

Fields of hope

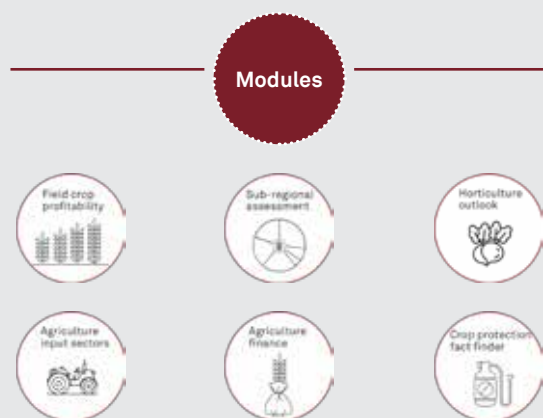


Field crop profitability |
Sub-regional assessment
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Crop protection fact finder

Agriculture Sector Offering

CRISIL Research's Agriculture sector offering provides sharp insights on the emerging market dynamics across agricultural value chain

- State-wise and crop-wise insights on expected cash in hand of the farmer
- Variation in agriculture profitability within a state
- Horticulture dynamics and market trends
- Short and long term outlook for seeds, pesticides, fertilizer and tractor sectors
- Profitability margins of players
- State-wise risk opportunity matrix for agri lending
- Over 250 player profiles from companies across agri linked sectors
- Competitive and financial benchmarking tools for quarterly and annual comparison
- Crop-wise and state-wise market size of 30 key crop protection technicals



Field Crop Profitability: TOC

As 80% of India's gross sown area is under field crops, it is important to understand what boosts and what constrains their profitability. Crop profitability is not only subject to vagaries of nature, but also the demand-supply dynamics and both have a direct impact on farm prices.

In marketing year 2020, CRISIL Research projects rabi crop profitability to increase on-year at C2 cost aided by improved productivity and higher mandi prices on-year.

Crops considered for the profitability analysis are:

S.No.	Crop	Category
1	Paddy	Cereals
2	Wheat	Cereals
3	Maize	Coarse grains
4	Pearl millet (bajra)	Coarse grains
5	Finger millet (ragi)	Coarse grains
6	Sorghum	Coarse grains
7	Pigeonpea (arhar)	Pulses
8	Black gram (urad)	Pulses
9	Bengal gram (chana)	Pulses
10	Groundnut	Oilseeds
11	Rapeseed and mustard	Oilseeds
12	Soybean	Oilseeds
13	Cotton	Cash crop
14	Jute	Cash crop
15	Sugarcane	Cash crop

Note: The commodities considered for the analysis constitute over 70% of the cropped area and production of field crops in India

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 - ii. Seasonal forecast of crop-wise acreage, productivity and production
 - iii. Mandi price trend and seasonal forecast on aggregate weighted average mandi price index
 - iv. Seasonal forecast of crop-wise per hectare profitability
 - b) State-wise profitability outlook:
 - i. Overall profitability
 - ii. State-wise profitability for northern states (Punjab, Uttar Pradesh, Haryana and Uttarakhand)
 - iii. State-wise profitability for western states (Madhya Pradesh, Maharashtra, Gujarat and Rajasthan)
 - iv. State-wise profitability for southern states (Karnataka, Tamil Nadu, Andhra Pradesh and Telangana)
 - v. State-wise profitability for eastern states (Bihar, West Bengal, Chhattisgarh and Odisha)
3. Methodology

The agriculture profitability report is updated quarterly (June, September, December and March)

Part II: Monthly dashboard and Event analysis

1. Monthly agriculture dashboard

- i. Rainfall and reservoir situation across states in the country
- ii. Monthly disbursal status of agriculture credit
- iii. Sowing progress for the current cropping season
- iv. Crop situation: Field sentiments on crop acreage, productivity and production
- v. Mandi arrivals of all field crops and major horticulture crops at PAN India level and state level
- vi. Mandi prices of all field crops and major horticulture crops at PAN India level and state level
- vii. Quarterly financial update for key agri linked sectors: Pesticides, Seeds, Fertilisers, Irrigation, Micro-irrigation, Tractors
- viii. Monthly fertiliser sales and consumption pattern

2. Event analysis

- i. As per the announcements of the central and state government for agriculture sector, an impact analysis for the same is done

The monthly agriculture dashboard is shared in the first week of every month

Part III: Industry structure

1. Industry overview

- i. Crop-wise value chain analysis for all commodities

2. Data and statistics

The report is available in the form of a power point presentation and a detailed write-up

Horticulture outlook: TOC

As the contribution of horticulture in rural income has increased significantly over the past few years, it is important to understand the horticulture crop dynamics for a holistic understanding of cash in hand of the farmer. In 2019, horticulture production is estimated to have declined ~5% on-year. However, lower supplies led to ~20% increase in mandi prices, which, in turn are estimated to support an increase in per hectare profitability.

The horticulture commodities considered for assessment are:

S.No.	Crop	Category
1	Onion	Vegetables
2	Potato	Vegetables
3	Tomato	Vegetables
4	Brinjal	Vegetables
5	Chilli	Vegetables
6	Mango	Fruits
7	Banana	Fruits
8	Grape	Fruits
9	Apple	Fruits
10	Cumin	Spices

Note: The commodities considered for the analysis constitute 53% area and 67% production of fruits, vegetables and spices in India

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 - iv. Seasonal forecast of crop-wise per hectare profitability
 - b) State-wise profitability outlook:

For each crop considered in the horticulture report 2020, state-wise profitability analysis will be done for the top states accounting for a minimum of 70% of the crop's gross sown area. Overall, horticulture dynamics would be assessed across 16 key states

 - i. Seasonal forecast of acreage, productivity and production
 - ii. Seasonal forecast of cost of production
 - iii. Seasonal forecast of per hectare profitability
 - iv. Profitability dynamics across states

3. Methodology

The horticulture profitability report is updated quarterly (June, September, December and March)

Part II: Monthly dashboard and Event analysis

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Part III: Industry structure

1. Industry overview

- i. Crop-wise value chain analysis for all commodities

2. Data and statistics

- i. Crop-wise acreage, yield and production from 2008-09 to 2018-19
- ii. State-wise horticulture acreage from 2008-09 to 2018-19
- iii. State-wise horticulture productivity from 2008-09 to 2018-19
- iv. State-wise production from 2008-09 to 2018-19
- v. Crop-wise mandi prices from 2008-09 to 2018-19
- vi. State-wise crop-wise mandi prices from 2008-09 to 2018-19
- vii. Crop-wise mandi arrivals from 2008-09 to 2018-19
- viii. State-wise crop-wise mandi arrivals from 2008-09 to 2018-19
- ix. Crop-wise exports (for applicable commodities) from 2008-09 to 2018-19
- x. Crop-wise imports (for applicable commodities) from 2008-09 to 2018-19

The report will be available in the form of a power point presentation and a detailed write-up

Sub-regional Assessment: TOC

Sub regions considered for the profitability analysis are:

S. No.	Region	Sub-region
1	Maharashtra	Madhya Maharashtra
2		Vidarbha
3		Konkan
4		Marathwada
5	Gujarat	Saurashtra & Kutch
6		Gujarat Region
7	Madhya Pradesh	West Madhya Pradesh
8		East Madhya Pradesh
9	West Bengal	West Bengal
10	Odisha	Odisha
11	Bihar	Bihar
12	Chhattisgarh	Chhattisgarh
13	Punjab	Punjab
14	Haryana	Haryana
15	Uttar Pradesh	West Uttar Pradesh
16		East Uttar Pradesh
17	Rajasthan	West Rajasthan
18		East Rajasthan
19	Uttarakhand	Uttarakhand
20	Andhra Pradesh	Coastal Andhra Pradesh
21		Rayalseema
22		Telangana
23	Karnataka	North Karnataka
24		South Karnataka
25		Coastal Karnataka
26	Tamil Nadu	Tamil Nadu

Among states, different regions show unique trends in terms of agricultural performance. For the same, CRISIL Research has divided 15 key agricultural states into 26 sub-regions to provide a more granular perspective on how the crop acreage, productivity and profitability varies within a state.

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3. Growth outlook
 - i. Sub-region wise and crop-wise outlook on acreage, production and productivity for the upcoming season.
 - ii. Seasonal forecast of mandi price
 - iii. Sub-region wise and crop-wise profitability forecast for the upcoming season (kharif/rabi)
 - iv. Sub-regional comparison of per hectare profitability and key parameters influencing it

In every sub-region, crops accounting for at least 70% of the gross sown area and production are considered for profitability analysis

4. Market insights

- i. Qualitative insights on new product launches in pesticides, seeds and fertilisers segment
- ii. Qualitative insights on farmer behaviour towards adoption of improved agriculture practices

- iii. Insights on preference for manual weeding; generic low cost chemicals or premier chemicals for crop protection.
- iv. Qualitative insights on impact of rainfall on different crops in different sub-regions; dependency on rainfall for different crops

The report is available in the form of a power point presentation in the month of May for the upcoming kharif season and in the month of November for the upcoming rabi season

Agriculture input sectors: TOC

The agricultural input sectors have been witnessing rapid transition in dynamics amid government interventions and changing farm profits. Among agricultural sectors, fertiliser industry is expected to clock a moderate growth in fiscal 2020 while seeds, pesticides, farm equipment and irrigation sector growth is expected to be robust. On the contrary, tractor industry is expected to register a decline in revenue growth in FY 2020

The agriculture sector report 2019 encompasses the following sectors:

Agriculture Inputs

- Seeds
- Fertilisers
- Bio-fertilisers
- Pesticides
- Bio-Pesticides

Agriculture Equipment and Infrastructure

- Tractors
- Farm Equipment
- Irrigation
- Micro Irrigation

Others

- Crop Insurance
- Emerging trends and technologies

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Part I: Summary and industry outlook

1. Agriculture Report 2019: Summary

2. Industry opinion

- i. Industry structure, share of organised v/s unorganised market, share of public v/s private players and other key trends for each industry
- ii. Short term and medium term domestic demand outlook for seeds, fertilisers, bio-fertilisers, pesticides, bio-pesticides, tractors and farm equipment
- iii. Player profitability forecast on: realizations, input cost, capacity utilization, margins and other financial ratios for the upcoming fiscal
- iv. For seeds, additional coverage on state-wise and crop-wise growth outlook for the upcoming fiscal
- v. Additionally, for tractors and pesticides: Export outlook in short and medium term
- vi. In Irrigation, PAN India and state-wise expenditures and expected government investment over the next three years
- vii. Government regulations and initiatives in each industry
- viii. Methodology

Among the agriculture input sectors Fertilisers, Pesticides, Seeds, Irrigation, Farm Equipment and Tractors reports are updated twice a year, Bio-fertilisers, Bio-pesticides, and Micro-irrigation sectors are updated once a year

3. Emerging trends in Agriculture:

- i. Case studies on emerging trends and technologies in agriculture
- ii. Challenges in agriculture innovation and technological advancement in India
- iii. Coverage on latest technologies like Drones, Satellite Imagery focused technology, Information Technology and Artificial Intelligence

Emerging trends & technologies report is updated once a year

4. Latest news and sector updates

The report will be available in the form of a power point presentation and a detailed write-up

Agri-finance, insurance and competitive benchmarking: TOC

Credit growth in agriculture in India has evolved over the past 50 years, mainly aided by a push from the government. Also, crop insurance has been primarily a function of central government to support the farmers in a situation of crop damage due to vagaries of nature. CRISIL Research's report on agri-finance and crop insurance dwells deeper to analyse the impact of agriculture profitability, rural household income growth trend, crop shifts and diversification on agri credit. It also analyses the crop-wise actuarial rates on agriculture commodities and share of different players in crop insurance. The report gives competitive benchmarking for over 250 companies across agriculture industries.

Agriculture finance report 2020 encompasses the following segments:

Agriculture Credit

S.No.	Pre-harvest loans	Infrastructure loans	Post-harvest loans	Others
1	Crop Loans	Land development loans	Warehousing receipt finance	Tractor finance
2	Plantation and horticulture loans	Farm mechanisation loans	Food and agro processing loans	Farmer producer organisations
3		Water resource development loans		
4		Storage facility development loans		

Competitive benchmarking is done for 250 companies across the agriculture industries like seeds, pesticides, bio-pesticides fertilisers, bio-fertilisers, farm equipment, tractor, irrigation, and micro-irrigation

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 - i. Trend analysis of segment wise agriculture credit
 - ii. Short term growth outlook
 - iii. Impact of loan waivers and direct income support scheme on agricultural credit
 - iv. Credit disbursement through Kisan Credit Card
 - v. Share of private sector banks in agriculture credit and role of micro finance institutions

3. State wise agriculture credit

- i. State-wise level of non-performing assets(NPAs)
- ii. CRISIL Research's risk-opportunity framework for agriculture lending at state level

4. Government policies and initiatives for agriculture credit growth

5. Crop Insurance

- i. Overview of the crop insurance sector, state wise assessment of expense ratios and actuarial rates
- ii. Company wise market share in crop insurance
- iii. Government regulations in crop insurance

6. Operational and Financial performance of key players

- i. Operational player profiles for over 250 agriculture companies across 9 agri-linked sectors (seeds, pesticides, fertilisers, tractors, irrigation, micro-irrigation, bio-fertilisers, bio-pesticides, farm equipment)
- ii. Financial benchmarking tools:
 - Annual benchmarking: For listed and unlisted players, financial benchmarking on the parameters like revenue, operating margin, net margin, return on capital employed, gearing, interest coverage and net worth
 - Quarterly benchmarking: For listed players, financial benchmarking on the similar parameters

**The report is available in the form of a power point presentation and a detailed write-up.
Agriculture Finance is updated twice a year and Crop Insurance report is updated once a year**

Crop protection fact finder: TOC

Indian pesticides market is characterised by the presence of over 250 technicals in herbicides, fungicides and insecticides segment. Within categories, performance of individual technical is important for analysing current performance and future potential of overall crop protection market. Assessing dynamics around state-wise market size, crop-wise usage and competitive landscape can aid in developing data backed business strategies.

For each crop protection technical, the market size assessment will be done on following parameters:

Parameter	Unit	FY 19	FY 20	Parameter	Unit	FY 19	FY 20
PAN India market size	rupees trillion	XX	XX	PAN India volume sold	tonnes/litres	XX	XX
Crop-wise market size	rupees trillion	XX	XX	Crop-wise volume sold	tonnes/litres	XX	XX
State-wise market size	rupees trillion	XX	XX	State-wise volume sold	tonnes/litres	XX	XX
Market share of top 5 brands	percentage	XX	XX	Market share of top 5 brands	percentage	XX	XX

Note: Year considered is fiscal year, * market size for FY 19 and FY 20 is estimated market size

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 - i. Trend
 - ii. PAN India Market size of each technical (molecule) in value and volume terms
 - iii. State-wise market size of each technical (molecule) in value and volume terms
 - iv. Crop-wise market size of each technical (molecule) in value and volume terms
 - v. Market share of top 5 brands of each technical
 - vi. Market voices on preferred usage of technicals against a particular pest
 - vii. Key products and brands preferred by the farmers for each technical
 - viii. Market voices on different promotional activities adopted in regions by different companies for the technical sales
 - ix. Qualitative insights on trade infiltrations in each technical for different regions
 - x. Insights on farmer usage behaviour, pesticide-resistance and toxicity incidences

3. Industry overview

- i. Domestic and export pesticides industry
- ii. Segmental performance: Herbicides, Fungicides and Insecticides
- iii. Government regulations on Indian pesticides industry
- vi. Demand growth drivers and key challenges faced by the industry

The molecules shortlisted for the study are:

Herbicides	Fungicides	Insecticides
Glyphosate 41% SL	Chlorantraniliprole 18.5% SC	Azoxystrobin 11% +Tebuconazole 18.3% SC
Bispyribac Sodium (Nominee Gold)	Chlorantraniliprole 0.4% GR	Azoxystrobin 20% + Difenconazole 12.5% SC
Pretilachlor 50 % EC	Chlorpyriphos 50% + Cypermethrin 5% EC	Trifloxystrobin+Tebuconazole
Pyrithiobac sodium	Emamectin Benzoate 5% SG	Propiconazole 25% EC
Paraquat 24% SL	Imidacloprid 17.8% SL	Hexaconazole
Topramezone 33.6 SC	Chloropyrifos 20% EC	Propineb 61.25 % + Iprovalicarb 5.5 %
Pretilachlor 6%+Pyrazosulfuron 0.15% GR	Chlorantraniliprole + Lambda Cyhalothrin	Tebuconazole 8%+Captan 32%
Tembotrione 34.4% SC	Spinoteram	Picoxystrobin+Tricyclazole
Propaquizafop 2.5 + Imazethapyr 3.75	Triflumezopyrin 10% SC	Mandipropamid
Pinoxaden	Flubendiamide 20% WG	Metrafenone

The report is updated once a year and is available in PPT format



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It is India's foremost provider of ratings, data, research, analytics and solutions, with a strong track record of growth, culture of innovation and global footprint.

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CRISIL Research is India's largest independent integrated research house. We provide insights, opinion and analysis on the Indian economy, industry, capital markets and companies. We also conduct training programs to financial sector professionals on a wide array of technical issues. We are India's most credible provider of economy and industry research. Our industry research covers 86 sectors and is known for its rich insights and perspectives. Our analysis is supported by inputs from our large network sources, including industry experts, industry associations and trade channels. We play a key role in India's fixed income markets. We are the largest provider of valuation of fixed income securities to the mutual fund, insurance and banking industries in the country. We are also the sole provider of debt and hybrid indices to India's mutual fund and life insurance industries. We pioneered independent equity research in India, and are today the country's largest independent equity research house. Our defining trait is the ability to convert information and data into expert judgments and forecasts with complete objectivity. We leverage our deep understanding of the macro-economy and our extensive sector coverage to provide unique insights on micro-macro and cross-sectoral linkages. Our talent pool comprises economists, sector experts, company analysts and information management specialists.

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