of overall corn industry. States like UP, Rajasthan, Gujarat and Karnataka (100% subsidy) provides subsidy.

Non availability of right hybrids in South India affected market share

In 2007-08 maize gained popularity with farmers as a higher remunerative crop due to its less water consumption, high yield, and good market price. Almost 83% of Tamilnadu acreages were dedicated to corn production. Farmers affected by price volatility in sugar cane, turmeric, and vegetables, switched to maize cultivation. Also, Immediate liquidity in the market, store-and-sell facility, and high demand, prompted TN farmers to increase maize cultivation in 2007-08. Continuous cropping and congenial environment led to development of pests and diseases, especially like Downy Mildew and Stalk Rot. Our channel checks with distributors and farmers suggests, Monsanto lost market share in south India due to non availability of right hybrids during increase in pests and diseases to the corn crop thereby losing market share to competitors.

Almost 83% of Tamilnadu
acreages were dedicated to
corn production

Downy mildew on plants



Source: Company, MOSL

Our checks suggest that in Andhra Pradesh during Rabi season some of Monsanto hybrids didn't perform well during cyclone in AP. While we understand some of new launches in FY10 like DKC 9081 and DKC 9142 have done well but some others weren't able to withstand the cyclone as compared to competition whose hybrids didn't fall during cyclone. Also in central Karnataka due to increase in foliar diseases like Rust, TLB etc performance of Monsanto hybrids was affected thereby leading to market share loss.

New product launches to improve market share

Monsanto has launched 7-8 hybrids in last 2 years leading of regain of market share from players like pioneer and DuPont which are around 20-23% market each.

While Monsanto India lost some market share from 39% in 2007 to 25% in 2013, the company 2008 onwards started increasing its investments in breeding and exchange of Germplasm from the parent. Our interaction with management suggests that the increased investments since 2007 onwards has started seeing tangible benefits in terms of newer launches since 2012. Monsanto has launched 7-8 hybrids in last 2 years leading of regain of market share from players like pioneer and DuPont which are around 20-23% market each. Recently launched hybrids include DKC 9108, KC 9106, DKC 8101, DKC 9081, DKC 9120, DKC 9125 and DKC 9126.

Monsanto product profolio

Sr No	Brand Name	Trait	Year of Launch	Targeted States
1	Dekalb® 900M Gold	For irrigated and assured rainfall conditions with good grain color and good storing quality	FY07	NA
2	DKC 9081	For fertile soils with assured irrigation availability and good management. Responds to good growing conditions and good management.	FY10	Bihar
3	Dekalb® Pinnacle	For high fertile soils with irrigation facilities and good agronomic practices. Pinnacle maize produce is known for high starch content and very suitable for starch industrial use.	Before 2006	NA
4	Dekalb® Super 900M	For consistent high yields, excellent grain color and good keeping quality.	Before 2006	NA
5	Dekalb® Supreme	For irrigated and assured rainfall conditions with wide adaptability. Its grain is rich in protein and oil and suitable for the feed industry.	Before 2006	NA
6	Dekalb® I-lishell	With high shelling percentage, this advanced hybrid maize has attractive grain color and more protein percentage suitable for poultry feed	Before 2006	NA
7	Dekalb® Double	Offers big cobs with good tip filling, is suitable for both grain crop and green cob purposes and matures in 95-100 day	Before 2006	NA
8	Dekalb® Prabal	Utilizes soil moisture effectively as it has a deep root system, has attractive grain color and the ability to give good yields under tough conditions	Before 2006	NA
9	DKC 9072	This is a stay green plant type with wider adaptability, consistent high yields and cylindrical cobs with good tip filling	Before 2006	NA
10	DKC 7074	Desi type of grains with attractive grain color which matures in 90 days with good standability	FY07	NA
11	DKC 972 plus	For better yields even under less rainfall situations, has attractive grain color and can be stored for a longer time		NA
12	DKC 984	This is a full maturity hybrid with high yielding potential, attractive grain color and good keeping quality		NA
13	DKC 9099	For irrigated and assured rainfall conditions, excellent grain color, robust cob size and good for storability		NA
14	Dekalb® Allrounder	Good yields under less rainfall conditions and consistent performance across soil types and varying agronomic conditions	Before 2006	NA
15	DKC 9108 and DKC 9106	New hybrid maize seeds for progressive maize farmers in Punjab and Uttar Pradesh. While DKC 9108 is meant for the spring planting season and DKC 9106 has been developed to suit the May planting Kharif season in the region for better productivity	2011	Punjab and Uttar Pradesh
16	DKC 8101	With enhanced productivity, this new hybrid maize seed caters to the Kharif season in Karnataka, Andhra Pradesh and Maharashtra, suited for soil types with limited availability of utilizable water	2011	Karnataka, AP, Maharashtra
New Launches				
1	DKC 9120	Specially developed maize hybrid seeds for farmers who plant maize in the rabi or dry season and need improved standability of their maize crop	2013	NA
2	DKC 9125	Specially developed maize hybrid seeds for farmers in Northern States with irrigation on their lands	2013	Northern States

Source: Company, MOSL

Some of the recent launches performance has been very strong

Brand	Commentary	States
DKC 9081	Developed specially to optimize yields in the rabi season in Bihar. In its second year of cultivation in Bihar, this hybrid maize seed recorded large growth and enhanced volumes as an ever increasing number of progressive Bihar farmers took to its cultivation.	Bihar
DKC 8101	Developed to cater to the Kharif season in Karnataka, Andhra Pradesh and Maharashtra. Farmers rewarded Dekalb® with a 5x volume growth for the hybrid in FY13 over FY12.	Karnataka, AP, Maharashtra
DKC 9108	Developed for farmers in Punjab and Uttar Pradesh.	Punjab and UP

Source: Company, MOSL

Strong marketing initiative assist in brand recall

Brand	Campaign name	Region
DKC 8101	Hero	Maharashtra
Dekalb Hishell	Guru	North
Dekalb 9120	Pehelwaan	Bihar

Source: Company, MOSL

Monsanto India currently derives 40% of its revenues from products launched in last 2 years.

Improving age profile of portfolio to help accelerate growth

Monsanto India currently derives 40% of its revenues from products launched in last 2 years. Also the aggressive launch of newer products has not only helped Monsanto gained market share in FY14 but also helped to reduce the age profile of its portfolio from 10 years in 2009 to 8 years in 2013. Management has guided that it plans to further reduce this to 6 years over next 2-3 years indicating aggressive product launches and phasing out of older products going forward.

Rollout of kharif hybrids to philip market share gains further

Our checks suggest that Monsanto has a very strong Rabi portfolio as compared to Kharif. This is also endorsed from the fact that Monsanto has a strong footing in states like Bihar, UP and Maharashtra which have higher proportion of corn grown during rabi and is weaker in South India which is a large Kharif market specially AP, TN and Central Karnataka. The management plans to aggressively roll out newer hybrids for Kharif going forward which has been under development since last 3-4 years thereby helping to improve their market share positioning.

All the corn companies need to have around 6-9 months of inventory before the start of the season

Inventory forecasting helped reduce sales returns and write offs

Inventory forecasting is the most important element for improving margins in corn segment. Corn has a shelf life of 1 year as compared to cotton of 3 years. Also all the corn companies need to have around 6-9 months of inventory before the start of the season. Hence if the inventory comes back from the trade channels and distributors then almost 50-70% of the inventory doesn't germinate leading to companies taking a write off the same.

However over last few years Monsanto with a view to gain greater operational efficiencies decided to consolidate seed processing operations at Hyderabad from Bellary and Eluru. This has resulted in better operation controls, inventory management and reduction in operational cost. It offered a location advantage for transport availability and economical dispatches of finished goods, resulting in substantial cost savings. Also by closing down the Eluru drier facility and the Bellary

Seed Conditioning unit we were able to make significant workforce related savings. Also in case of overproduction the company now takes a prudent step to sell off the grain directly instead of converting it into a seed and then taking a hit. All these measures has helped reduce seed write off to less than 7% of revenues from average of 20% for last 3 years and reduction of sales return by 15%.

FY14 witnessed a stellar performance

Corn is a 120 day crop but over last few years many farmers use hybrids to cultivate 90 day crop thereby leading to increase in acreages

FY13 saw pressure on maize acreages on account of delayed rainfall and drought in key maize growing markets of Maharashtra and North Karnataka thereby impacted Kharif sales. However FY14 saw robust growth of 36% topline growth 9MFY14 over 9MFY13 primarily due to strong kharif and Rabi season due to increase in acreages for corn due to higher global corn prices, strong rainfall and lower base effect of last kharif season. Also corn is a 120 day crop but over last few years many farmers use hybrids to cultivate 90 day crop thereby leading to increase in acreages. Eg: - In north India, farmer produces cotton in kharif and potatoes in Rabi and in between kharif and Rabi produces corn in 90 days.

Hence due to lower sales return and write offs in FY14 due to strong kharif and rabi season, improvement in product mix in favour of single cross has helped Monsanto improved margins significantly from 18.2% in 9MFY13 to 28.1% in 9MFY14 marking an improvement of 10%.

Share of Rabi on increasing trend...

Currently Rabi contributes around 35% of volumes and 50% of value and Kharif contributes 65% of volumes and 50% of value.

Over last few years with improvement in irrigation facilities, better corn realization acreages for corn production in rabi has been on an increasing trend. In 2008 around 85% of the corn sales were in kharif season while now it contributes around 65%. However currently Rabi contributes around 35% of volumes and 50% of value and Kharif contributes 65% of volumes and 50% of value.

All India trend in maize production

Maize	Area (ha)	Production (MT)		
		Kharif	Rabi	Total
1990-91	5.9	8.9	-	8.9
2000-01	6.6	9.8	1.7	11.6
2011-12	8.3	15.1	4.8	19.9
2012-13	8.5	17.0	5.5	22.5

Source: National Council of Applied Economic Research, Ministry of Agriculture, MOSL

Most of Rabi corn is single cross thereby improving margins

Rabi corn seeds are largely single crossed and are sold low in volumes and high in value and are more profitable. While Kharif corn seeds are 2 way and 3 way crossed seeds and are more in volume and lower in value, hence lesser profitable. Over last 2 years most of the newer hybrids launched by Monsanto has been single cross in nature. Also over last 2 years the share of single cross in Monsanto portfolio has increase to around 40%. We believe that with increase in Rabi hybrid corn share the share of single cross is likely to increase thereby leading to significant increase in margins for Monsanto in the corn segment.

Public-Private Partnership (PPP)

MIL participates across 6 states for PPP viz. Uttar Pradesh, Jammu & Kashmir, Maharashtra, Odisha, Jharkhand & Uttranchal

Key Highlights of PPPs across states:

Hybrid Maize Yield Enhancement Program, Uttar Pradesh

- Aims to improve crop yields, income, and thus, transform the lives of thousands of maize farmers in Uttar Pradesh.
- Knowledge on agri inputs and practices are shared at farmer education programs, live crop demonstrations conducted, and information disseminated at state-exhibitions and village-level exhibitions/fairs to progressive farmers and farming groups.
- Farmers gained access to quality inputs including Dekalb® maize hybrid seeds, as well as the latest agronomic practices.
- The project benefited 40,000 farmers from 23,000 households in 1,500 plus villages
- The average yield increased by 6-7 quintals per acre and farmers now earn approx. INR6,000 – INR7,000 incremental income.

Improving Maize Productivity through Hybridization, Jammu & Kashmir

- This project aims to transform over 25,000 maize farmers' lives across 1,214 villages in eight districts in Jammu & Kashmir by improving crop productivity.
- In coordination with Department of Agriculture, our Field Team conducted crop demonstrations enabling farmers to increase yields by approx. 40-65% per acre.
- Farmers now earn approx. INR5,000 – 6,000 incremental income per acre.
- Maize hybrid seed usage is up 25 per cent from 15 per cent in the past with better agronomic practices. Improved farmer income has set positive trend for maize in the State.

Integrated Agriculture Development, Maharashtra

- In 2012, MIL participated in Buldhana and Nandurbar districts of Maharashtra to improve productivity of 5,000 farmers on approx.
- 4,000 acres through better seeds and agronomic practices
- Farmers benefitted from sharing of knowledge related to right plant spacing, better inputs and crop management, and despite deficient rainfall, yields increased by 6-10 quintals per acre over earlier years
- The project has been extended to five-fold cover 25,000 acres in 2013

PPP to Increase Maize Productivity through Hybridization, Odisha

- Under the Rashtriya Krishi Vikas Yojana (RKVY), MIL partnered the Department of Agriculture in a project to offer maize growing as a choice to 5,746 farmers in 459 villages in 4 districts (Balangir, Nuapada, Sonapur and Gajapati) in 2012-13.
- The team conducted 238 Farmer Awareness and Education Programs along with NGO partners and District Agricultural authorities, and maintained continued farmer connect, enabling improved farm performance
- Average farmers' yields doubled with Dekalb® maize hybrid seeds, i.e. 1.5 – 2 tons per acre from 0.8-0.9 quintals per acre with open pollinated varietal (OPV) seeds, enabling farmers to earn additional income of INR6,000-7,000 per acre.

PPP to Increase Maize Productivity through Hybridization, Jharkhand

- Under Rashtriya Krishi Vikas Yojana (RKVY), we were chosen by the Department of Agriculture, Jharkhand to participate in a project to increase productivity by popularization of maize hybrid seeds in 5 districts - Gadhwara, Palamau, Latehar, Lohardagga and Ranchi
- We outreached to 6,671 farmers in 159 villages through 230+ farmer awareness and training programs, and 145 harvest day events
- Our dedicated
- Field team show cased Dekalb® maize hybrid seeds' yield superiority and enabled farmers to yield 1.8-2.0 tons per acre.
- Additionally, favourable market prices enabled farmers to earn incremental income of INR5,000 – 7,000 per acre.

Project Drishti, Uttaranchal

- Project Drishti encouraged farmers in Uttaranchal to upgrade from open pollinated varietal (OPV) seeds to maize hybrid seeds, and educated them on improved agronomic practices towards increasing income and quality of life of 300 farmers in 91 villages.
- The team outreached to 575+ farmers across four districts through crop demonstration activities.
- Crop yields increased by 50 to 100 per cent with maize hybrid seeds compared with OPV cultivation, and farmers earned incremental income of INR5,000 – 7,000 per acre.
- By way of the above Public- Private Partnerships (PPPs), we have contributed in making a positive difference to approx. 1 lakh farmers.
- Additionally, we engaged with the State governments in Rajasthan and Madhya Pradesh under various initiatives to extend better quality products and create shared value for over two lakh farmers in these States.

Testimony by the farmers

Name	Region	Testimony
Sunil Bhaskar Kankde,	Aurangabad, Maharashtra	My farm yielded 35 quintals per acre (7-8 quintals per acre higher than last year) with Dekalb® 900M Gold hybrid maize seed in the Rabi season. Although I was using hybrid seeds, I knew that the right information on how to plant these, as well how to manage the crop life through DDFC which helped immensely, as assistance was just a call away. Since they had exact information on my region and its agricultural facets, the advice they gave was topical, relevant and highly specialized. I feel this is yet another blessing for us farmers.
Punam Chand Kasotia	Adol Village, Jhadol Tehsil, Rajasthan	I cultivate Maize on my 5 bigha rain-fed land. Earlier, I used to produce 1.5 quintals per bigha of Maize from OPV (Open Pollinated Varieties) seeds. This harvest was sufficient only for personal consumption. Ever since I started using Dekalb®'s DKC-7074 seeds, I have been able to produce 40 quintals in 5 bigha land which is about 8 quintals per bigha and a gain of 6.5 quintals per bigha. My economic conditions have improved significantly and my family is enjoying the fruit of this progress. From the additional income I have earned over the last 2-3 years, I have dug a well, purchased agricultural equipment and a buffalo and sent my children to a good private school. Further, Maize plants have provided enough green fodder for cattle which has led to increased savings. My future is secure and my family and I are elated
Bapurao Shevantrao Shinde	Silod, Aurangabad, Maharashtra	"I participated in one of Monsanto's farmer meetings conducted in my village. The demonstrated success of Dekalb® hybrid maize seeds led me to choose Dekalb® 900M Gold on two of my 5-acre farm. By employing the right agronomic practices as guided by the Monsanto team, I got superior yields of 40 quintals per acre as compared to 28 quintals from other seeds used earlier. The excellent grain colour of the produce fetched an additional premium of INR50 per quintal, translating to a total incremental benefit of over INR12,000 per acre.
Mohammad Nanhe	Balthirasulpur village, Muzzafarpur, Bihar	"I have been using Dekalb® hybrid maize seeds for almost ten years now, which stabilized my financial position. This year, on the advice of the MIL team, I sowed DKC 9081 and Dekalb® 900M Gold in 10 acres of my 12 acre farm. The results were outstanding. I got 34 quintals per acre from Dekalb® 900M Gold and 39 quintals per acre from DKC 9081. Despite the irregularities in weather this season, the yield from my farm was significantly higher than other farmers in my village who did not use Dekalb® seeds. My additional income has helped me send my brother to an engineering college, arrange the marriage of two of my sisters and buy a four-wheeler."
Not Given	Not Given	Dekalb™ 900m gold has helped me get 3 times higher yield of 49.7 quintals per acre versus only 16.6 quintals per acre from other hybrid seeds that I planted on three acres of my farm. Dekalb™ 900m GOLD is better than other seeds as it gave me higher yields, and higher income due to superior quality of corn which fetched me a good market price. I earned an income of inr 32,814, which is 5 times higher than what i earned in the other three acres combined.
Sudhanshu Singh	Nayanagar, Samastipur, Bihar	Sudhanshu Singh, a 48 year old Engineer, is a farmer with 150 acres of farmland and believes in progressive farming techniques. He grows maize on 80 acres of his farm and has always used Dekalb® hybrid maize seeds, because of the quality of crop and the increasing yields he gets. From the resultant cash flows, he has invested in a combined tractor and maize harvester to further enhance the level of mechanization on his farm
Surpalbhai	Bihar	I have been the Sarpanch of this village for over 45 years and I have witnessed unparalleled prosperity for the entire village with Project Sunshine. Earlier many of our villagers used to migrate to cities to look for work, but now, they are investing their time and effort in agriculture in their own village and reaping spectacular returns. Our quality of life has improved. I am glad that this dream of mine has come true in my lifetime.
Pratapbhai	Maharashtra	3 years ago, our farming was unsystematic and yields were inefficient and insufficient. Then, two things happened. First, I was introduced to Project Sunshine and decided to start cultivating maize on a large part of my 3 acre farm. Not only did we get seeds, fertilizer and other inputs to start with, but also proper training in farming techniques, such as guidelines on row-spacing and proper and timely nutrition for plants. The result is taller plants, bigger cobs, good color, excellent grain quality and a much higher yield. We now get 30% higher prices than conventional maize.

Source: Company, MOSL

Hybrid Corn at an inflection point

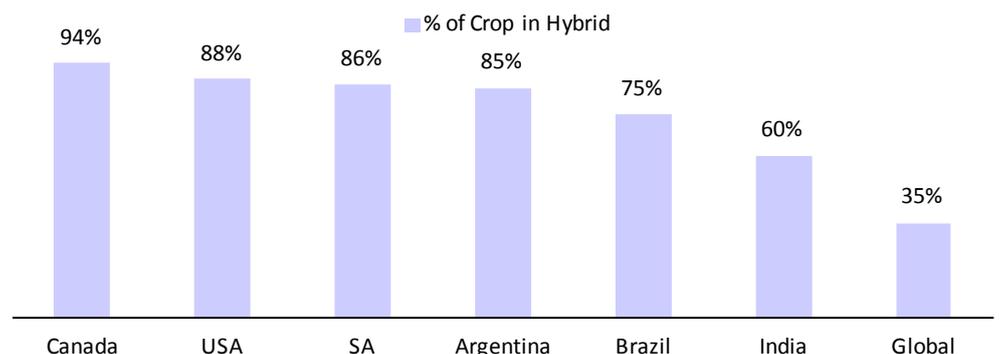
- India’s maize yields are half of the world average, with India’s yield at 2.47 tons/ha in comparison with the world average yield of 5.14 tons/ha.
- Farmers choosing maize hybrid seeds have contributed to increasing maize production by approximately 93 per cent in the last 11 years.
- In India 6-7 states contribute 90% of the corn production. Major crop producing States are TN, AP, Maharashtra, Gujarat, UP, Rajasthan and Bihar.
- Around 52% of the corn production is used for poultry feed, 24% in Food, Cattle food and Starch 11% each. 60% of the raw material of poultry feeds consists of maize.
- In 2013 production of corn in India was 23MT while consumption was 18.9MT and management believes that in next 3 years demand for corn will outstrip its supply.

Hybrid maize a boon to farmers

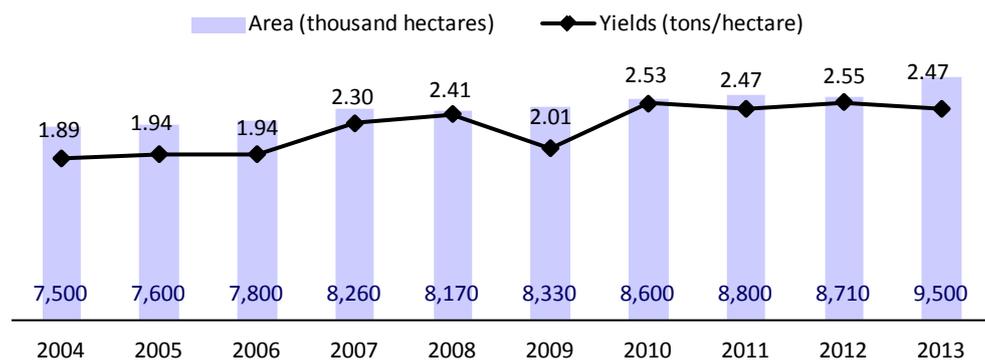
Hybrid penetration is still at the nascent stage with only 60% of the production is under hybrids

Hybrid penetration is still at the nascent stage with only 60% of the production is under hybrids. Overall Hybrid Market in India is estimated to be around INR9,000cr. Out of which Cotton is 3600Cr, Corn 1200-1400Cr, Rice 500-600Cr, Vegetable 2000Cr. Even though farmers choosing maize hybrid seeds have seen increase in maize production by approximately 93 per cent in the last 11 years (22.50 million tons in 2012-13 from 11.15 million tons in 2002- 03) India’s maize yields is just half of the world average, with India’s yield at 2.47 tons/ha in comparison with the world average yield of 5.14 tons/ha. In the next 5 and 10 years India’s domestic demand for maize is forecasted to outstrip supply. It is expected that maize production will rise to 30MT in 2017 showing a robust growth of 36% while with the period of next 9 years it is expected that the production will double to 44MT by 2022.

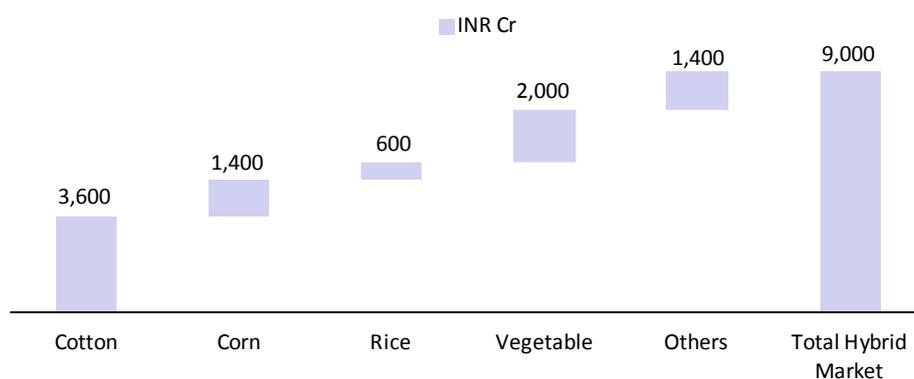
Hybrid corn penetration relatively high in developed countries



Source: James 2012, MOSL

Yield per hectare is low in India compared to Global average of 5.14 (tons/ha)

Source: Ministry of Agriculture, MOSL

Hybrid Market in India at around ~9000Cr

Source: Company, MOSL

Area under cultivation for Other Crops ('000 hectares)

Crop	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Corn	7,500	7,600	7,800	8,260	8,170	8,330	8,600	8,800	8,710	9,500
Sorghum	9,100	9,000	8,510	7,930	7,530	7,500	7,060	6,330	6,300	6,300
Barley	750	755	700	770	750	780	620	780	770	780
All Wheat	26,620	26,500	26,400	28,000	28,150	27,750	28,460	29,070	29,860	29,400
Rice	42,300	43,400	44,000	43,770	45,400	41,850	42,860	44,100	42,410	44,000
Soybean	7,990	7,800	8,120	8,800	9,600	9,600	9,300	10,270	10,800	12,220
Groundnuts	6,800	6,860	5,910	6,500	6,400	5,300	6,000	5,300	5,000	5,500
Rapeseed	7,150	7,380	6,640	5,700	6,600	6,450	7,250	6,600	6,750	6,800
Sunseed	2,300	2,410	2,145	1,630	1,530	1,400	760	735	800	830
Cotton	8,786	8,873	9,166	9,439	9,406	10,310	11,140	12,200	11,800	11,800

Source: Ministry of Agriculture, MOSL

Yields (tons/hectare; except cotton kilos lint/hectare) for Other Crops

Crop	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Corn	1.89	1.94	1.94	2.3	2.41	2.01	2.53	2.47	2.55	2.47
Sorghum	0.8	0.85	0.84	1.0	0.96	0.89	0.99	0.95	0.84	0.92
Barley	1.73	1.59	1.74	1.73	1.6	2.17	2.18	2.13	2.1	2.23
All Wheat	2.71	2.59	2.63	2.71	2.79	2.91	2.84	2.99	3.18	3.14
Rice	1.97	2.11	2.12	2.21	2.18	2.13	2.24	2.39	2.46	2.41
Soybean	0.73	0.9	0.95	1.08	0.95	1.01	1.05	1.07	1.06	0.94
Groundnuts	1.03	0.92	0.91	1.05	0.98	0.92	0.98	1.04	1	1.09
Rapeseed	0.91	0.95	0.87	0.96	1.02	0.99	0.98	0.94	1.01	1.03
Sunseed	0.53	0.64	0.6	0.69	0.65	0.59	0.92	0.84	0.88	0.88
Cotton	471	467	518	554	523	503	516	491	489	572

Source: Ministry of Agriculture, MOSL

Production ('000 MT; except cotton in 480 pound bales)

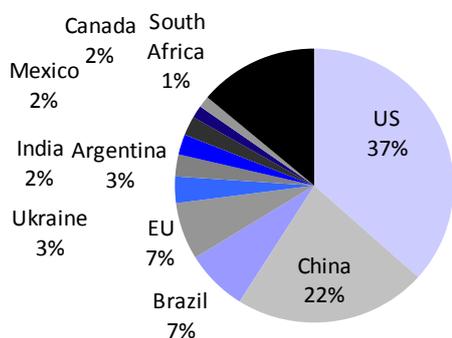
Crop	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Corn	14,180	14,710	15,100	18,960	19,730	16,720	21,730	21,760	22,230	23,500
Sorghum	7,240	7,630	7,150	7,930	7,250	6,700	7,000	6,030	5,300	5,800
Barley	1,300	1,200	1,220	1,330	1,200	1,690	1,350	1,660	1,620	1,740
Wheat	72,150	68,640	69,350	75,810	78,570	80,680	80,800	86,870	94,880	92,460
Rice (Milled)	83,130	91,790	93,350	96,690	99,180	89,090	95,980	105,310	104,400	106,000
Soybean	5,850	7,000	7,690	9,470	9,100	9,700	9,800	11,000	11,500	11,500
Groundnuts	7,000	6,300	5,385	6,800	6,250	4,900	5,850	5,500	5,000	6,000
Rapeseed	6,500	7,000	5,800	5,450	6,700	6,400	7,100	6,200	6,800	7,000
Sunseed	1,224	1,550	1,280	1,120	1,000	820	700	620	700	730
Cotton	19,000	19,050	21,800	24,000	22,600	23,800	26,400	27,500	26,500	31,000

Source: Ministry of Agriculture, MOSL

Globally Corn is the most widely grown crop

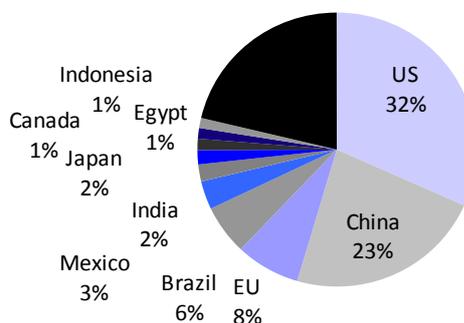
Maize is the most grown crops globally. It ranks 1st in terms of total global production. Maize is majorly used as animal feed and industrial usage of starch. In terms of international trade America has surplus corn and hence it is a net exporter of maize. Europe, Ukraine, Russia and Australia have net deficit. In Asia China, Japan, Korea and most of the other ASEAN countries are net importers. Management believes that India will have surplus corn will be able to export for another 3-4 years. Post which due to increase in consumption, demand will outcast the supply and it will become net importer of corn.

Worldwide Corn Production (mt)



Source: USDA, MOSL

Worldwide Corn Consumption (mt)



Source: USDA, MOSL

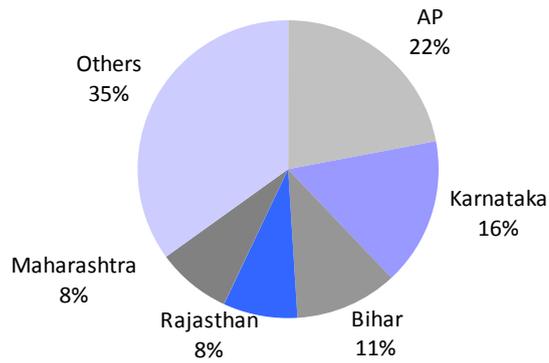
India on of the largest consumer of corn

As per the KPMG estimates, India will require 40-45MT of corn in next 15-20 years.

6-7 states contribute 90% of the Corn production in India

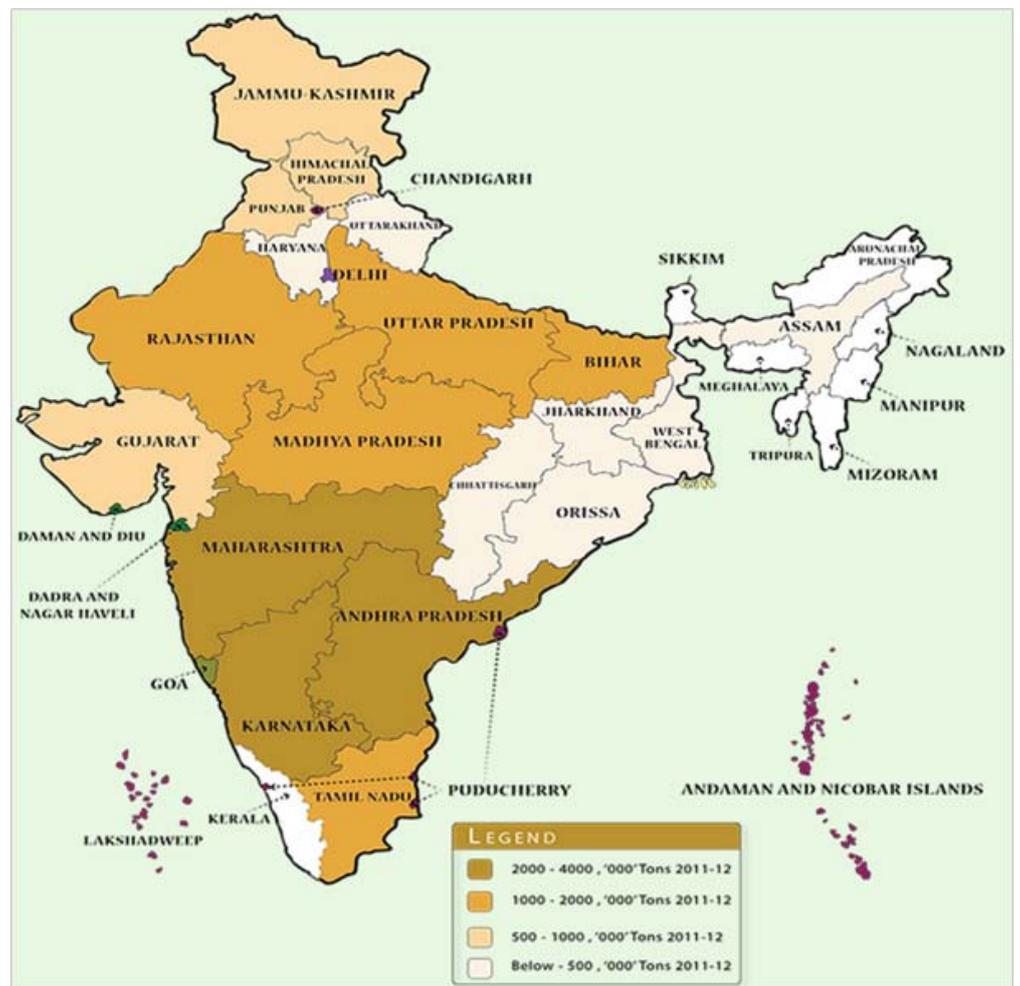
Every year population is increased by 2crore. It's like adding Australia every year. Also as the disposable income rises there will substantial change in consumption pattern. People will more of Dairy products, Meat/Fish/Eggs, Fruits, Edible oil etc and less of Rice and Wheat. Also for every Kg of meat you need 6Kgs of grain. Hence requirement for corn will increase substantially. India is the world's 6th largest consumer of maize. As per the KPMG estimates, India will require 40-45MT of corn in next 15-20 years. We currently have farmer base of ~8m who produce corn of 22MT in the field spread of 8.5m hectares. Farmers are choosing maize hybrid seeds on 60% of India's maize areas. Also 6-7 states contribute 90% of the Corn production in India. Major crop producing States are TN, AP, Maharashtra, Gujarat, UP, Rajasthan and Bihar. Also; Maharashtra, Gujarat, Punjab, Haryana and UP support field trials for GM corn while Bihar and Tamil Nadu government are currently opposing field trials. However after elections things are expected to improve. No moratorium is received for field trail.

5 States contributing 65% of the total corn production in India



Source: Ministry of Agriculture, MOSL

Major Corn producing states



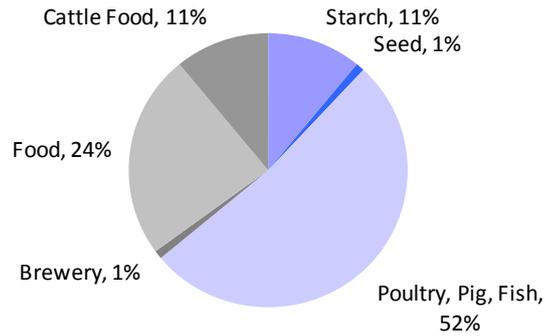
Source: Government of India, MOSL

Most of the Corn is consumed in Poultry

Around 60% of the raw material of poultry feeds consists of maize

Indian Poultry has recorded a growth rate of 12% per annum for the past 20 years. Poultry feed cannot be thought of without Maize, be it by quantity or quality. Around 60% of the raw material of poultry feeds consists of maize. Due to hybridization in maize, there is significant enhancement in quality and quantity, which is also reflected in chicken production.

Poultry biggest consumer of corn

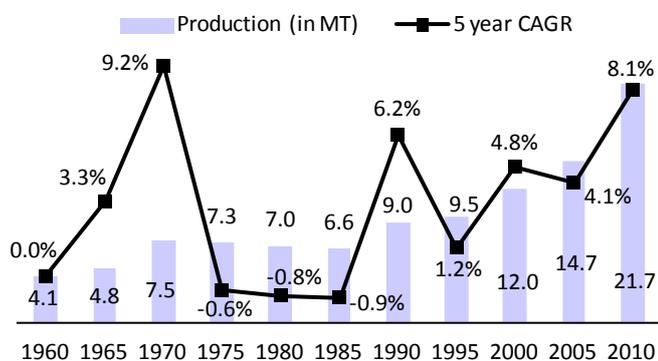


Source: Directorate of Maize Research, MOSL

India’s 5 yearly Corn Production & Consumption pattern has moved in tandem

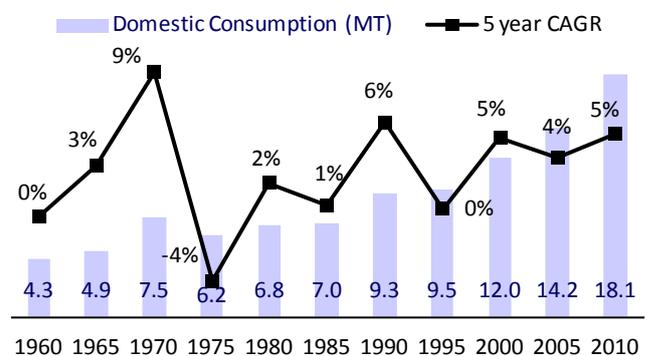
India’s 5 yearly production and consumption pattern has shown a similar trend from 1960 to 2010; except the period from 1975 to 1985 where consumption grew at a higher rate than production. India is been able to produce as much as it is consuming however since past decade India is outgrowing its consumption requirement mainly due to higher penetration of hybrid corn resulting in higher yields. In 2010 production of corn was 21.7mt while consumption was 18.1mt. Similarly in 2013 production was 23mt while consumption was 18.9mt.

India’s 5 yearly Production pattern



Source: Ministry of Agriculture, MOSL

India’s 5 yearly Consumption pattern

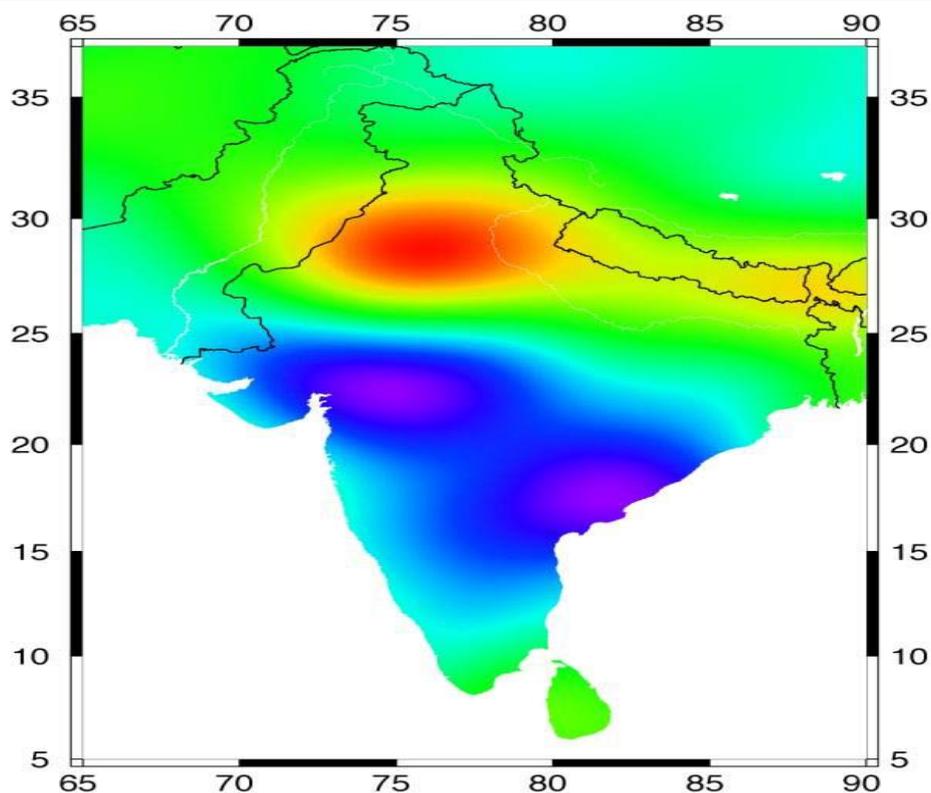


Source: Ministry of Agriculture, MOSL

Depletion in water levels is a key concern

Water availability is a major limiting factor in productivity. There has been a major depletion in the water levels since 2002. Hence micro irrigation will play a major role in overall development of agriculture. Even building a dam is a challenging task due to NGO protest and other political issues. The following chart clearly exhibits that since 2002 there has been a substantial depletion of water levels especially in key agricultural states in North India.

Change in water levels in India from 2002-08



Source: Company, MOSL

% of land irrigated in various crops

Crop (in order of area)	Production (MT)	Yield (kg/ha)	Yield of Key Country (kg/ha)	Irrigation
Rice	104	2,372	China : 6,590	58%
Wheat	94	3,140	China : 4,748	92%
Oilseeds	30	1,135	NA	26%
Of which Soyabean	12.3	1,207	US: 2,957	1%
Pulses	17.2	694	NA	16%
Fruits and Vegetables	232	NA	NA	NA
Jowar and Bajra	16	908	NA	9%
Cotton	35	491	US: 920	36%
Corn	21.5	2,476	US: 920	21%
Sugarcane	358	70,317	Brazil: 80,234	94%

Source: Company, MOSL

Land required for same output has reduced multi folds

. In 1950s 353.7sq.mts were required to produce 100kgs of corn which has reduced to mere 96.4sq.mts in 2009

The land required to produce same amount of corn has reduced significantly due to modern farming techniques and especially sowing of hybrid variety of corn in past few years. In 1950s 353.7sq.mts were required to produce 100kgs of corn which has reduced to mere 96.4sq.mts in 2009. It is estimated that this will further reduce the just 53sq.mts by 2030. This improvisation is possible due to hybridization of corn.

Reduction in amount of land required for same output



Source: Company, MOSL

Monsanto Farm Advisory Services (MFAS) & Dr. Dekalb Farm Care Service (DDFC) – Differentiated model

- Launched in 2010, MFAS is a service which offers timely and customized crop management advisory to enable maize, cotton and vegetable farmers to enhance farm yields and profitability.
- It currently has 1mn farmers connected with presence in 16 states across 7 languages.
- Other companies like Pioneer etc and government agencies tried to replicate this model through outsourcing model but have unable to get breakthrough.
- MIL provides a toll free number 1800 3000 0303 after purchase of any Dekalb® maize hybrid seeds packet and is operational 365 days from 7am to 9pm.
- MIL has opened the free advisory centre in Malad, Mumbai, for farmers where 40 agro experts are employed to assist the farmers.
- DDFC farmer enrolment rose 32% YoY, at 3.5+ lakh farmers in 2012-13 up from 2.65 lakh farmers in 2011-12

MFAS – Key Differentiator

1mn+ farmers connected

Present in 16 states across India

MIL launched Monsanto Farm AgVisory® Services (MFAS) in 2010 leveraging on high penetration of mobile phones in the villages. This is an innovative service which MIL is offering to lure the farmers and educate them on crop management. Already 1mn farmers are connected and using the services fruitfully. It has been launched in 16 states and across 7 different languages targeting most geography in India. The program has resulted in higher yield for farmers and in turn this has increased the brand loyalty. Our interaction with management suggests that this has been created with significant amount of investments over 5 - 6 year period. We also learn that some of the other companies like Pioneer etc tried to replicate this model through outsourcing model but have unable to get breakthrough.

Key Features of MFAS

Assisted by 7 different languages

- MFAS is built on a highly sophisticated IT software system, which assists qualified and trained MFAS Advisors to identify the farmer’s query, consult the comprehensive technical advisory system, and present the solution to him instantly, mostly, on a single call.
- The toll-free number works for 365 days from 7 am to 9 pm, giving live solutions to any crop related query of the farmer.
- MFAS offers two distinctive services which provide timely and customized advisory to the farmer round-the-season helping him get immediate solutions to his farming queries.

Various advisory service offered through MFAS

Inbound advisory	Outbound advisory
Suitable seed selection	Regular voice based crop advisories and alerts throughout the season
Timely agronomic practices for fertilizers,	Timely alerts on crop management
Pest-disease and weed management	Hybrid recommendation
	Weather forecasts
	Local mandi prices

Source: Company, MOSL

Dr. Dekalb Farm Care Service

DDFC is dedicated Maize Crop Advisory Service under the MFAS umbrella. The Dr. Dekalb Farm Care (DDFC) service, a customer-connect innovation introduced in 2010-11 to forge stronger farmer alliances, is a revolutionary new step in Monsanto's engagement with farmers. The objective of DDFC project was to collate and provide information to uneducated and less aware farmers. It was initiated in May 2010. Success of DDFC lies in the agronomic knowledge of scientists which they are able to share it with the farmers through this platform. Mobile will play a very important role in communicating to farmer about Dekalb. In India Agronomics plays a big role. In West due technological advancement farmer are more knowledgeable. Indian farmers will be educated through mobile. MIL has opened the free advisory centre in Malad, Mumbai, for farmers where 40 agro experts are employed to assist the farmers. Currently MIL is servicing ~1mn farmers across the country through their toll free number free of cost. However management believes that MIL might be able to charge nominal amount but with that even the cost won't be recovered, on the other hand this type of services brand loyalty is improved resulting in higher sale.

How does DDFC work?

It seeks to reach farmers in need of sustainable, timely agronomic knowledge. The helpline answers a wide range of farm and crop management related questions. With offerings ranging from one-on-one advice, information about MIL's hybrid maize seeds and other crop management updates, this service helps farmers to improve farm yields, while conserving resources. DDFC service improved yields, reduced risks and boosted farmer confidence.

A toll-free number and contact centre has been set up, where farmers call to seek advice on farm issues. Since a detailed database is maintained, the advice given to farmers is not generic, but specific to their needs and farm conditions. Proactive messages are delivered to the farmer's mobile phone, in their language, on best practices on crop management. Additional information like weather forecasts, local market prices for commodities, information on new hybrids and customer schemes are also shared.

How data collection happens?

The DDFC team collects comprehensive information on farms and crop management. With its advanced and innovative D-Tool (Diagnostic Tool) and Farmer Expert Panel, it provides solutions on nutrient deficiency of soils timely control of pests and diseases, recommendation on weedicide thus aiding in conservation of resources and enhancing yield. DDFC drives on holistic crop management advisory from its extensive research.

Ease of access to farmers

- Register with DDFC on the toll-free number 1800 3000 0303 after purchase of any Dekalb® maize hybrid seeds packet
- Maintains a detailed database of each farmer.
- Provides a toll free number with a simple assist directly to the DDFC advisor in the preferred language of the farmer.

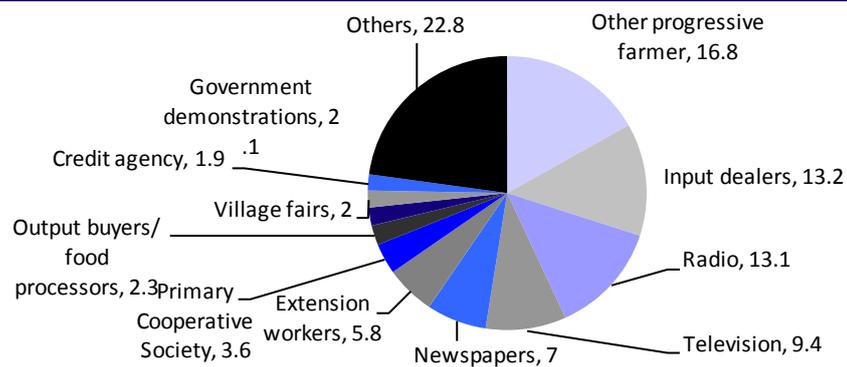
DDCF provide opportunity to understand the ground reality

Having a wide reach to farmers, through DDFC MIL has been able to acquire some significant ground realities. Owing to this platform MIL is able to reach to farmers directly and get first hand information on their experience and problems. Direct reach enables them to find a suitable solution for every farmer which differentiates them from the competitors. MIL has already derived some interesting findings through recent surveys which have led to effective decision making by the organization. The platform is well integrated with field efforts and even though it is centrally controlled, the effectiveness, to a large extent, is driven from the field, enabling MIL to leverage and synergize efforts.

How do farmers take decisions?

An internal research by Monsanto indicates that farmers base their farming decisions on information received from peers or input dealers. MIL provides farmers with after-sales services where experts educate farmers about agronomic practices to help them realize better yields. Information provided by DDFC’s helpline assists farmers in access to comprehensive and specialized information on farm and crop management. The handholding of farmers through the critical stages of the product usage has helped improve farm yields, conserve resources and boost confidence.

Farmer households obtaining information from various sources (%)



Source: MOSL, Company

Rural mobile penetration assisted the popularity

Mobile penetration in rural India is vital tool for the success of DDFC. By 2014, the wireless subscriber base is expected to reach ~1 billion of which 468 million will be rural subscribers. With such a wide reach MIL is able to provide unique services. It establishes user identity and hence enables personalized content delivery. Using the mobile as a medium, MIL connects and provides various services to farmers.

The Success Story

- DDFC was awarded a Silver Prize at Monsanto Sustainable Yield Global Pledge Awards in 2010
- DDFC farmer enrolment rose 32% YoY, at 3.5+ lakh farmers in 2012-13 up from 2.65 lakh farmers in 2011-12

By 2014, the wireless subscriber base is expected to reach ~1 billion of which 468 million will be rural subscribers

DDFC farmer enrolment rose 32% YoY, at 3.5+ lakhs farmers in 2012-13

Roundup sales to grow on increasing use of herbicides

- Weeds are plants which can cause yield losses up to almost 60% of the crop potential.
- Farmers in India have been using manual labor to pull out weeds which is labor intensive.
- Labor shortage, rising wages due to NREGA implementation (15% CAGR in wages post FY08) and rising urbanization trends have accelerating demand for herbicides.
- Herbicides market in India is highly underpenetrated with its share in agro-chemicals standing at 20% as against global standards of 48%.
- Glyphosate is a leading safest herbicide and accounts for 30% of global herbicide sales and 70% of Indian herbicide sales.
- Monsanto has a ~60% market share in the global USD5.4b glyphosate industry and ~25% market share in the Indian INR8b glyphosate industry selling products under the 'Roundup' brand.
- Post expiration of Monsanto's Roundup patent in 2,000, many firms, especially Chinese firms have entered the market and form 40% of global supply.
- Monsanto enjoys a premium positioning in the market place with its glyphosate selling price at INR340 per litre and competitors around INR310-320 per litre.
- In FY14 cost for glyphosate has gone by 30-35% leading to price increases of around 15-20% to protect margins and drive growth.

Weeds can cause substantial (20-60%) damage to crop; thus requiring use of herbicides

A weed is a plant considered undesirable. Weeds take up the nutrition in the soil and hence impact yields. In some cases yield losses can add up to almost 50% of the crop potential. Apart from depriving the crop of nutrition, weeds also act as a host to many pests which are harmful to crops. Weeds are a major problem for farmers across crops and across the country – especially in the wet/Kharif season. Other problems associated with weeds in agriculture include: a) reduced crop quality by contaminating the commodity; b) interference with harvest; c) serve as hosts for crop diseases or provide shelter for insects to overwinter; d) limit the choice of crop rotation sequences and cultural practices; and e) production of chemical substances which are toxic to crop plants. Ineffective weed control measures could result in 20-60% loss in yield. Thus weeds need to be removed from the farm which can be done via manual plucking or by use of chemicals like herbicides. So far, farmers in India have been using manual labour to pull out weeds. When weed picking is done manually, there are chances of damage to crop which further impacts yields.

Herbicides are pesticides used to kill weeds. Selective herbicides kill specific targets, while leaving the desired crop relatively unharmed. Some of these act by interfering with the growth of the weed and are often synthetic mimics of natural plant hormones.

Roundup® (a glyphosate-based product) is a broad spectrum, post emergent systemic herbicide, the flagship brand of MIL Crop Protection Chemicals business. It is world class, innovative solution to weeds, a critical farmer concern.

What is Glyphosate?

First registered for use in 1974, Glyphosate is used to kill a variety of broadleaf weeds and grasses. Labeled uses of Glyphosate include over 100 terrestrial food crops as well as other non-food sites including forestry, greenhouse etc. The greatest Glyphosate use according to US Geological Survey (USGS) is in the Mississippi River basin where most application is for weed control on GM Corn, Soybeans and Cotton. Glyphosate at rates of 0.35-0.54kg /ha provides at least 90% control of a wide range of annual grass and broad level weed species in subtle /pre-plant even with cultivation just 6 hours after treatment. This ensures a weed free start for next crop. Glyphosate use has skyrocketed to more than double the amount used five years ago, with 57 million pounds of Glyphosate applied to corn fields in 2010 compared to 23 million pounds in 2005 and 4.4 million in 2000

Glyphosate is a leading herbicide globally, Monsanto is the largest player

Glyphosate is a leading herbicide and accounts for 30% of global herbicide sales. Glyphosate is used to kill weeds, especially annual broadleaf weeds and grasses known to compete with commercial crops grown around the globe. Monsanto developed and patented the glyphosate molecule in the 1970s, and has marketed it as Roundup since 1973. It retained exclusive rights in the United States until its United States patent expired in September, 2000.

The global glyphosate market was valued at USD5.4b in 2012 and is expected to reach USD8.7b by 2019

The global glyphosate market was valued at USD5.4b in 2012 and is expected to reach USD8.7b by 2019, growing at a CAGR of 7.2% over the forecast period from 2013 to 2019. In terms of volume, the global glyphosate market demand was 718,000 tons in 2012 (Source: Transparency Market Research).

Monsanto has a ~60% market share in the global glyphosate industry with products sold under the 'Roundup' brand. Monsanto primarily distributes glyphosate products in the B2B market through distributors, independent retailers and dealers, and agricultural cooperatives. Monsanto's production process experiences lower lead times and cost savings due to vertically integrated supply chains for raw materials including: disodium iminodiacetic acid and phosphorus. In addition to lean value chains, Monsanto leases phosphate mines in several locations from government entities, providing ample supply for production needs. Since the expiration of Monsanto's primary glyphosate product, Roundup, in 2000, many firms have entered the market to serve farmer's requests for cheaper weed control alternatives. Primary amongst these are Chinese firms who form 40% of the global supply.

Global Players in Glyphosate manufacturing

Sr no	Leading Chinese Glyphosate manufacturers	Sales (USD m)
1	Zherjiang Wynca Chemical Group Co Ltd	296
2	Nantong Jiangshan Agrochemicals Co Ltd	236
3	Jiangsu Yangnong Chemical Co Ltd	230
4	Sichaum Agro Chemicals Co Ltd	215
5	Zhejiang Jinfanda Biochemical Co Ltd	201

Source: Wiglab Journal, MOSL

Herbicides market in India is highly underpenetrated with herbicides share in agro-chemicals standing at 20% as against global standards of 48%

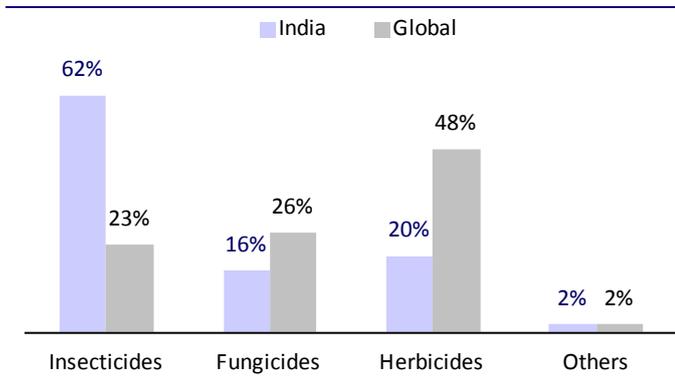
Herbicides market in India highly underpenetrated

Herbicides market in India is highly underpenetrated with herbicides share in agro-chemicals standing at 20% as against global standards of 48%. Agro-chemicals in themselves are under-penetrated in India with consumption in India standing at a mere 0.6kgs/Hectare as against global average of 4.5kgs/Hectare. In India, glyphosate is the most significant herbicide product and is preferred by farmers because it is relatively safe and very effective. Glyphosate forms 70% of herbicides sales in India and is an INR8b (25m liters) market.

Roundup enjoys leadership position with pricing power

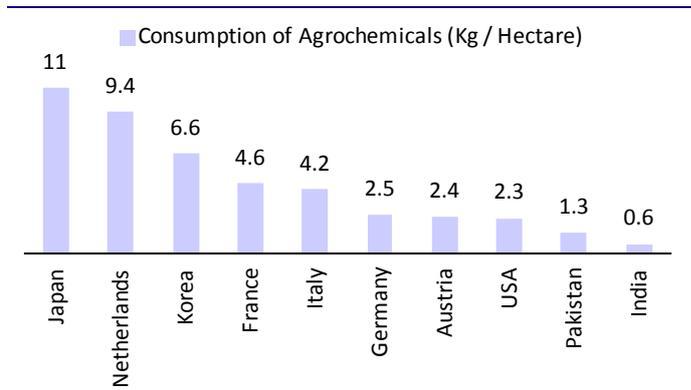
Monsanto enjoys leadership position with 25% market share with other players being excel industries and Sabero organics to name a few. The market in India is extremely competitive with 150+ manufacturers and many more brands being available. Most of the players import their requirement of the intermediate product from countries such as China since India is deficient in phosphorous mines which are a key raw material for manufacturing glyphosate. However Monsanto enjoy a premium positioning in the market place with its glyphosate selling price at INR 340 per litre and competitors around INR 310-320 per litre. In FY14 the global glyposate prices have increased by 15-20% and with rupee depreciation the cost of production for Monsanto has gone by 30-35%. Monsanto and other industry players hence took price increase of around 15-20% thereby leading to higher growth and stable margins.

Herbicides penetration %



Source: Company, MOSL

Consumption of agrochemicals



Source: Company, MOSL

Rising labor costs to drive herbicides demand, driving sales for Roundup higher

Labor forms 60% of cotton cultivation costs in India. Out of the total cost of cultivation of INR20,000/acre, ~60% i.e. INR12,000 is labor cost as compared to 10% in developed countries. Traditional methods of weed control -- hand weeding or mechanical weeding, provide limited duration weed control, are labour intensive, and hence, costly. Labour shortage, timely unavailability, rising wages and insufficient farm mechanization options, has farmers choosing to spray herbicides for weed management. Further, when weed picking is done manually, there are chances of damage to crop which further impacts yields. Herbicides marketed under brand 'Roundup' for Monsanto offer a unique solution wherein weeds are killed at their initial stage of growth, leaving the crop un-damaged and thus enhancing yields.

Benefits of Roundup Brand

Roundup® is a glyphosate based broad spectrum, post emergent systemic herbicide for weed management, and the flagship of our agricultural productivity business. It provides efficient weed control and helps cover wide areas effectively. It offers cost savings in weed management on labour and time, helps prevent soil erosion, conserve water and carbon dioxide, and is safer to soil microbes (as compared to other herbicides) in conservation (reduced or zero) tillage practices. Roundup® is also used to control weeds along roadsides, railway tracks, airports and gardens and doesn't pose threat to life.

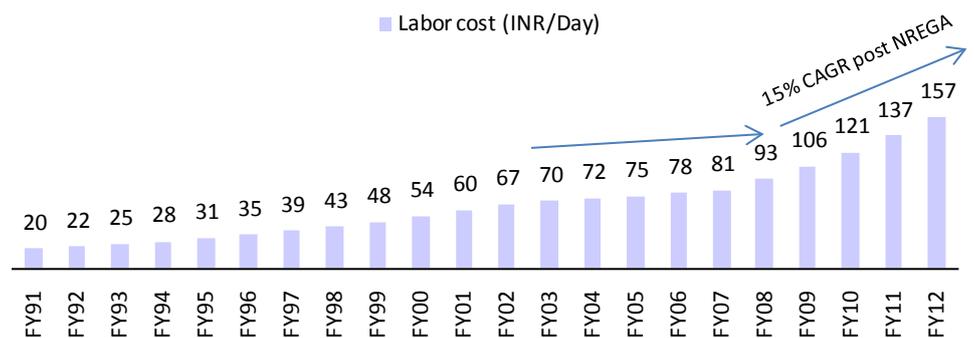
Following are the benefits of Roundup:

- Potential to save crop-yield loss by approximately 30-35%
- Manages weeds by eliminating them from their roots
- Protects weed reemergence for 50-55 days
- Reduces manual dependence for weeds removal
- Saves farmers money and time
- Can be used easily with minimal impact on soil fertility

NREGA driving wages higher...

Wage rates in India have been on a continuous spiral especially post implementation of NREGA making manual weed picking an expensive affair. The Ministry of Rural Development, Mahatma Gandhi National Rural Employment Guarantee Act (Mahatma Gandhi NREGA) was introduced in 2006 with providing at least one hundred days of guaranteed wage employment in a financial year to every household whose adult members volunteer to do unskilled manual work. Spending under NREGA has aggregated to over INR2005b since its implementation in 2006, having provided employment to over 313m households during FY06-13.

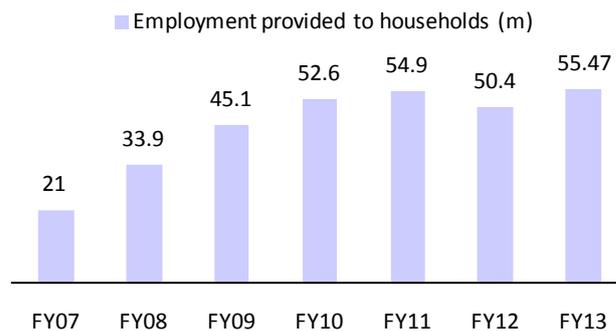
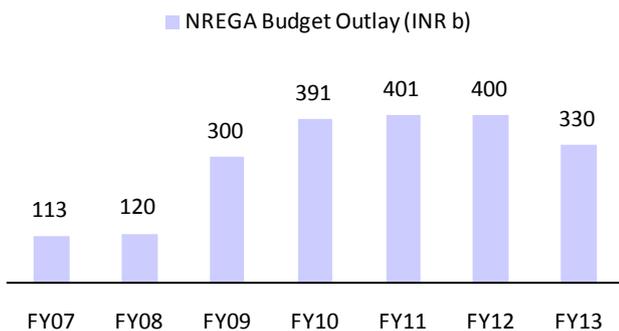
Rising Labor cost a major concern



Source: Company, MOSL

NREGA Budget

Employment has improved consistently



Source: Company, MOSL

Source: Company, MOSL

...coupled with urbanization trend

Impact of Further, urbanization has reduced the availability of labor for agricultural activities. In 1951 83% of population lived in rural India, this number has reduced significantly in 2011 where only 69% of the total population is rural. However of the total rural population percentage of people employed in agriculture related activities have remained ~33% throughout 1951-2011.

Urbanization has led to shortage in labour supply

Year	Total Population (m)	Average Annual Exponential Growth Rate (%)	Rural Population (m)	% of Rural Population	Agricultural Workers (m)	% of Rural population as Agricultural workers (9) = (8)/(4)
1951	361	1.25	299	83%	70	33%
1961	439	1.96	360	82%	100	36%
1971	548	2.2	439	80%	78	29%
1981	683	2.22	526	77%	93	28%
1991	846	2.16	631	75%	111	29%
2001	1,029	1.97	743	72%	127	32%
2011	1,211	1.64	834	69%	119	32%

Source: Agricultural Statistics Handbook 2013, MOSL

Tea Industry: An Example of Benefit of Roundup

India is one of the largest producer and consumer of tea in the world. The production of tea has been steadily growing in the country due to efficient and integrated agricultural practices which include efficient weed management. Tea is a perennial plant which lives beyond 80 years. Weed infestation is the key concern which significantly hampers productivity of tea. Besides reducing yield, weeds also restrict branching and frame development in young tea plants, which impacts productivity in later years. Tea plants are susceptible to weeds like Borreria hispida, Clerodendrum viscosum, Cynodon dactylon, Polygonum sinensis, Cyperus rotundus, Ageratum conyzoides etc. Roundup®, that can be used to manage weeds in young and mature plantations, has been the herbicide of choice for tea planters for nearly two decades. The herbicide saves man-days and provides broad-spectrum control of weeds for up to 50-60 days.

Sundar Azaria, General Manager, Parrison's Estate, Wayanad, Kerala

Weed infestation is one of the most serious problems in tea plantation, reducing the leaf yield significantly. In addition to the problem of reducing the nutrient availability for the tea bushes, weeds in our area grow very fast, aided by heavy monsoon, thus outgrowing the tea plants. Creepers are also a major issue in the tea estates of South India. Hence, it is essential to control weeds at an early stage. Weed management is a major expense for tea estates. Manual methods are insufficient, inefficient and extremely costly. We had been using Roundup® initially, but due to tight cash flows, we had to use cheaper products. Having tried many products, I can say that Roundup® provides the best control for weeds.

GM Food crops and RR Flex – Game changer events

- Once approved by all bodies all companies can start the field trials for GM food crops, thereby providing significant opportunities of newer growth avenues.
- Monsanto, Syngenta, Pioneer, Dow has been working on field trials across various crops prior to monotorium imposed by government and hence are much ahead of other competitors.
- MIL has been working on Roundup Ready® and Yieldgard® in-the-seed technologies to offer maize farmer's choice of superior insect protection, with convenient, flexible and effective weed management, to optimize maize yields.
- Currently Monsanto GM corn is currently at BRL2 stage and management has guided that it will take atleast 3 -4 years for commercial launch to happen.
- The initial research and trials suggest that Monsanto GM corn can increase yields by 20-40%.
- Our interaction with management highlight that not only the GM corn but the technology for GM corn as well will remain in Monsanto India. This in our view will lead to substantial re rating for the stock post commercial launch.
- Monsanto's current technology of BT is likely to be replaced by RR Flex (BG 2 RR). RR flex has gone through RCGM and is awaiting final approval from GEAC.
- RR-Flex has trait of herbicide tolerancy thereby negating chances of damage to crop due to usage of herbicide and also reducing labour cost.

Monsanto to have huge advantage over competition in GM Food crops

Monsanto has been pioneer in innovation in technologies for increasing productivity for farmers globally. In 2002 it launched BT technology through Monsanto – Mahyco JV and has achieved 95% penetration in India since then. BT has been a success inspite of some of other companies like Nath seeds, etc launching at the same time. Globally USA, Brazil, Australia etc allow production of GM food crops apart from Europe. However in India field trials for GM food crops are on hold post objection from environmental minister. However the recent environmental minister has approved the field trials of GM Food crops after a monotorium of 3 years. Also in recent meeting on 21st March the GEAC has given an inprinciple to restart the field trials; however the company is yet to receive official notification on the same. With government and GEAC now approving the ball lies in the Supreme Court which is likely to take this matter in April, post which companies have to take NOC from individual states for re starting field trials. Once approved by all bodies all companies can start the field trials for GM food crops, thereby providing significant opportunities of newer growth avenues.

Launch of GM corn – next big trigger

There are 4 stages to field trials namely greenhouse, BRL1, BRL2 and biosafety. Monsanto, Syngenta, Pioneer, Dow has been working on field trials across various crops prior to monotorium imposed by government and hence are much ahead of other competitors. To help farmers overcome the challenges of rising cost of cultivation primarily driven by labour costs MIL has been working on Roundup Ready® and Yieldgard® in-the-seed technologies to offer maize farmers the choice of

dual benefit of superior insect protection, with convenient, flexible and effective weed management, to optimize maize yields.

Monsanto's technology – YieldGard VT Double Pro, is a combined trait maize product developed by combining insect protection and herbicide tolerance traits, stacked together using traditional breeding methods. The inserted genes and their gene products have a history of safe use, and have undergone review and approval by several regulatory agencies around the world.

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We learn that currently Monsanto GM corn is currently at BRL2 stage and management has guided that it will take atleast 3 -4 years for commercial launch to happen. The initial research and trials suggest that Monsanto GM corn can increase yields by 20-40%. Our interaction with management highlight that not only the GM corn but the technology for GM corn as well will remain in Monsanto India. Management has guided that the technology is ready and MIL will not pay any royalty to Monsanto USA for the same. This in our view will lead to substantial re rating for the stock post commercial launch of the same. We believe that Monsanto India will have a significant first mover advantage; however pricing of the same will continue to be a key monitorable.

RR Flex technology can drive herbicides sales growth

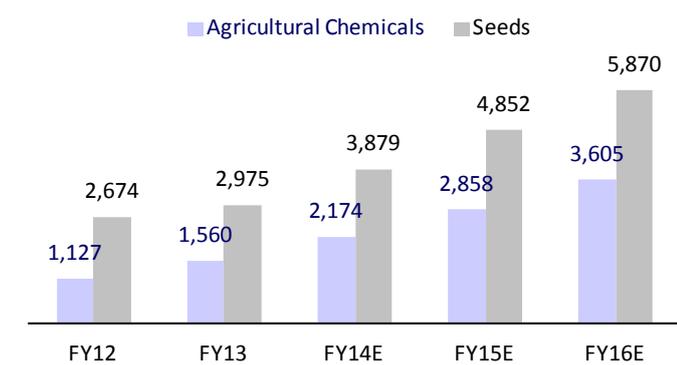
Monsanto's current technology of BT is likely to be replaced by RR Flex (BG 2 RR). RR flex has gone through RCGM and is awaiting final approval from GEAC (Genetic Engineering Appraisal Committee). Some industry experts believe that the industry can multiply by 3-5x due to higher yield RR Flex offers as compared to BT. Currently, herbicides need to be carefully used in case of BT cotton as the crop may get damaged if herbicides are sprayed on the top of the plant. RR-Flex will be herbicide tolerant thus negating chances of damage to crop due to herbicide use. This in our view will give a huge phillip to herbicide sales going forward.

Financial outlook

Revenues to post a 25% CAGR over FY14-16

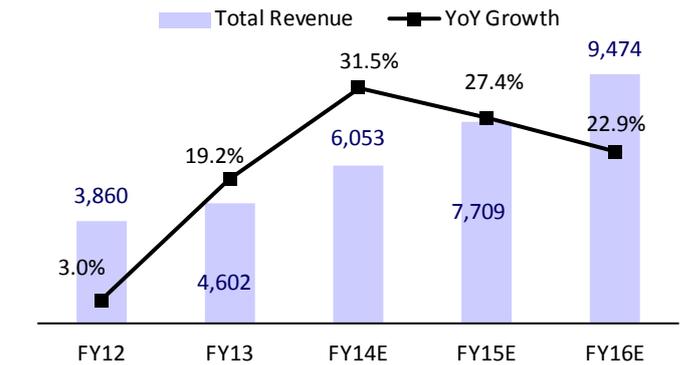
We expect revenues to grow at a 25% CAGR from INR6,053m to INR9,474m over FY14-16. Growth will be driven by seeds business which is expected to grow at 23% CAGR (contributes 65% to total revenues) led by aggressive launch of new maize hybrids. Agro-chemical business as well is expected to post a strong 29% CAGR led by increased penetration of herbicides, which will drive Roundup (glyphosate) sales.

Segment wise revenue of MIL (m)



Source: Company, MOSL

Total Revenue (m) and YoY growth(%)

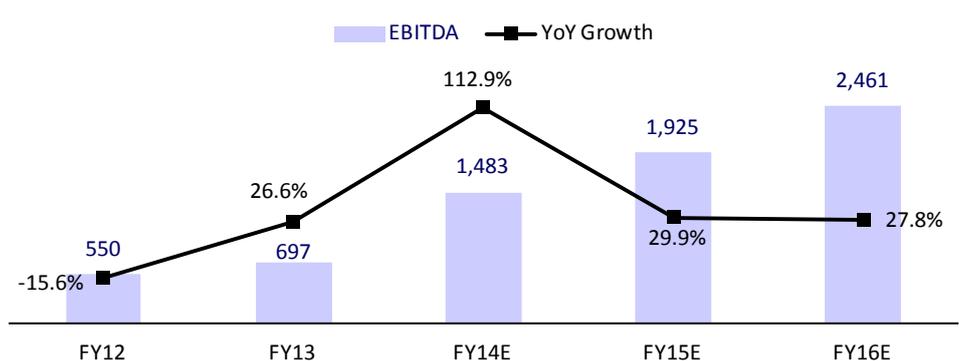


Source: Company, MOSL

Margins to expand 200bp

EBITDA is expected to grow at a 29% CAGR from INR1,483m to INR2,461m over FY14-16. Margins are expected to expand 200bp from 25% to 27% led by improvement in mix in favor of single cross maize, lower sales returns and inventory write-offs due to better sales forecasting abilities going forward

EBITDA margin trend

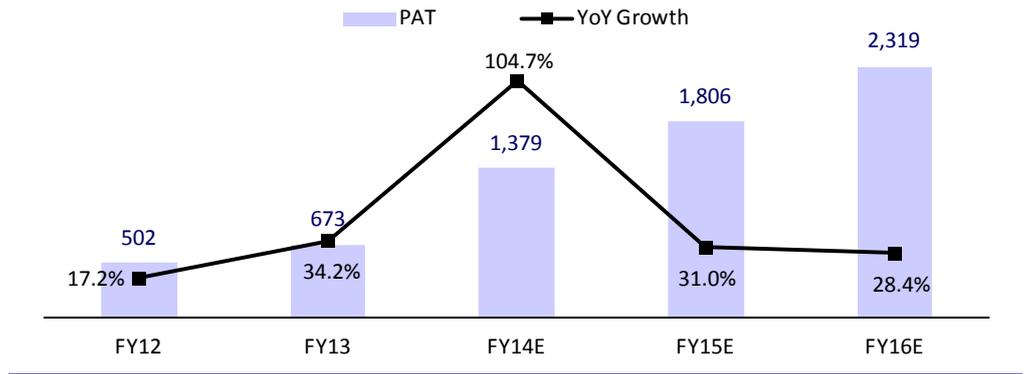


Source: Company, MOSL

PAT to grow at 30% CAGR

Led by strong operating performance we expect PAT to grow at 30% CAGR from INR1,379m to INR2,319m over FY14-16. Tax rate is expected to remain stable at 10%.

PAT growth trend

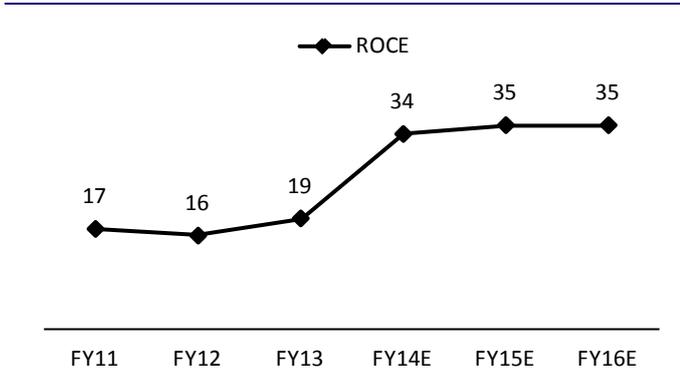


Source: Company, MOSL

ROCE and ROE to improve going forward

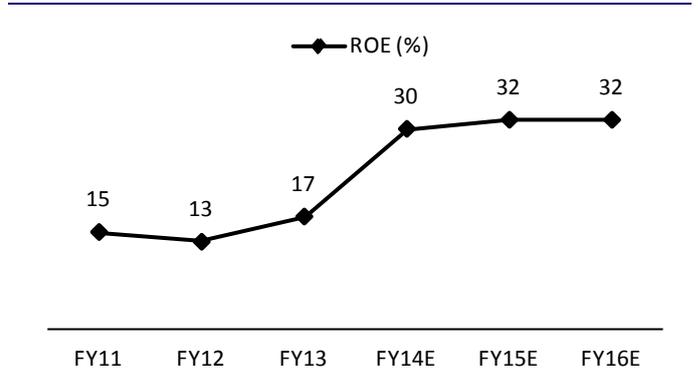
We expect ROCE and ROE to improve from 34% and 30% in FY14 respectively to 35% and 32% in FY16E respectively primarily on account of improvement in margins.

ROCE trend (%)



Source: Company, MOSL

ROE trend (%)



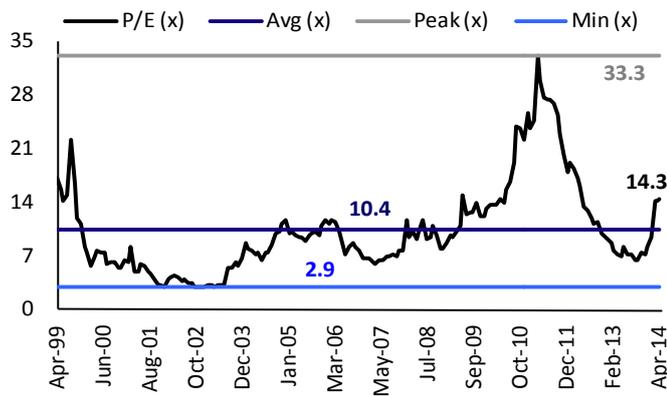
Source: Company, MOSL

Valuation and view – initiate coverage with a Buy

Market share gain to drive earnings growth

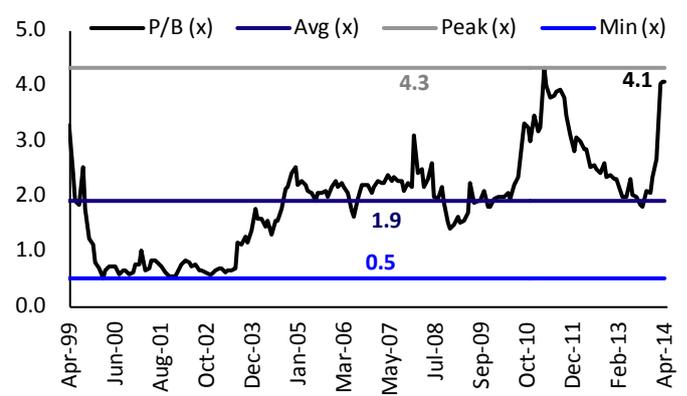
We expect topline to grow at 25% CAGR and PAT at 30% CAGR over FY14-16E. We believe the investments done in FY09-FY12 will start paying off for Monsanto India in terms of new product launches and market share gain. We also remain excited about the huge potential and scalability opportunity it has to offer over the long term from GM food and RR Flex. The stock is currently trading at 15.3x FY15E and 11.9x FY16E EPS. We value the stock at 16x FY16E EPS and arrive at a target price of INR 2,150 on the stock. We initiate coverage with a Buy.

Monsato India PE



Source: Company, MOSL

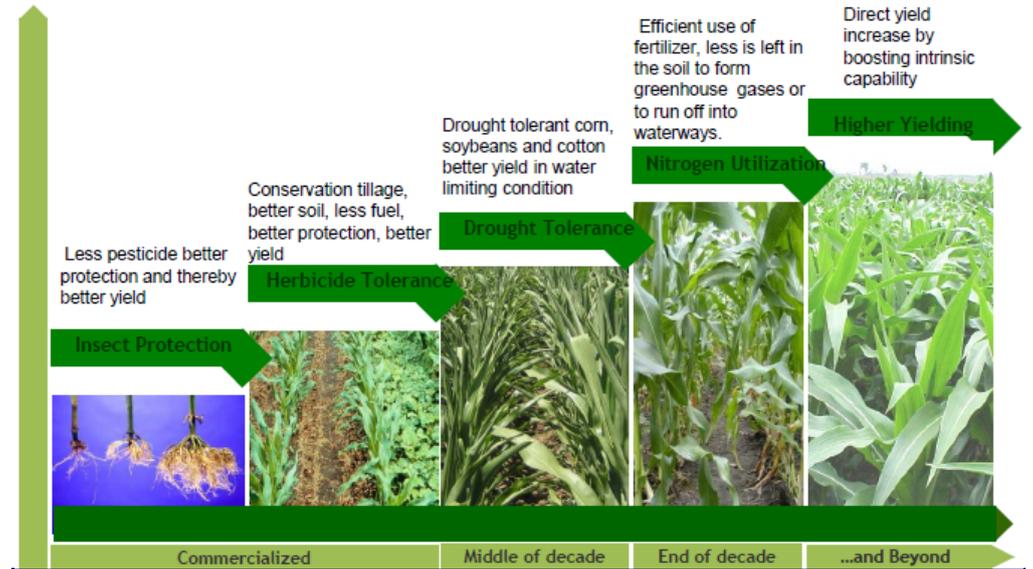
Monsato India PB



Source: Company, MOSL

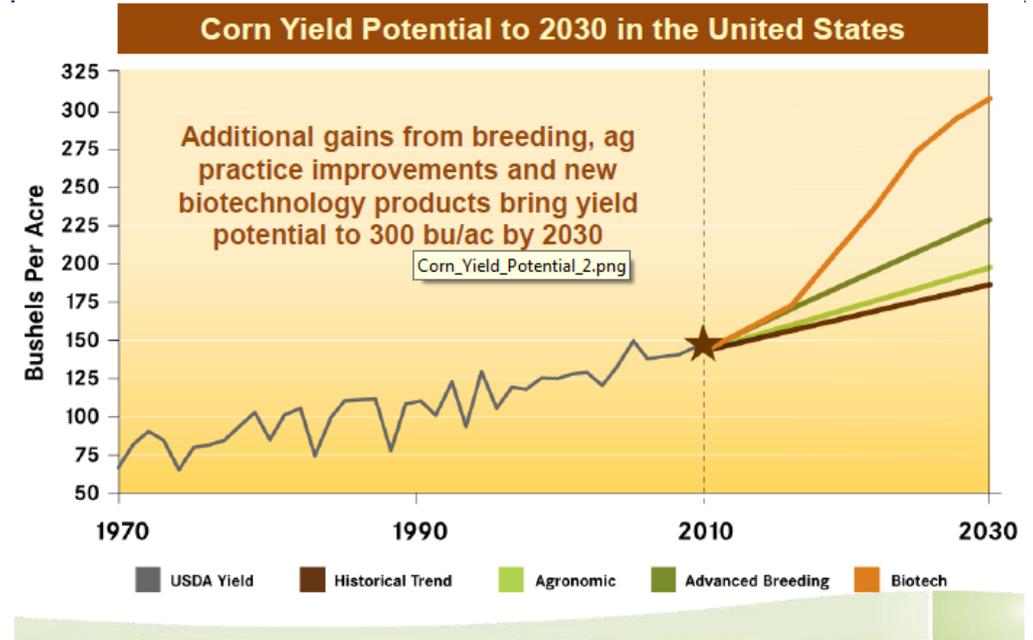
Annexures

Improvement in Bio Tech Agriculture



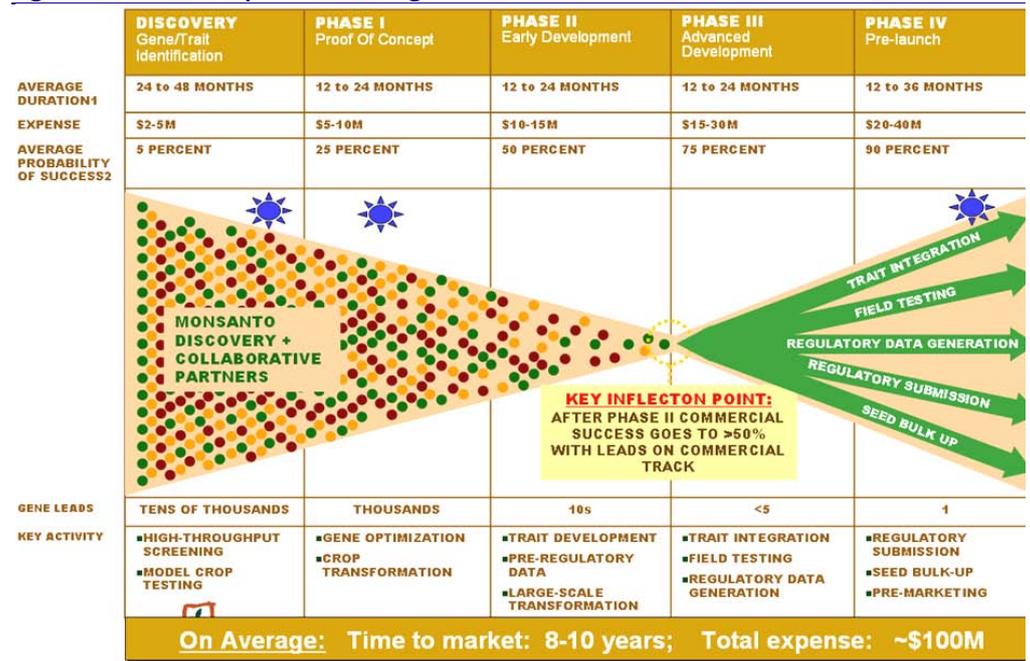
Source: Company, MOSL

Biotech agriculture can increase the productivity going forward



Source: Company, MOSL

Significant R&D is required for a long term



Source: Company, MOSL

Global Seed and Agro Chemical Market

Market Performance 2012 (Distributor level – Average Exchange Rates – Nominal USD)

Year	Crop Protection (USD m)	Non-Crop Agro Chemicals (USD m)	GM Seed (USD m)	Conventional Seed (USD m)
2002	25150	4270	3140	13060
2003	26710	4445	3709	13521
2004	30725	4675	4476	14524
2005	31190	4905	5095	14657
2006	30425	5150	5855	14485
2007	33390	5365	7062	14648
2008	40475	5655	9150	16870
2009	37860	5860	10570	17185
2010	38315	5880	12870	17950
2011	44528	6290	15685	18810
2012	47360	6375	18495	19065
YOY growth 2011/12	6.4%	1.4%	17.9%	1.4%

Agrochemical = \$53732,

Seed = \$37560, +8.9%

Source: Company, MOSL

Financials and valuation

Income statement				(INR Million)		
Y/E March	2011	2012	2013	2014E	2015E	2016E
Net Sales	3,634	3,738	4,424	5,819	7,411	9,108
Change (%)	-11.4	2.9	18.4	31.5	27.4	22.9
EBITDA	652	550	697	1,483	1,925	2,461
EBITDA Margin (%)	17.9	14.7	15.7	25.5	26.0	27.0
Depreciation	108	90	109	122	137	152
EBIT	544	460	588	1,360	1,788	2,309
Interest	3	13	7	0	0	0
Other Income	84	152	169	175	222	273
Extraordinary items	122	-3	0	0	0	0
PBT	503	601	750	1,535	2,010	2,582
Tax	75	100	76	156	205	263
Tax Rate (%)	14.8	16.5	10.2	10.2	10.2	10.2
Reported PAT	428	502	673	1,379	1,806	2,319
Adjusted PAT	532	500	673	1,379	1,806	2,319
Change (%)	-1.2	-6.1	34.8	104.7	31.0	28.4
Min. Int. & Assoc. Share	0	0	0	0	0	0
Adj Cons PAT	532	500	673	1,379	1,806	2,319

Balance sheet				(INR Million)		
Y/E March	2011	2012	2013	2014E	2015E	2016E
Share Capital	86	173	173	173	173	173
Reserves	3,657	3,671	3,902	4,837	6,200	8,076
Net Worth	3,743	3,844	4,074	5,010	6,372	8,248
Debt	0	0	0	0	0	0
Deferred Tax	-30	-27	-36	-36	-36	-36
Total Capital Employed	3,714	3,817	4,038	4,974	6,336	8,212
Gross Fixed Assets	1,395	1,380	1,541	1,741	1,941	2,141
Less: Acc Depreciation	518	571	674	796	933	1,086
Net Fixed Assets	876	809	868	945	1,008	1,056
Capital WIP	51	111	24	32	40	50
Investments	1,514	1,958	2,509	2,509	2,509	2,509
Current Assets	2,367	2,476	2,503	3,918	5,718	8,055
Inventory	1,303	1,297	1,394	1,660	2,089	2,506
Debtors	409	504	412	542	691	849
Cash & Bank	172	190	203	1,066	2,111	3,684
Loans & Adv, Others	484	485	494	650	828	1,017
Curr Liabs & Provns	1,095	1,537	1,866	2,430	2,939	3,457
Curr. Liabilities	831	1,203	1,440	1,764	2,229	2,693
Provisions	264	334	427	666	711	764
Net Current Assets	1,273	939	637	1,487	2,779	4,598
Total Assets	3,714	3,817	4,038	4,974	6,336	8,212

E: MOSL Estimates

Financials and valuation

Ratios

Y/E March	2011	2012	2013	2014E	2015E	2016E
Basic (INR)						
EPS	61.6	29.0	39.0	79.9	104.6	134.4
Cash EPS	74.2	34.2	45.3	87.0	112.6	143.2
Book Value	433.7	222.7	236.0	290.2	369.2	477.9
DPS	10.0	20.0	22.0	22.0	22.0	22.0
Payout (incl. Div. Tax.)	46.9	79.9	65.8	32.1	24.5	19.1
Valuation(x)						
P/E	25.9	55.2	41.0	20.0	15.3	11.9
Cash P/E	21.6	46.8	35.3	18.4	14.2	11.2
Price / Book Value	3.7	7.2	6.8	5.5	4.3	3.3
EV/Sales	7.1	6.9	5.8	4.3	3.2	2.5
EV/EBITDA	39.6	46.9	37.1	16.8	12.4	9.1
Dividend Yield (%)	0.6	1.3	1.4	1.4	1.4	1.4
Profitability Ratios (%)						
RoE	14.7	13.2	17.0	30.4	31.7	31.7
RoCE	17.3	16.1	19.1	33.8	35.3	35.3
Turnover Ratios (%)						
Asset Turnover (x)	1.0	1.0	1.1	1.2	1.2	1.1
Debtors (No. of Days)	39.8	47.7	32.7	32.7	32.7	32.7
Inventory (No. of Days)	130.9	126.6	115.0	104.1	102.9	100.4
Creditors (No. of Days)	65.5	82.6	101.5	103.9	103.4	102.3
Leverage Ratios (%)						
Net Debt/Equity (x)	0.0	0.0	0.0	0.0	0.0	0.0

Cash flow statement

(INR Million)

Y/E March	2011	2012	2013	2014E	2015E	2016E
OP/(Loss) before Tax	503	601	750	1,535	2,010	2,582
Depreciation	108	90	109	122	137	152
Others	0	0	0	0	0	0
Interest	-3	3	-3	-175	-222	-273
Direct Taxes Paid	100	125	93	156	205	263
(Inc)/Dec in Wkg Cap	316	258	253	12	-246	-246
CF from Op. Activity	896	721	894	1,339	1,474	1,952
(Inc)/Dec in FA & CWIP	-111	-96	-86	-208	-209	-209
(Pur)/Sale of Invt	-1,909	-6,085	-3,840	0	0	0
Others	1,269	5,782	3,450	175	222	273
CF from Inv. Activity	-750	-399	-476	-33	14	64
Inc/(Dec) in Net Worth	0	0	0	0	0	0
Inc / (Dec) in Debt	-16	-33	-47	0	0	0
Interest Paid	-6	-3	-3	0	0	0
Divd Paid (incl Tax)	-151	-258	-345	-443	-443	-443
CF from Fin. Activity	-173	-294	-395	-443	-443	-443
Inc/(Dec) in Cash	-27	27	23	863	1,045	1,573
Add: Opening Balance	198	163	180	203	1,066	2,111
Closing Balance	172	190	203	1,066	2,111	3,684

E: MOSL Estimates

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In respect of any matter arising from or in connection with the research you could contact the following representatives of Motilal Oswal Capital Markets Singapore Pte Limited:

Anosh Koppikar

Email: anosh.koppikar@motilaloswal.com

Contact: (+65) 68189232

Office Address: 21 (Suite 31), 16 Collyer Quay, Singapore 04931

Kadambari Balachandran

Email: kadambari.balachandran@motilaloswal.com

Contact: (+65) 68189233 / 65249115



Motilal Oswal Securities Ltd

Motilal Oswal Tower, Level 9, Sayani Road, Prabhadevi, Mumbai 400 025

Phone: +91 22 3982 5500 E-mail: reports@motilaloswal.com