



## CRISIL Research Web conference on **Agriculture: Profitability under a cloud**

### **Speakers:**

**Dipti Deshpande**

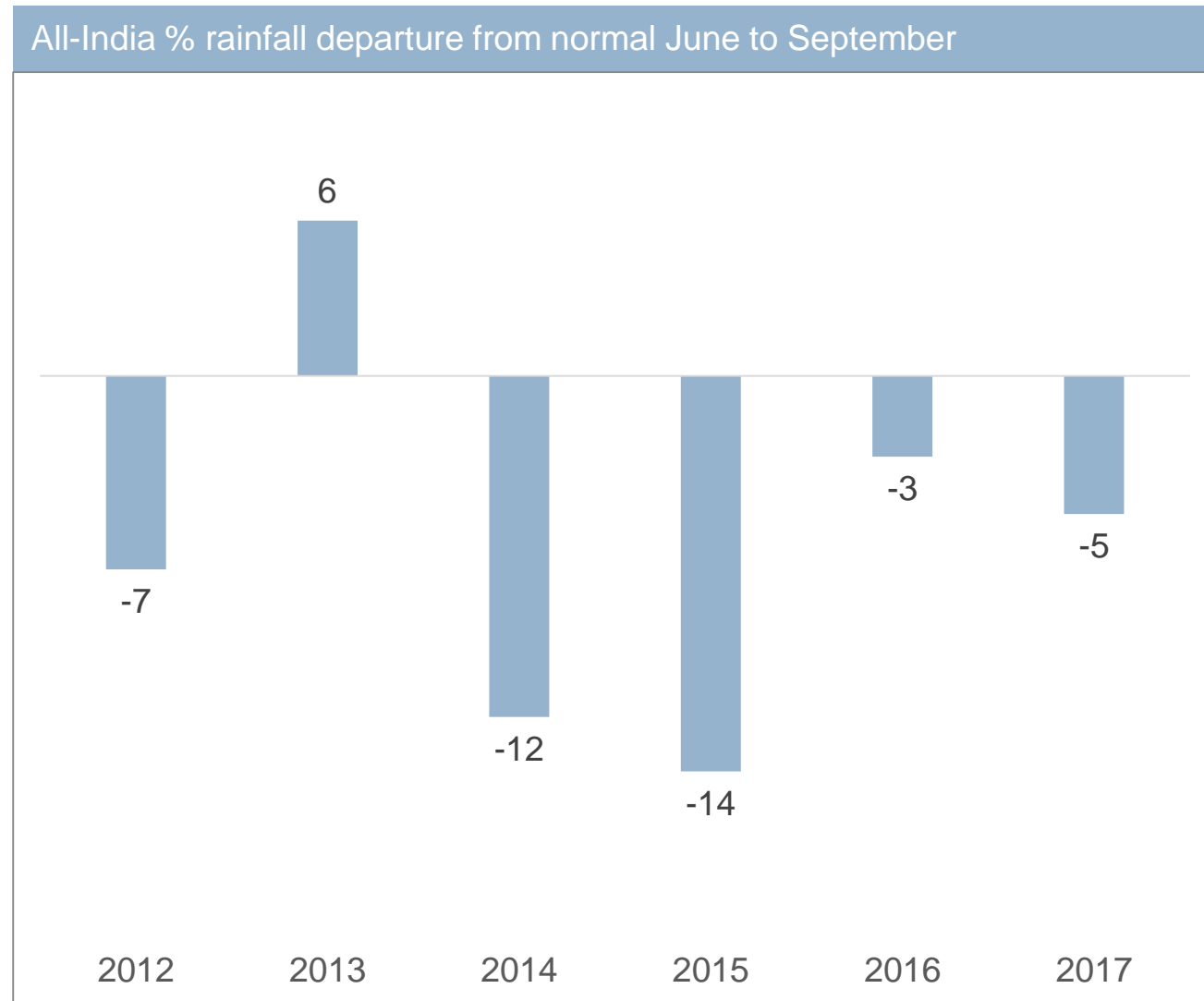
Senior Economist – CRISIL Research

**Geoffrey Dcunha**

Associate Director – CRISIL Research

# Rain god smiles for the second straight year

But uneven-ness a splotch on an otherwise good story



Source: Indian Meteorological Department (IMD), CRISIL

States (Rainfall % departure from normal)	2017	2016
Uttar Pradesh	-28	-14
Haryana	-25	-27
Punjab	-21	-28
Madhya Pradesh	-19	18
Odisha	-9	-11
Bihar	-8	-4
Karnataka	-8	-14
West Bengal	-3	0
Uttarakhand	-2	-10
Maharashtra	0	16
Rajasthan	9	28
Andhra Pradesh	18	10
Gujarat	20	-20
Tamil Nadu	33	-21

Deficiency ~20 or more

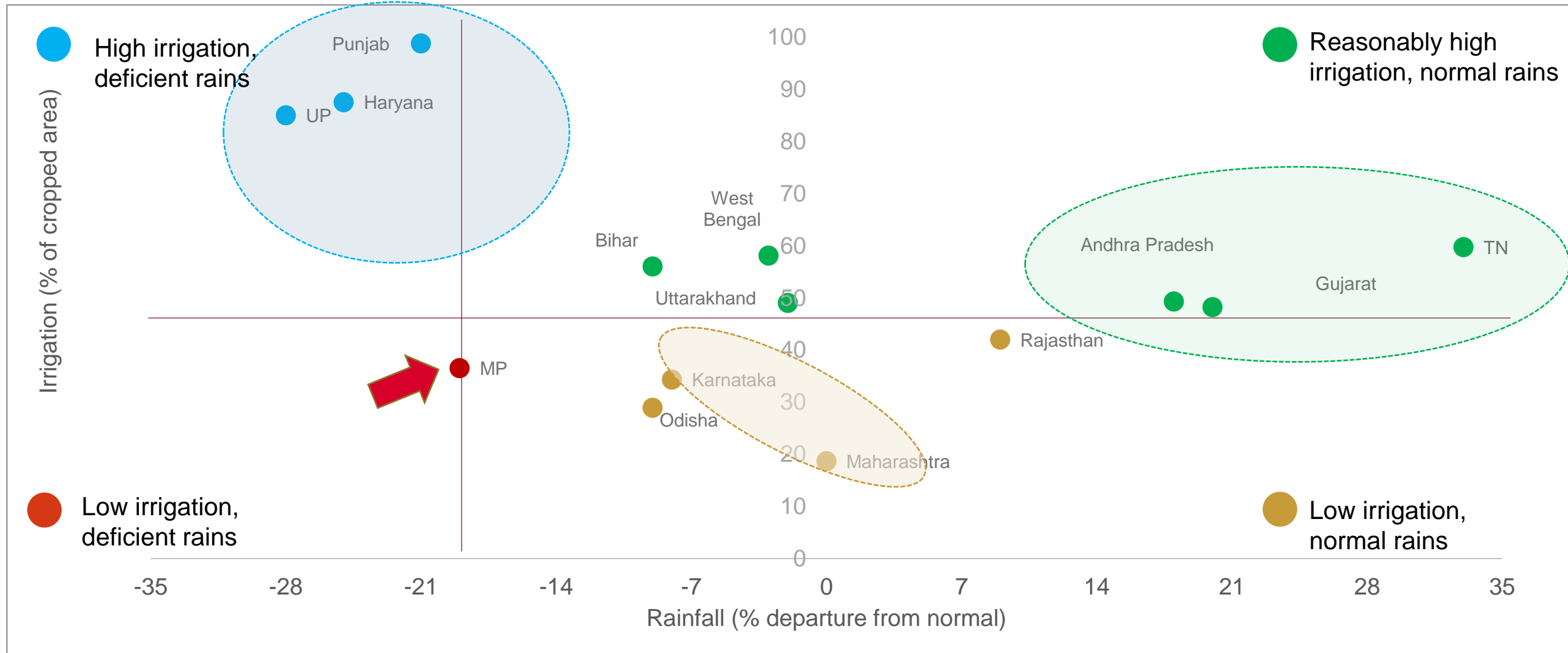
Deficiency between 10 to 20%

Deficiency less than 10%

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# Where it didn't rain, irrigation came to the rescue

Irrigated area vs rainfall for 2017 (% of normal) across states



Note: Rains are said to be deficient if Rainfall departure below normal is of more than ~20% or more, Irrigation levels benchmarked with All-India irrigation of ~50% of cropped area

Source: MD, Ministry of Agriculture, CRISIL

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# Deficient Rainfall Impact Parameter (DRIP)

## GENERAL PRINCIPLE

Impact on agriculture = f (vulnerability, shock)

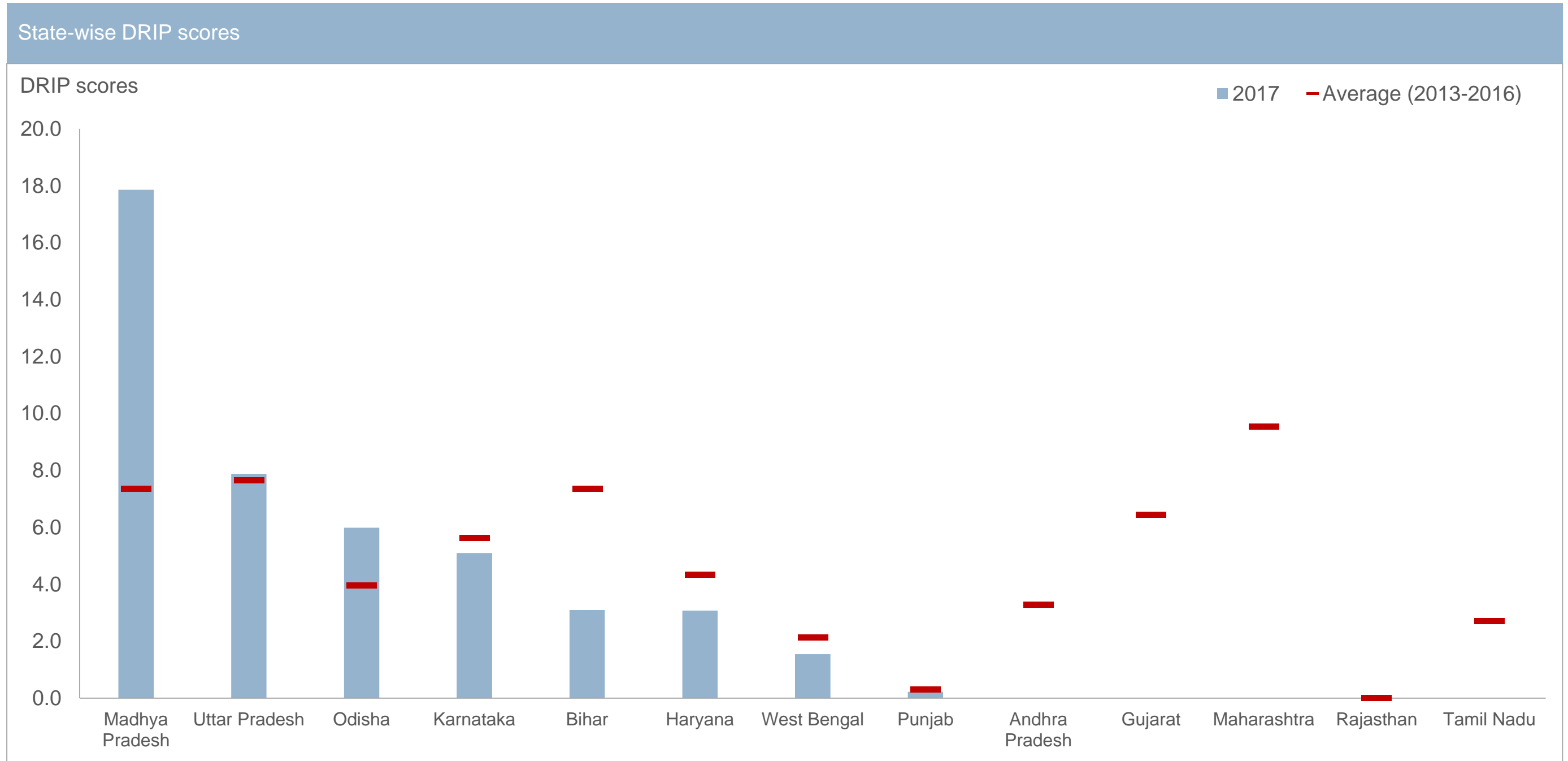
## COMPUTATION

For a particular crop in a particular state:

**Vulnerability** is represented by % of area un-irrigated

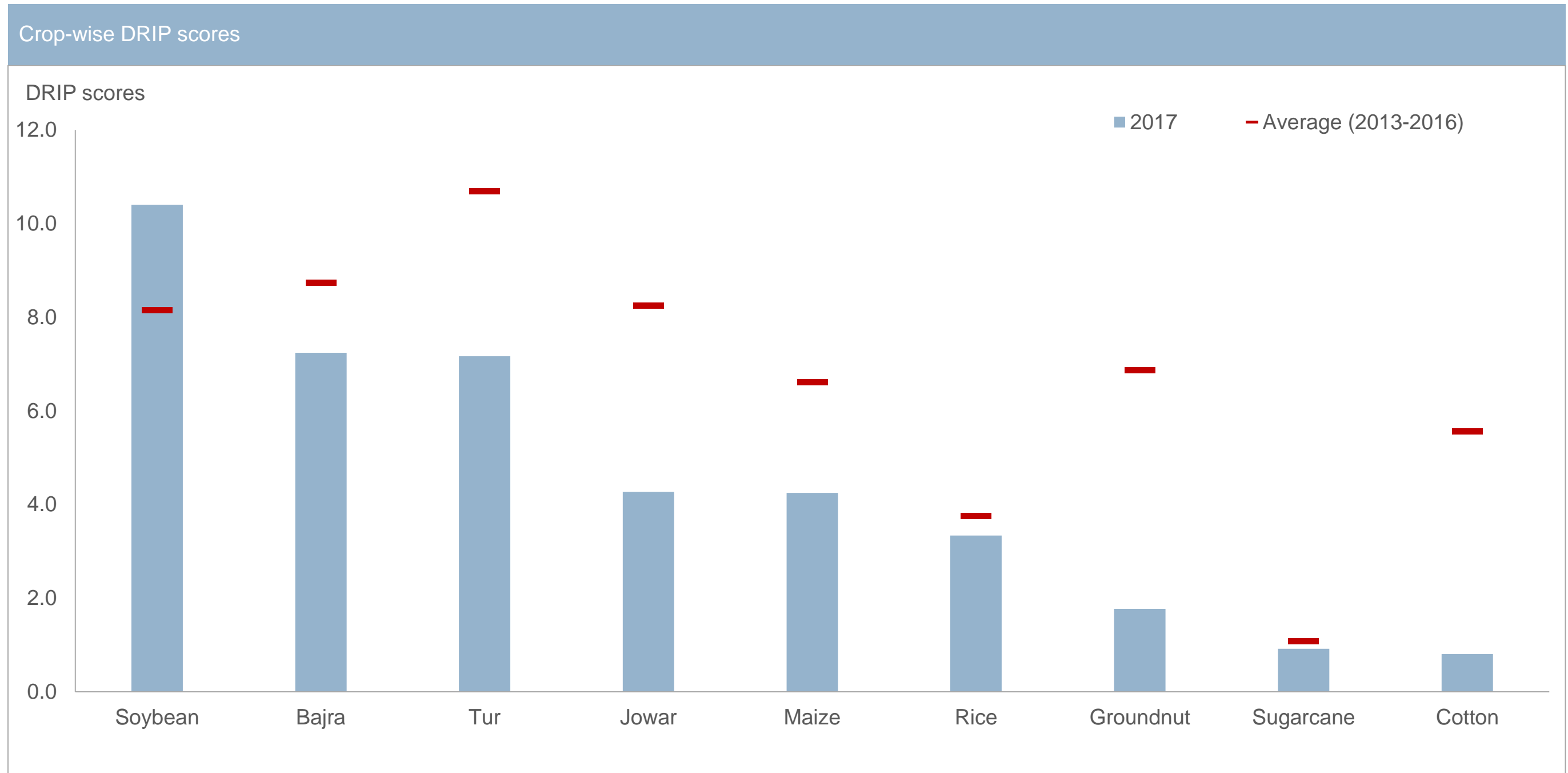
**Shock** is represented by % of rainfall deficiency

# State-wise DRIP scores show stress in MP



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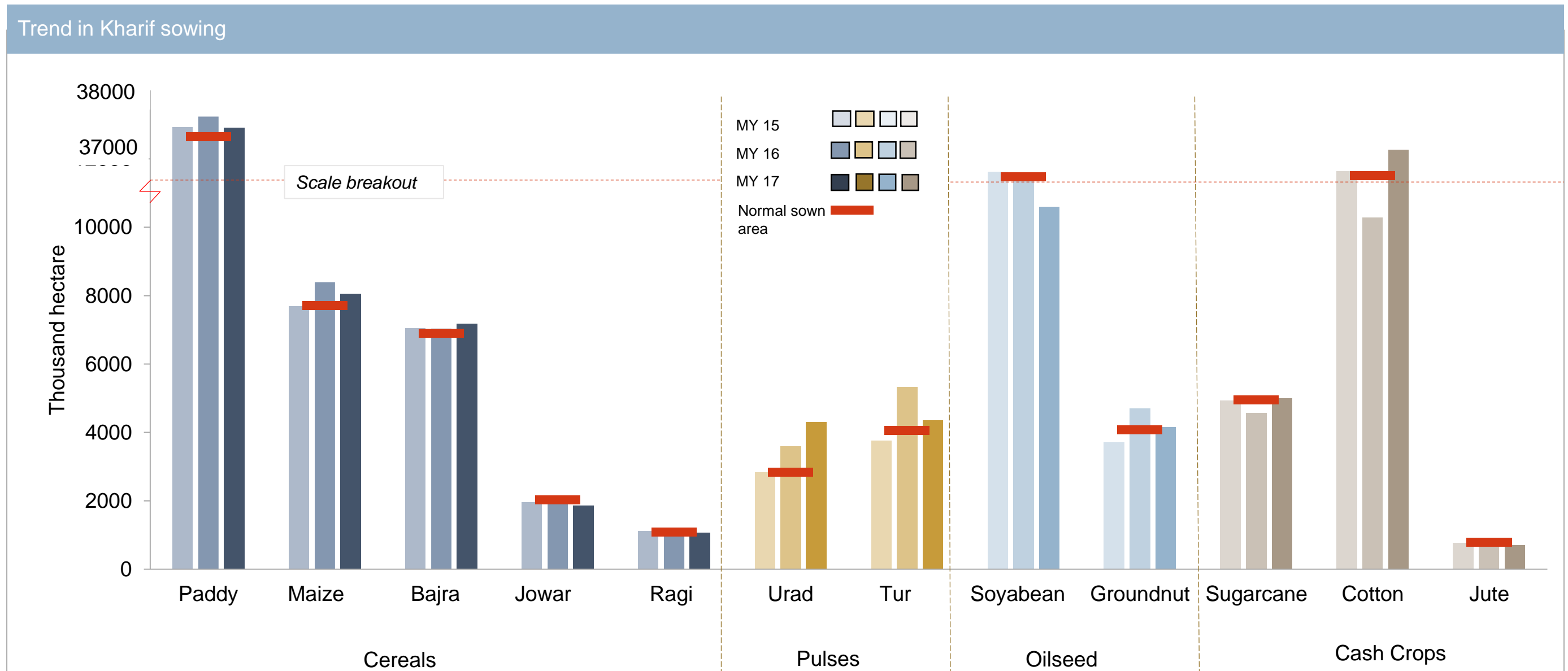
# Crop-wise DRIP scores show stress in soybean



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# Kharif sowing lower on-year, but on track as per trend

Total kharif sowing lower by 0.5% on-year; oilseeds see the steepest dip followed by pulses

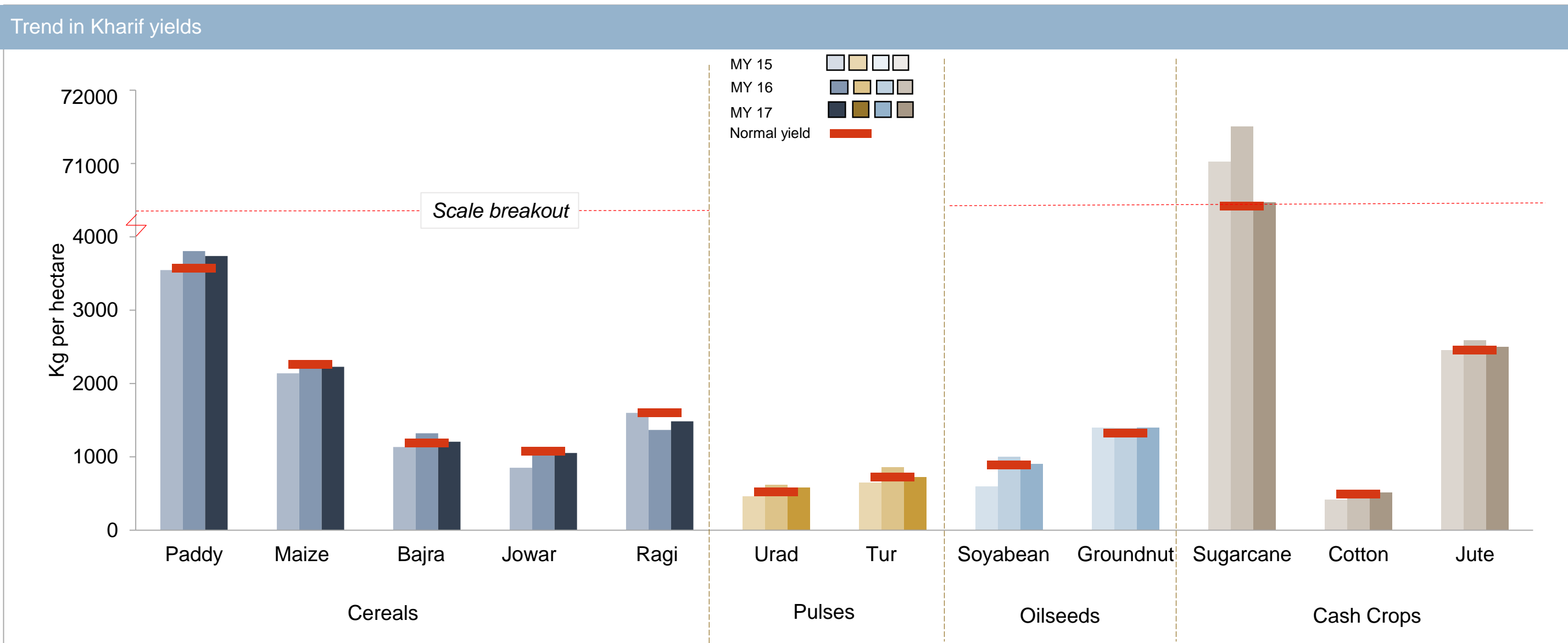


Note: Data is as of September 29, 2017, Normal sown area average : 2011-12 to 2015-16, MY stands for crop marketing year

Source: Directorate of Economics and Statistics (DES), CRISIL

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# Kharif yields to be lower on-year but comparable to normal levels



Note: MY stands for crop marketing year; Normal yield: 2011-12 to 2015-16; yields for year 2017 are projected

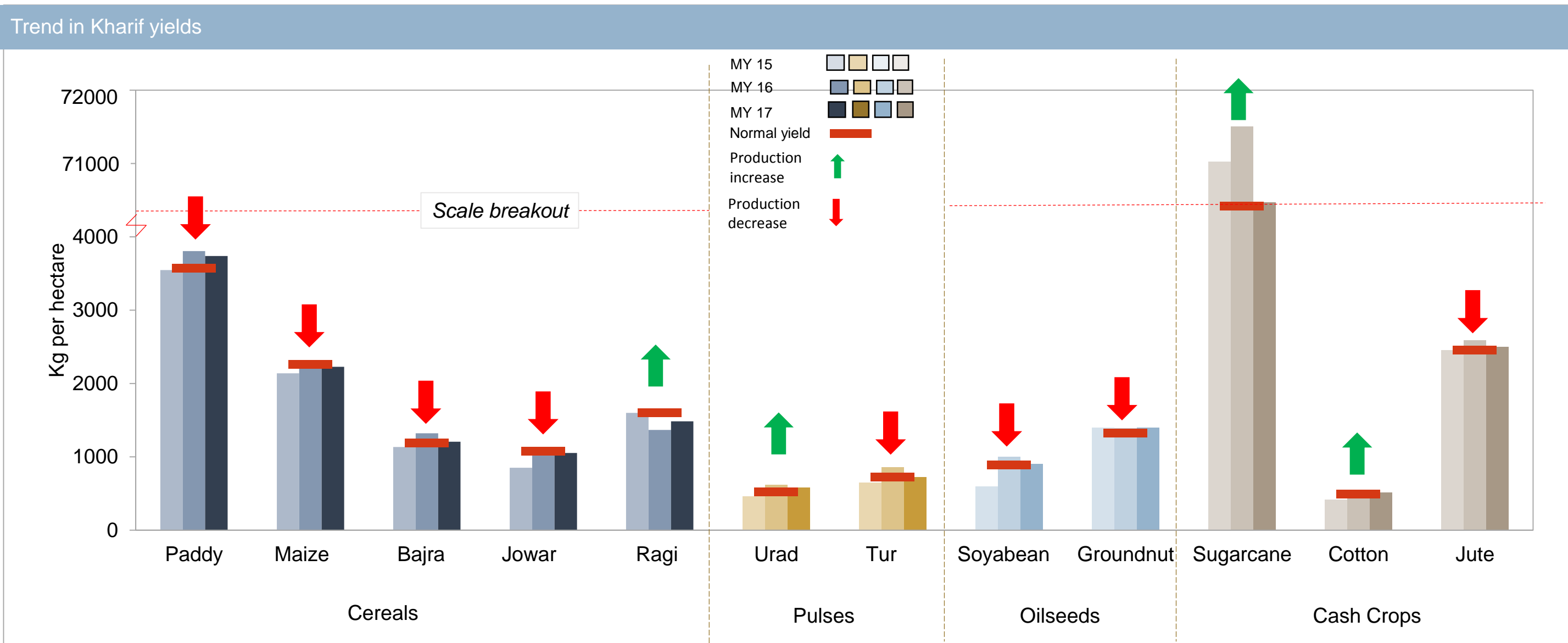
Source: Directorate of Economics and Statistics (DES), CRISIL

Yields for Rabi crops like wheat, rapeseed and mustard and gram, however, improved on-year as well as compared to normal

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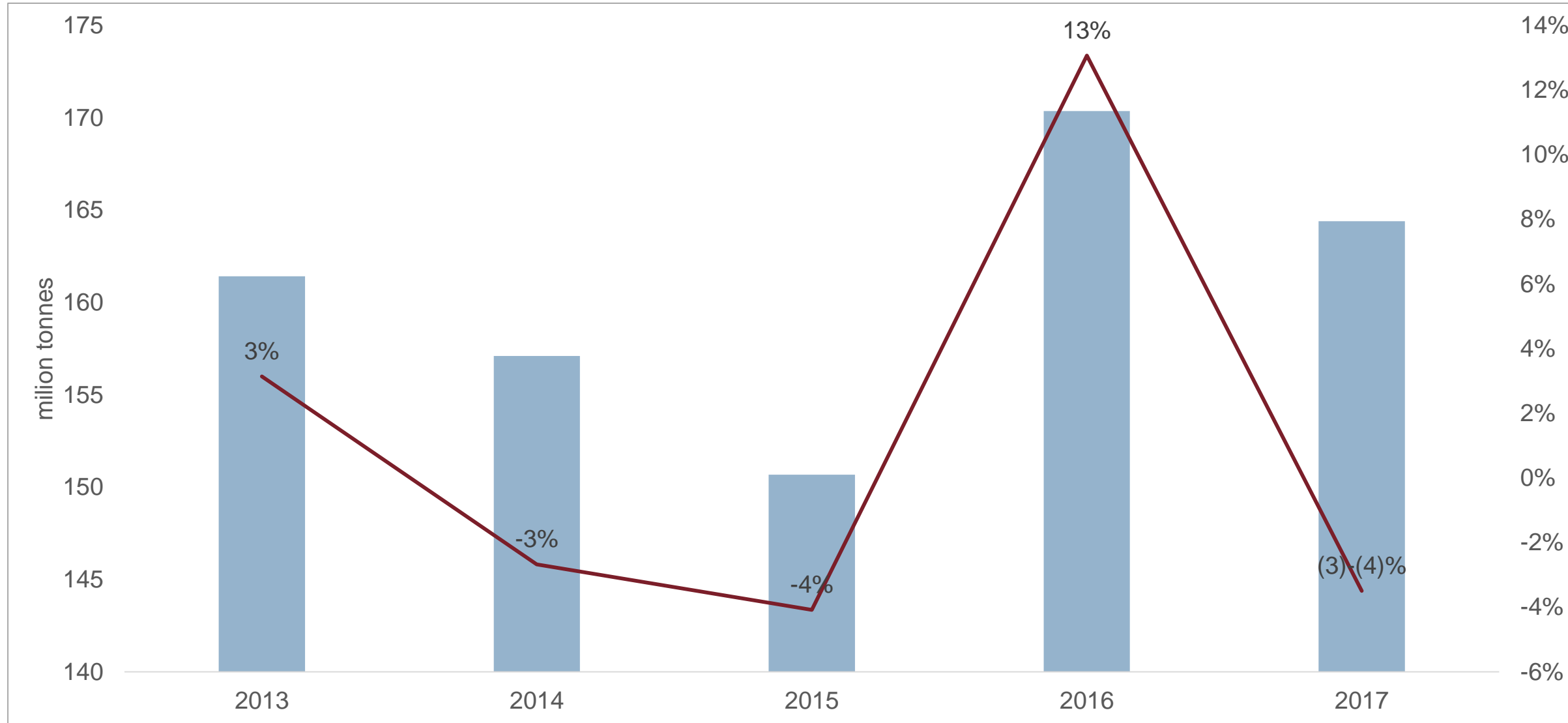
Source: Directorate of Economics and Statistics (DES), CRISIL

Yields for Rabi crops like wheat, rapeseed and mustard and gram, however, improved on-year as well as compared to normal

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# Kharif production to fall by 3-4% in 2017

This follows a higher rabi output which is 9% higher on year and similar to the peak of 2013-14

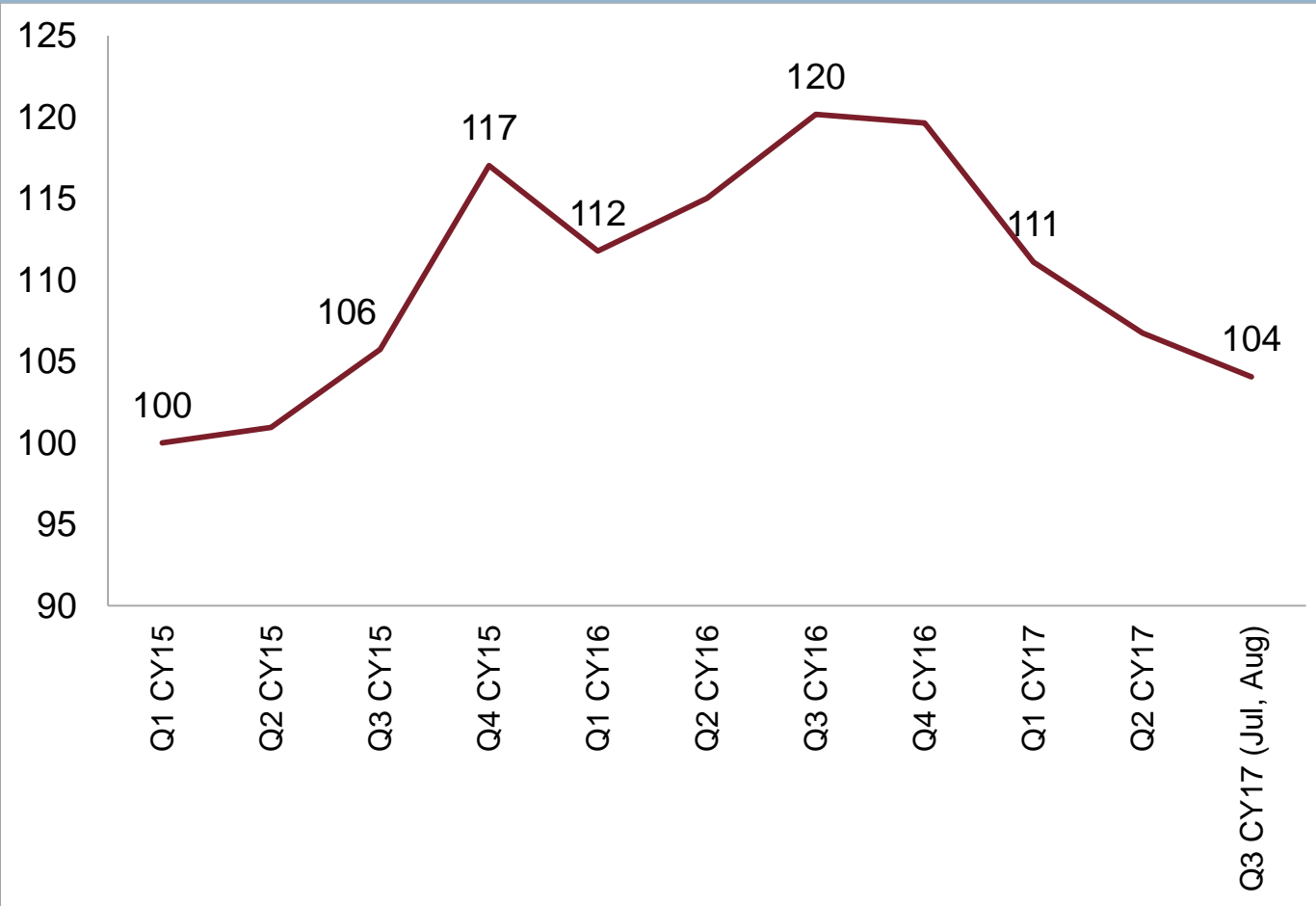


Source: Directorate of Economics and Statistics (DES), CRISIL

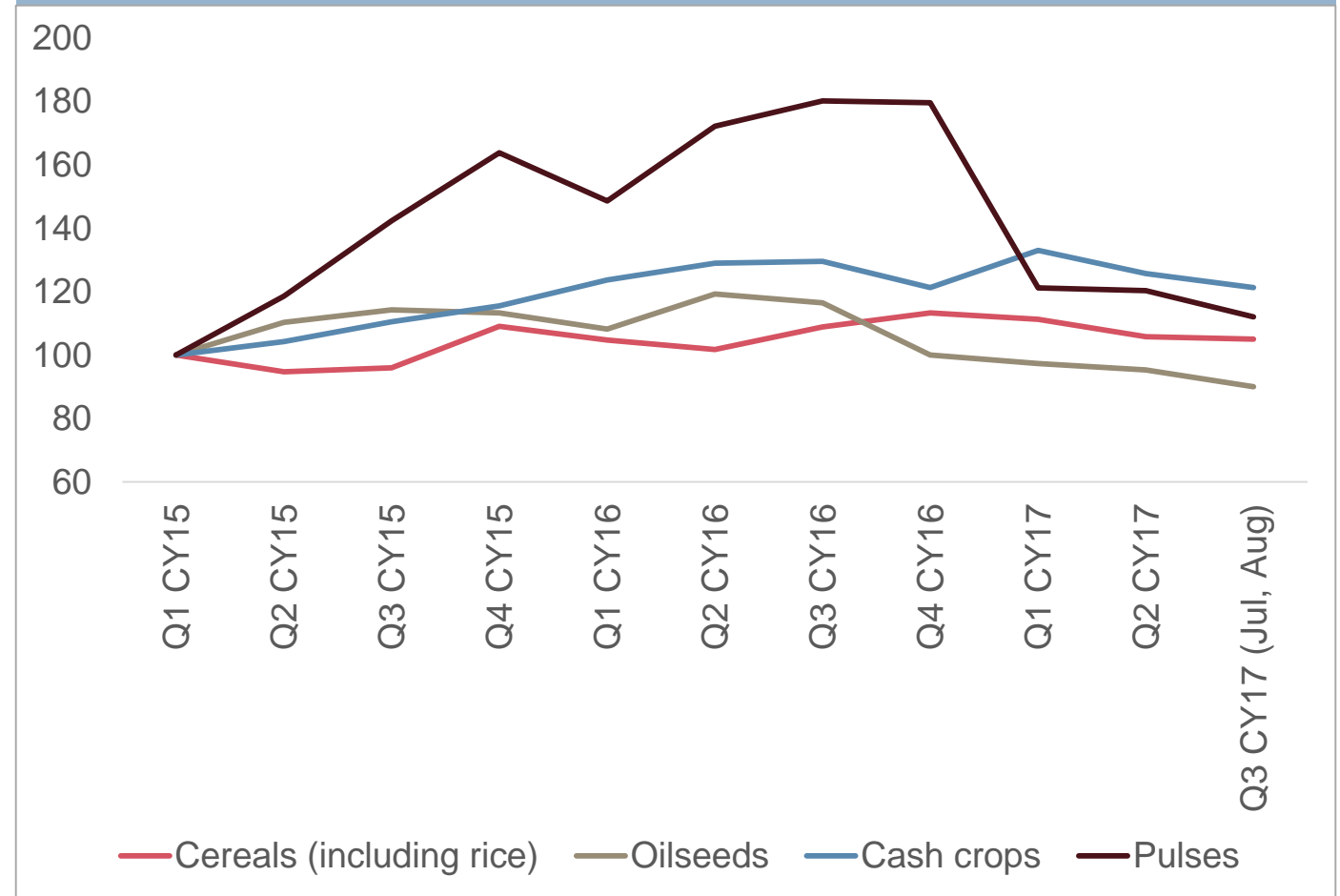
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# Mandi prices fall sharply in 2017

Weighted average mandi prices across crops decline sharply since Dec 2016



Price declines steeper for pulses and Oilseeds



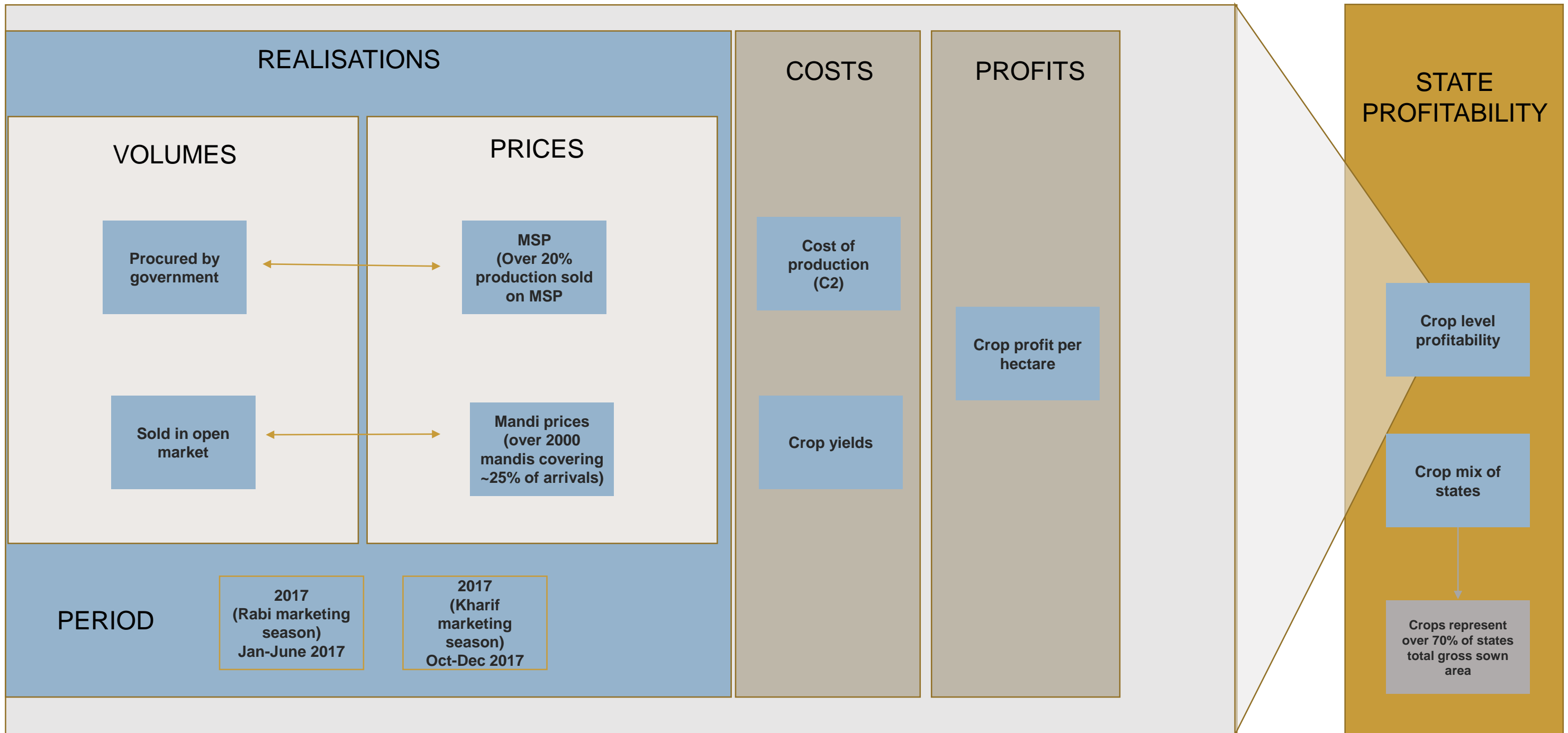
Note: **Cereals** include Bajra, Jowar, Ragi, Maize, Wheat, Rice; **Oilseeds** include Groundnut, Soybean and Mustard, **Cash crops** include Jute and Cotton; **Pulses** include Tur, Urad and Gram

Source: Agmarknet

Over 65% of the production is estimated to be sold in mandis

The above is based on prices at over 2000 mandis across 24 states which represents ~25% of output sold in mandis

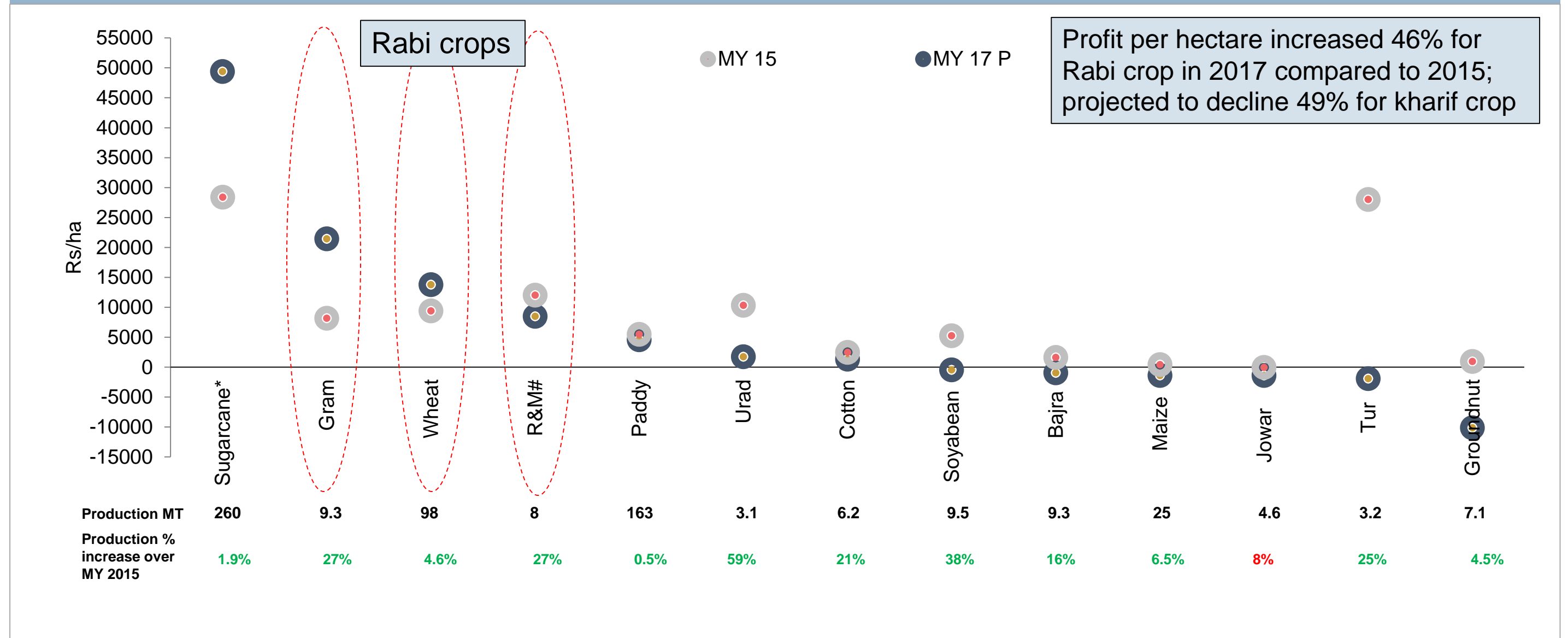
# Factors influencing state and crop profitability



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# Profit per hectare to decline ~25% for crop marketing year 2017

Profitability trend across 13 crops – 2017 compared with 2015



Note: \* : States considered for sugarcane analysis are Uttar Pradesh, Maharashtra, Karnataka # : R&M Rapeseed and Mustard

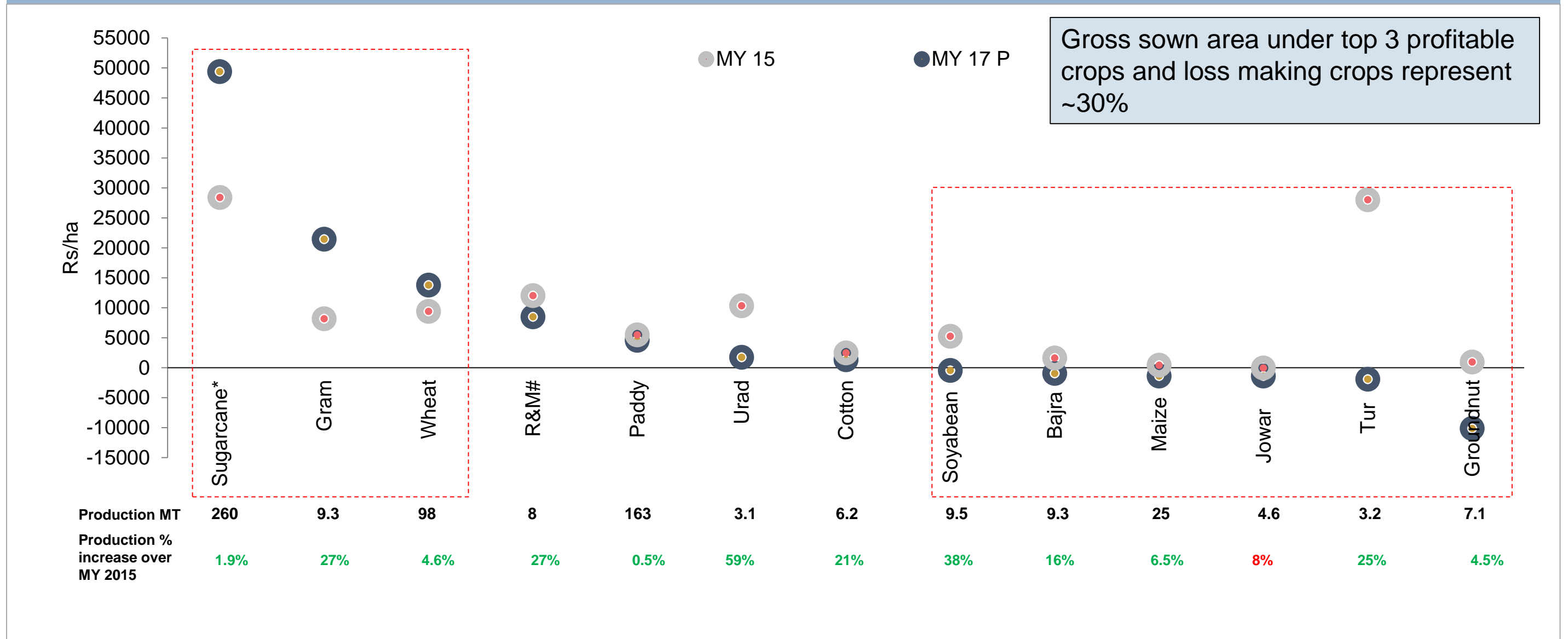
1) Cotton and Sugarcane are as per their respective season 2) MY denotes Marketing year 3) Profitability analysis includes crops of Rabi crop year 2016-17 and Kharif crop year 17-18

Source: CRISIL, DES

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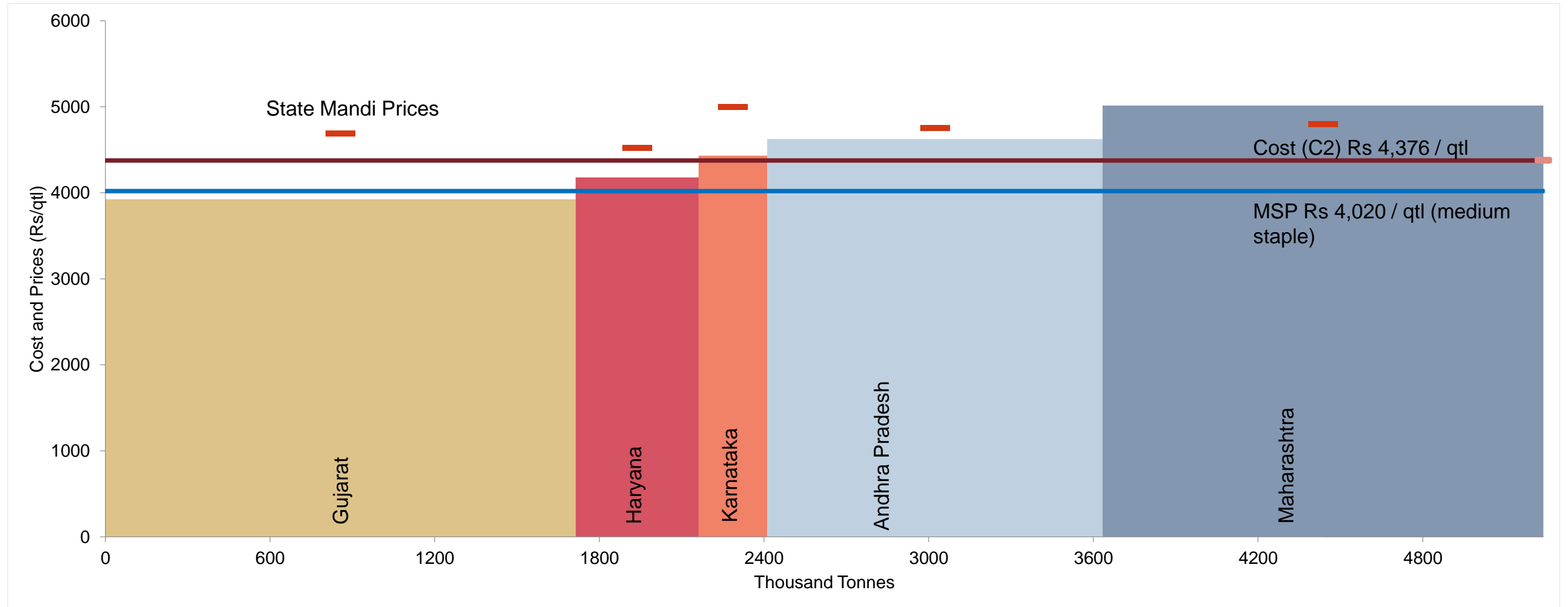
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Source: CRISIL, DES

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# Crop profitability dynamics differ across states

Cotton: Cost curve and price dynamics across states (CS 2017-18)

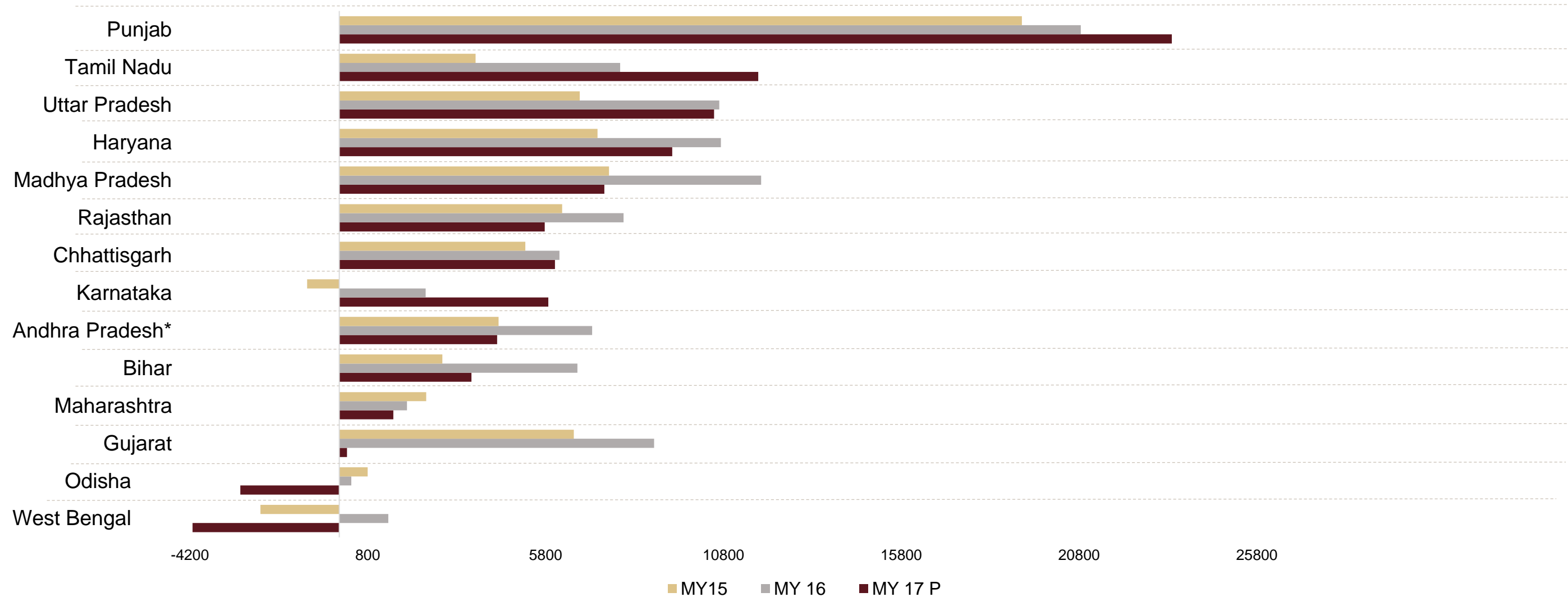


Source: Ministry of Agriculture, CACP, Agmarknet

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# 9 out of 14 states covering ~70% of sown area show dip in profits

Profit per hectare



Note: \* includes Andhra Pradesh and Telangana

Source: CRISIL

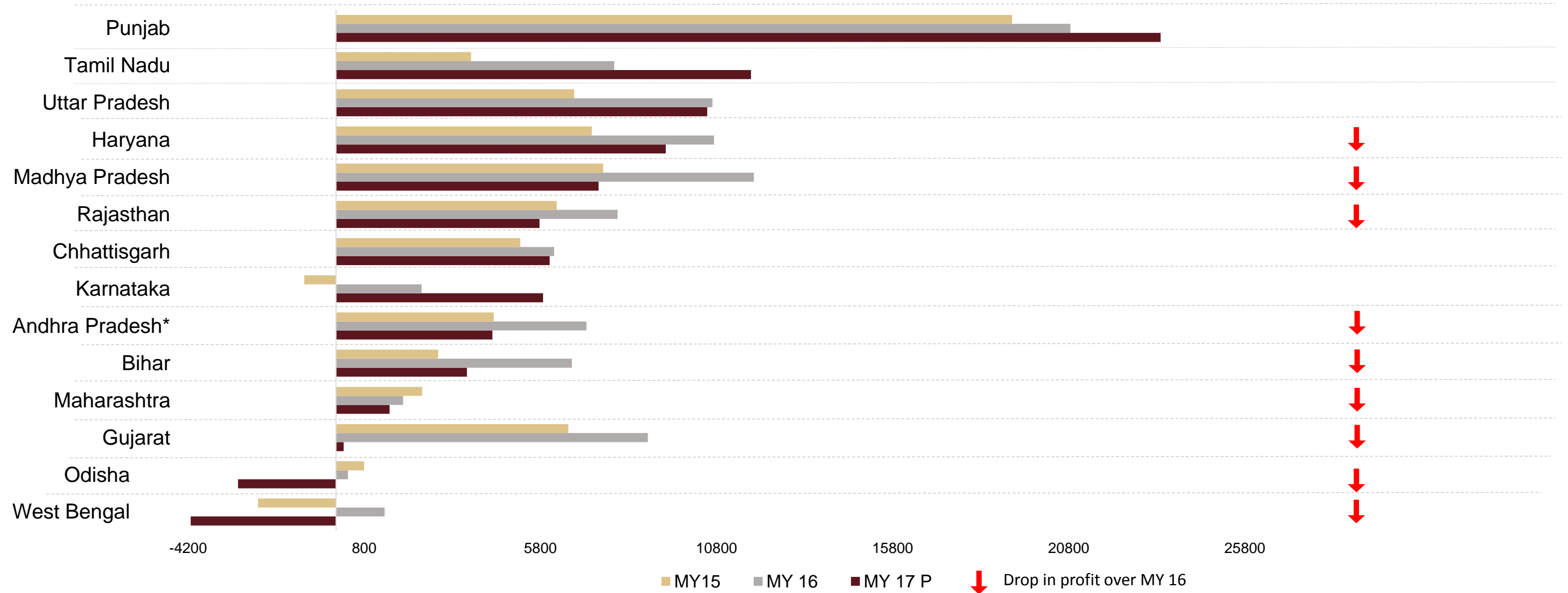
Research

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Note: \* includes Andhra Pradesh and Telangana

Source: CRISIL

Research

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# Key takeaways

- Healthy production expected for crop marketing year 2017
- Last years bumper production has led mandi prices to drop sharply
- Profit per hectare across crops to decline by ~25% on-year in 2017
- 9 out of 14 states to show a dip in profit per hectare

## Panel discussion:

Moderated by – **Hetal Gandhi, Director, CRISIL Research**



**Michael Andrade**  
Advisor  
Pioneering Ventures



**D K Joshi**  
Chief Economist  
CRISIL

# Thank you



**For more details on CRISIL Agri Report 2017**

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