CROP PRODUTION DATA ANALYSIS

By GAYATRI BALLAL

INTRODUCTION

- The agriculture sector stands as a cornerstone of the global supply chain, continuously evolving through technological advancements and the advent of the Future Internet.
- In this project, the exploration of crop production data presents an invaluable opportunity to delve into the intricacies of Indian agriculture and forecast future trends.
- In today's ever-evolving agricultural landscape, the integration of data analytics and technology has become paramount for driving innovation and fostering sustainable growth.
- With access to vast datasets encompassing crop production, area, and agricultural demographics, we embark on a journey to explore the intricate dynamics of Indian agriculture.

OBJECTIVES

- To find Total crop production,total crops,total area,total states ,total districts.
- To promote sustainable agricultural growth while addressing environmental, resource, and socio-economic challenges forong-term prosperity.
- To find the relationship between crop year,Production and area.
- To find which state exhibits higher levels of crop production compared to other states.
- To find in which year crop yield is high.
- To Investigate the factors driving the extensive cultivation of land for crops during the specific year .
- To find which state,district has largest crop production area.
- To find crop production is higher in which season.
- To find which crop has largest crop production area.

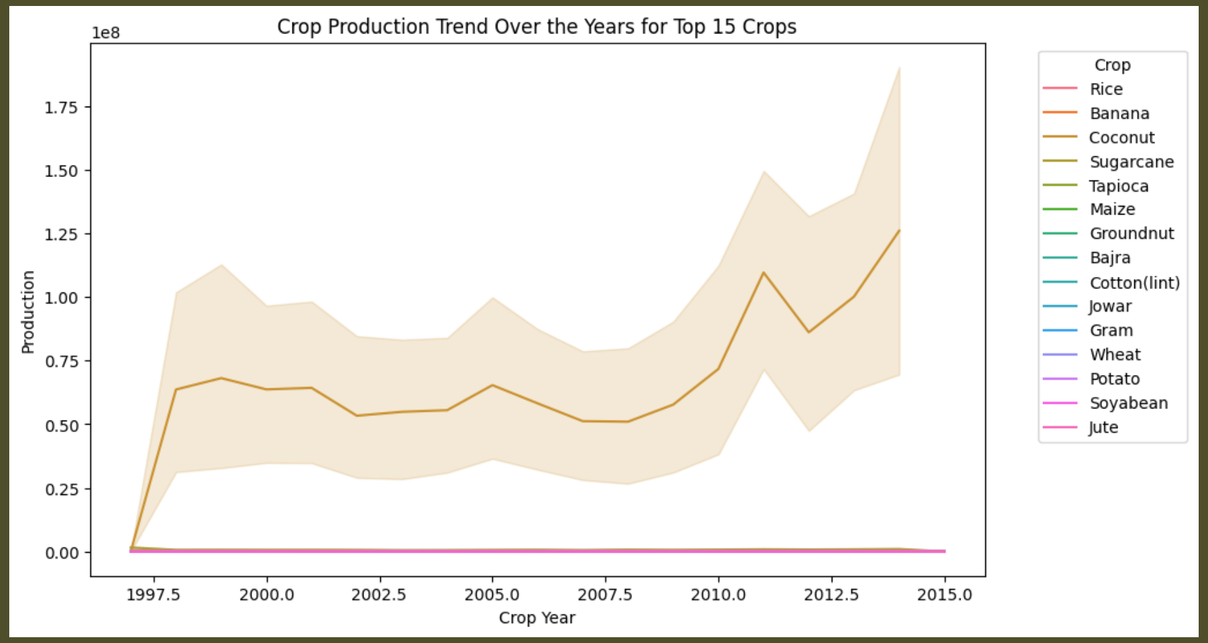
DETAILS OF DATA

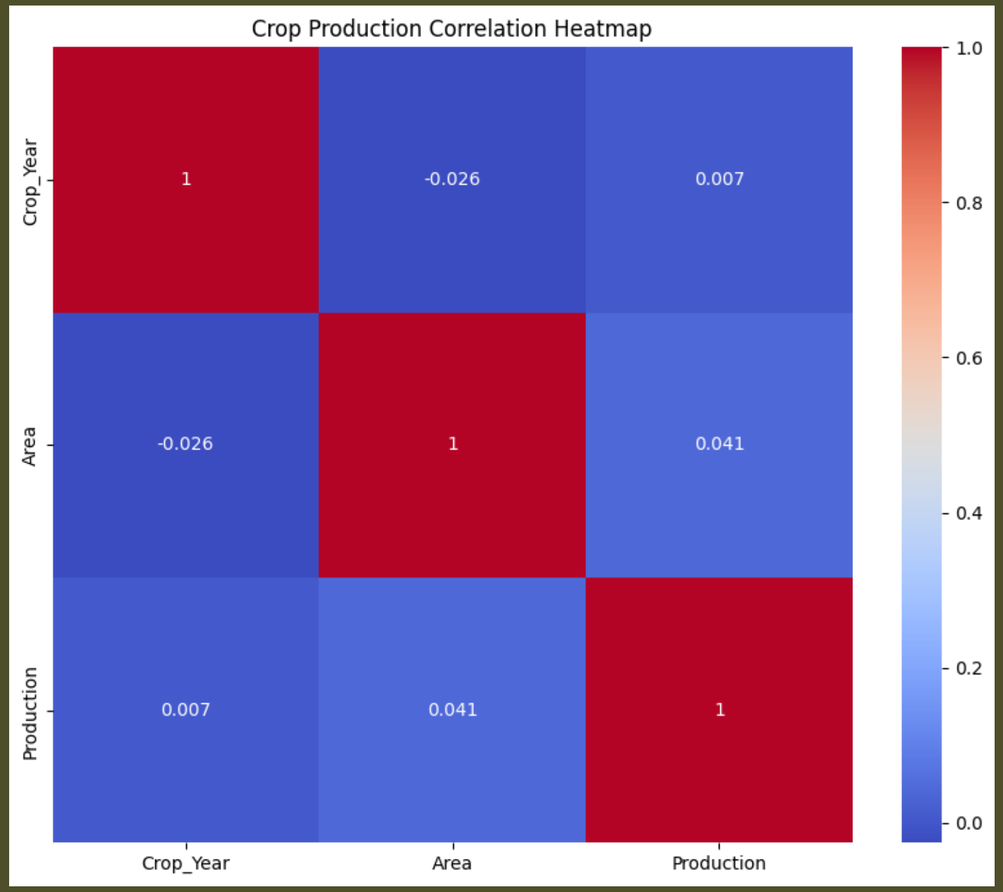
- Ths crop production data contains 246091 rows and 7 columns
- Column names are 'State_Name', 'District_Name', 'Crop_Year', 'Season', 'Crop', 'Area', 'Production'.
- After data cleaning columns are 7 and rows are 242361.

DATA CLEANING

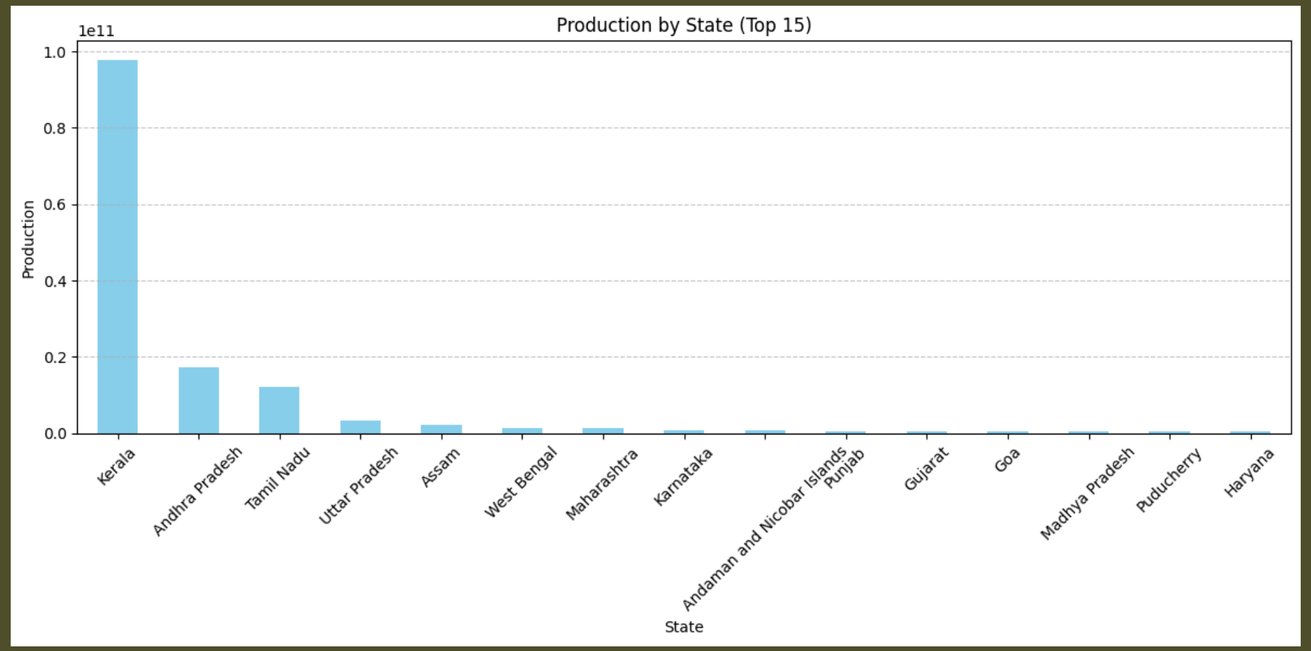
- Earlier there are some null values and blank cells present in the production column.
- Then the row containing blank cells and null values are removed using python and powerbi.
- So,Data is clean using python and power bi .

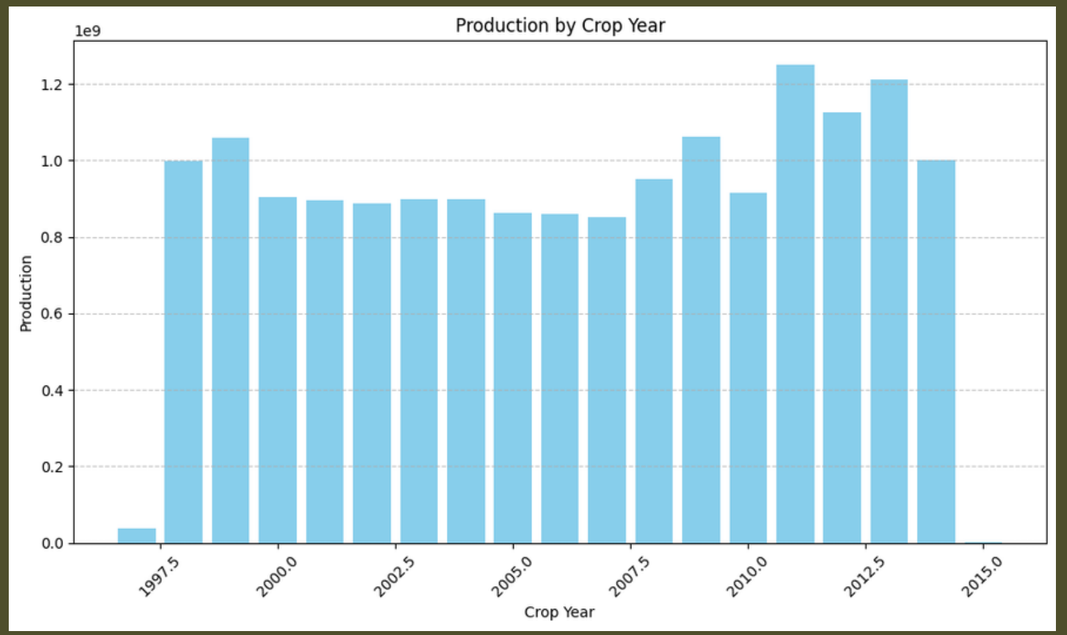
DATA ANALYSIS



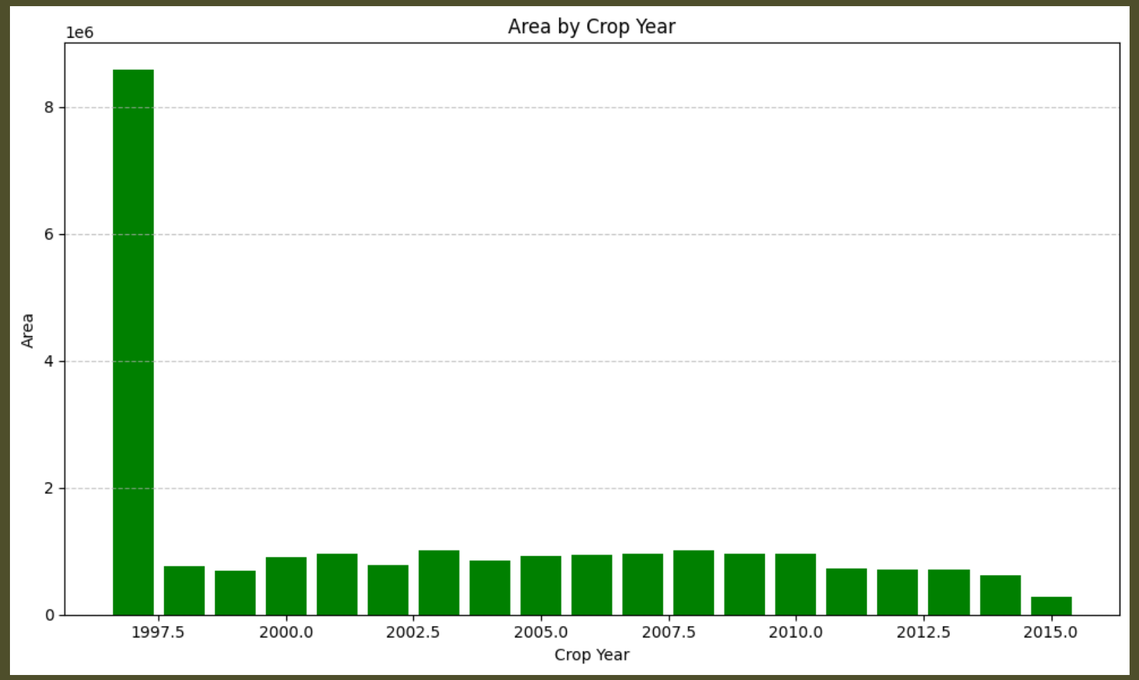


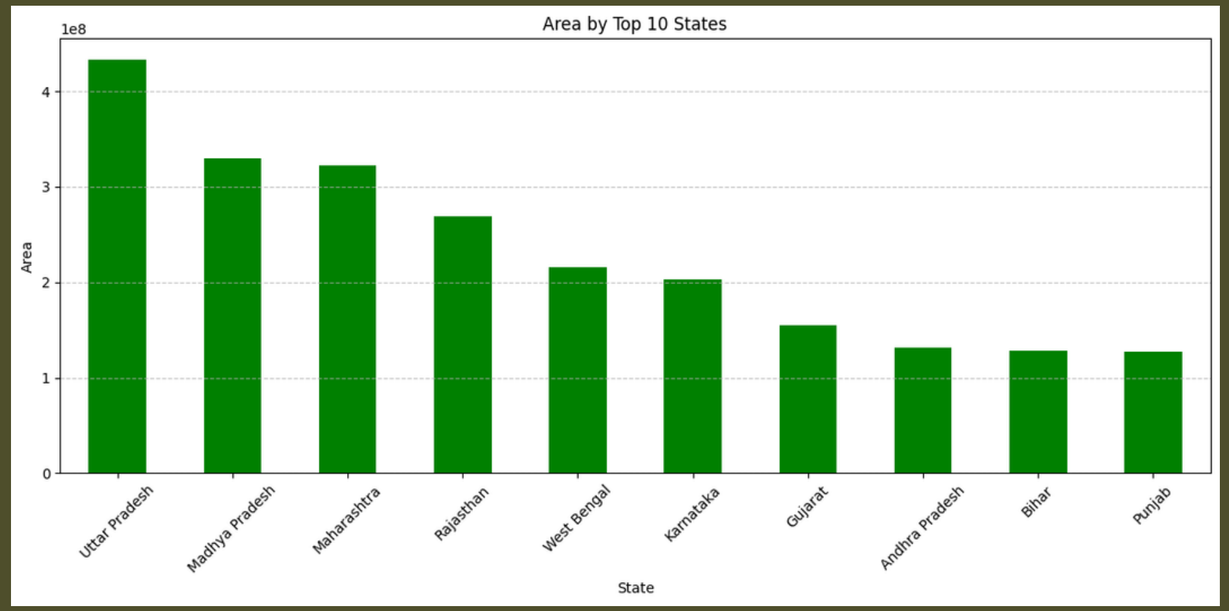
DATA ANALYSIS



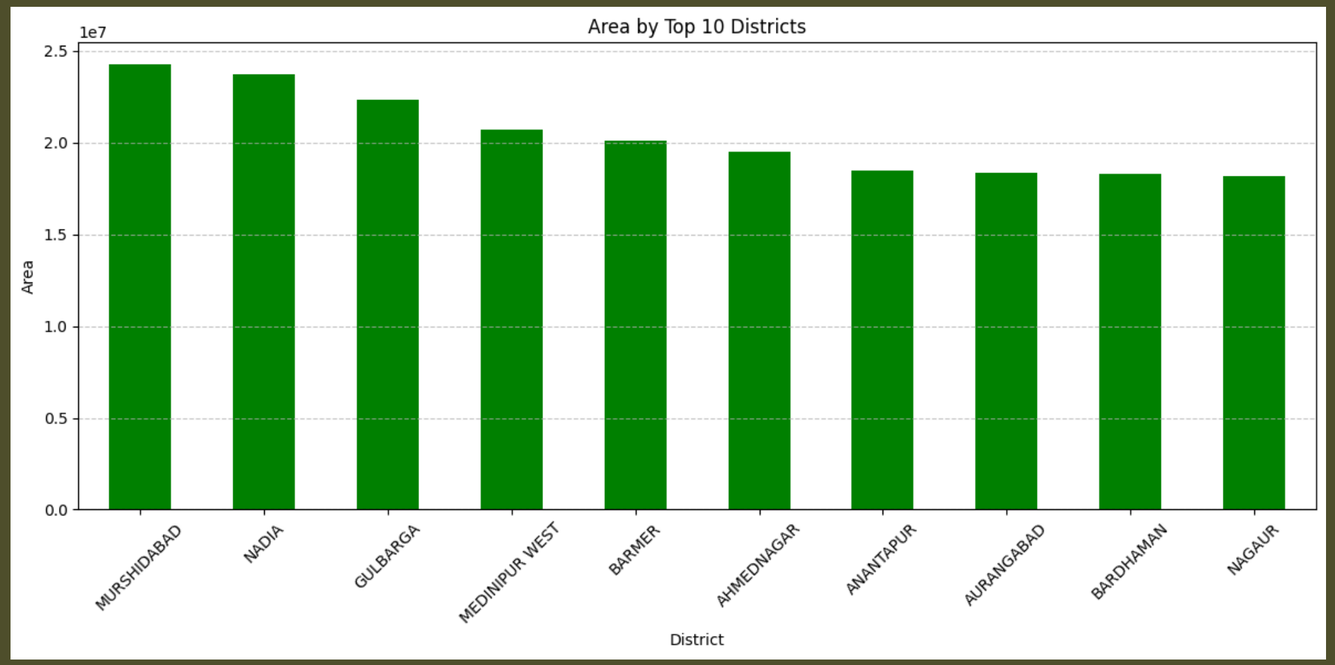


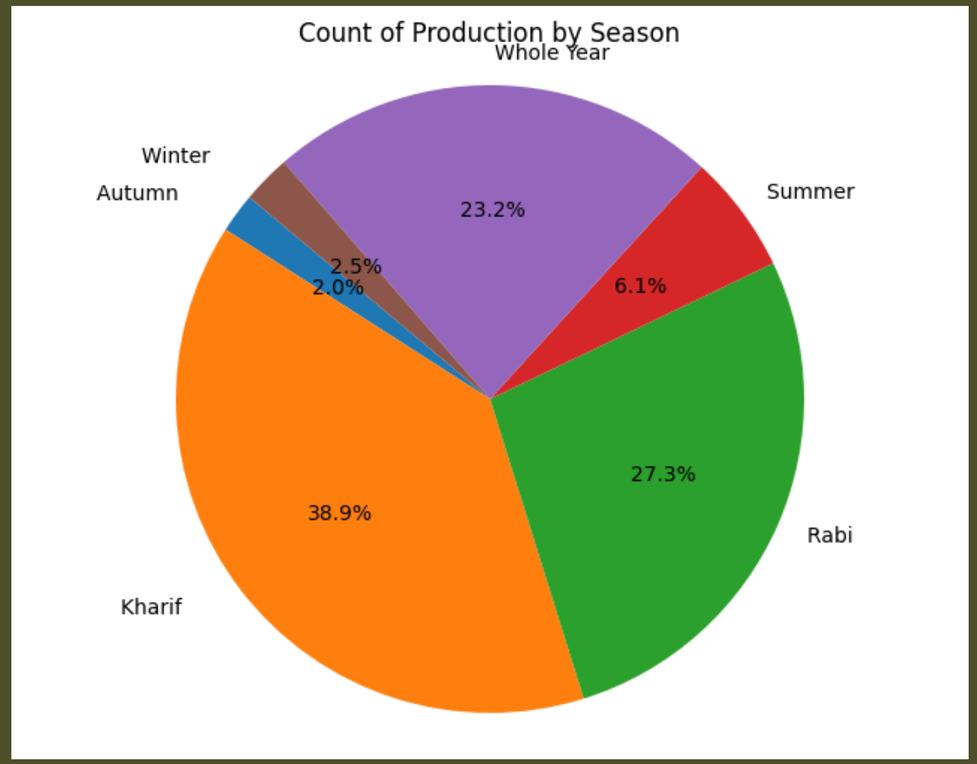
DATA ANALYSIS



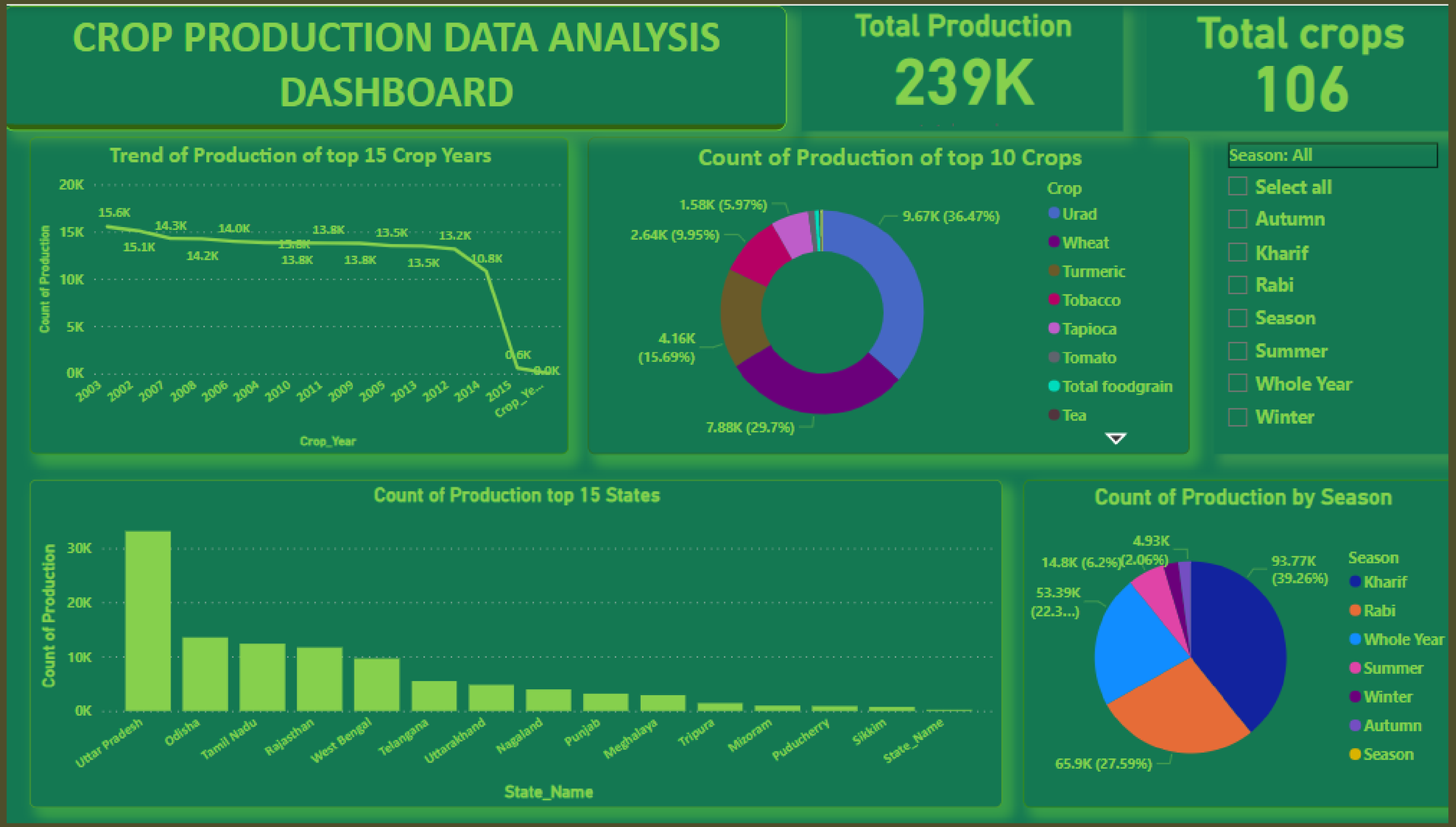


DATA ANALYSIS





DASHBOARDS


CROP PRODUCTION DATA ANALYSIS DASHBOARD
Total Production
239K
Total crops
106
Trend of Production of top 15 Crop Years
Count of Production
Crop_Year
Count of Production of top 10 Crops
1.58K (5.97%)
9.67K (36.47%)
2.64K (9.95%)
4.16K (15.69%)
7.88K (29.7%)
Crop
Urad
Wheat
Turmeric
Tobacco
Tapioca
Tomato
Total foodgrain
Tea
Season: All
Select all
Autumn
Kharif
Rabi
Season
Summer
Whole Year
Winter
Count of Production top 15 States
Uttar Pradesh
Odisha
Tamil Nadu
Rajasthan
West Bengal
Telangana
Uttarakhand
Nagaland
Punjab
Meghalaya
Tripura
Mizoram
Puducherry
Sikkim
State_Name
Count of Production by Season
4.93K (2.06%)
14.8K (6.2%)
93.77K (39.26%)
53.39K (22.3...)
65.9K (27.59%)
Season
Kharif
Rabi
Whole Year
Summer
Winter
Autumn
Season

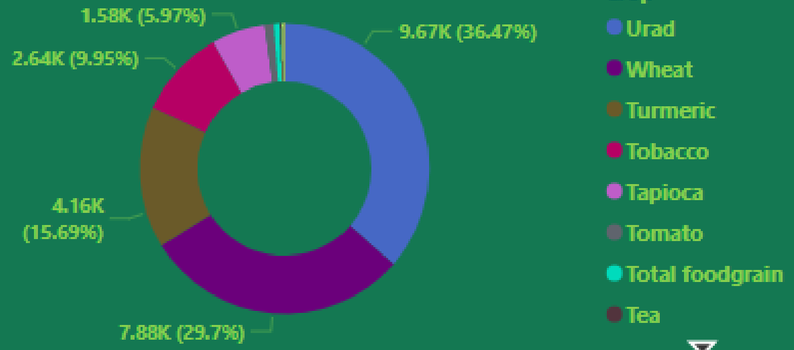
CROP PRODUCTION DATA ANALYSIS DASHBOARD

Total Production
239K

Total crops
106

Trend of Production of top 15 Crop Years

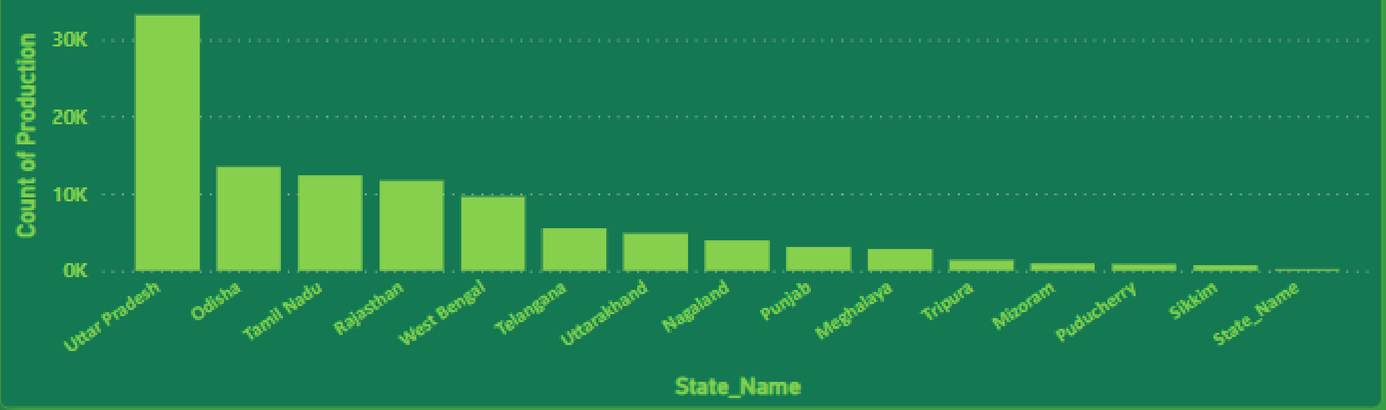
Count of Production of top 10 Crops



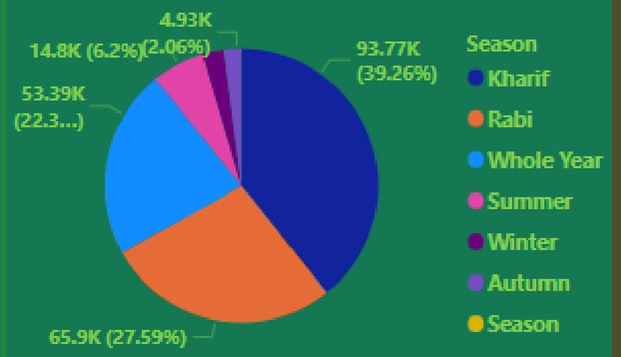
Season: All

- [ ] Select all
- [ ] Autumn
- [ ] Kharif
- [ ] Rabi
- [ ] Season
- [ ] Summer
- [ ] Whole Year
- [ ] Winter

Count of Production top 15 States



Count of Production by Season



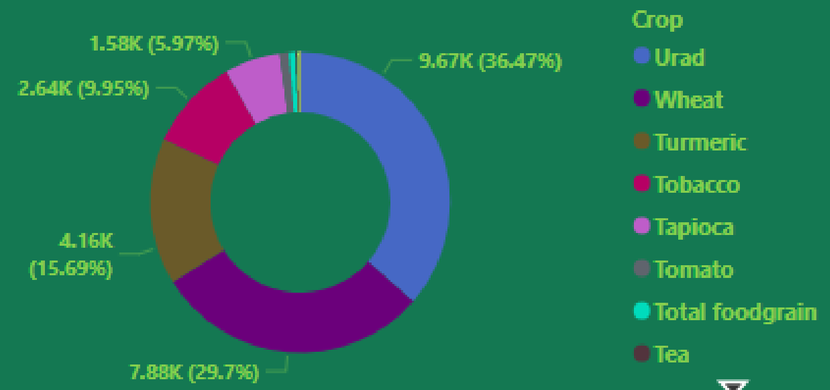
CROP PRODUCTION DATA ANALYSIS DASHBOARD

Total Production
239K

Total crops
106

Trend of Production of top 15 Crop Years

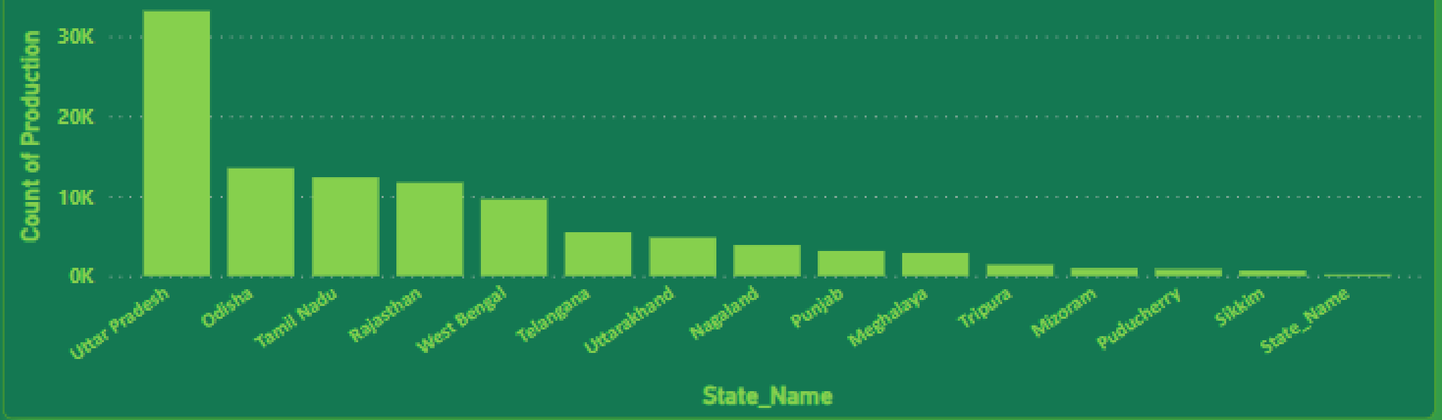
Count of Production of top 10 Crops



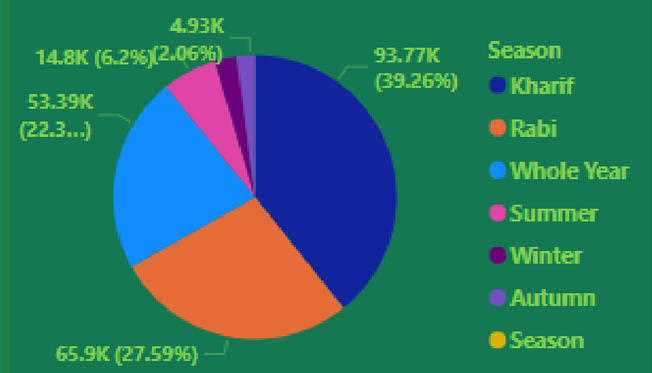
Season: All

- [ ] Select all
- [ ] Autumn
- [ ] Kharif
- [ ] Rabi
- [ ] Season
- [ ] Summer
- [ ] Whole Year
- [ ] Winter

Count of Production top 15 States



Count of Production by Season



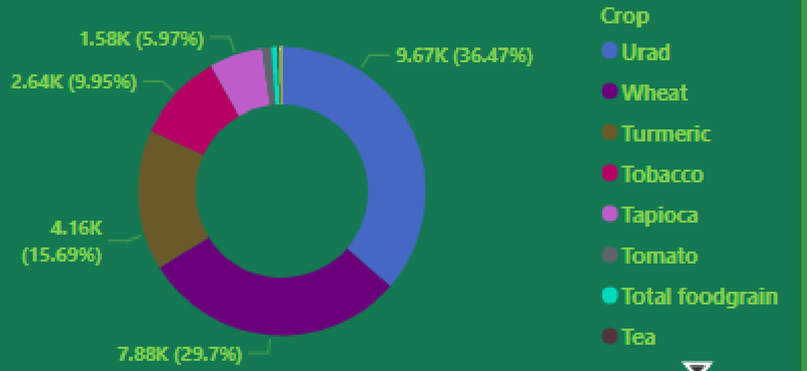
CROP PRODUCTION DATA ANALYSIS DASHBOARD

Total Production
239K

Total crops
106

Trend of Production of top 15 Crop Years

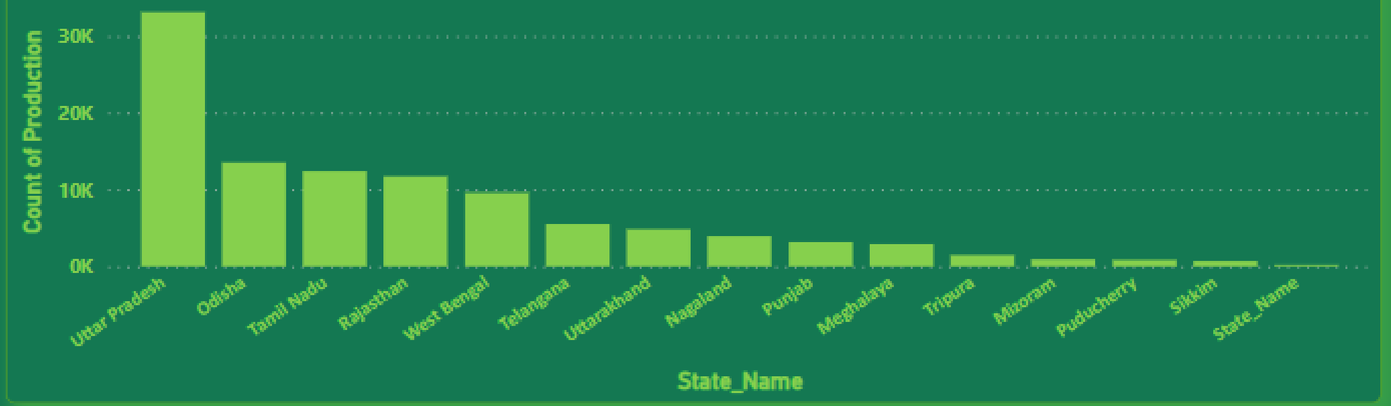
Count of Production of top 10 Crops



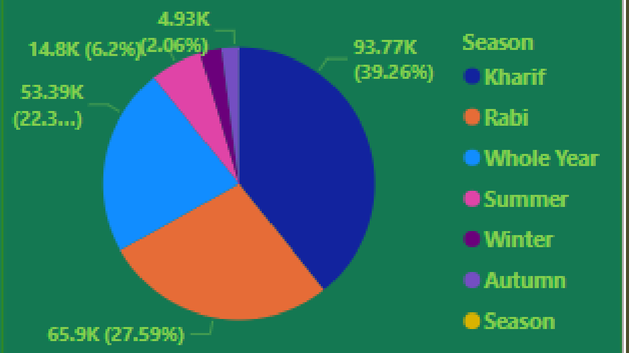
Season: All

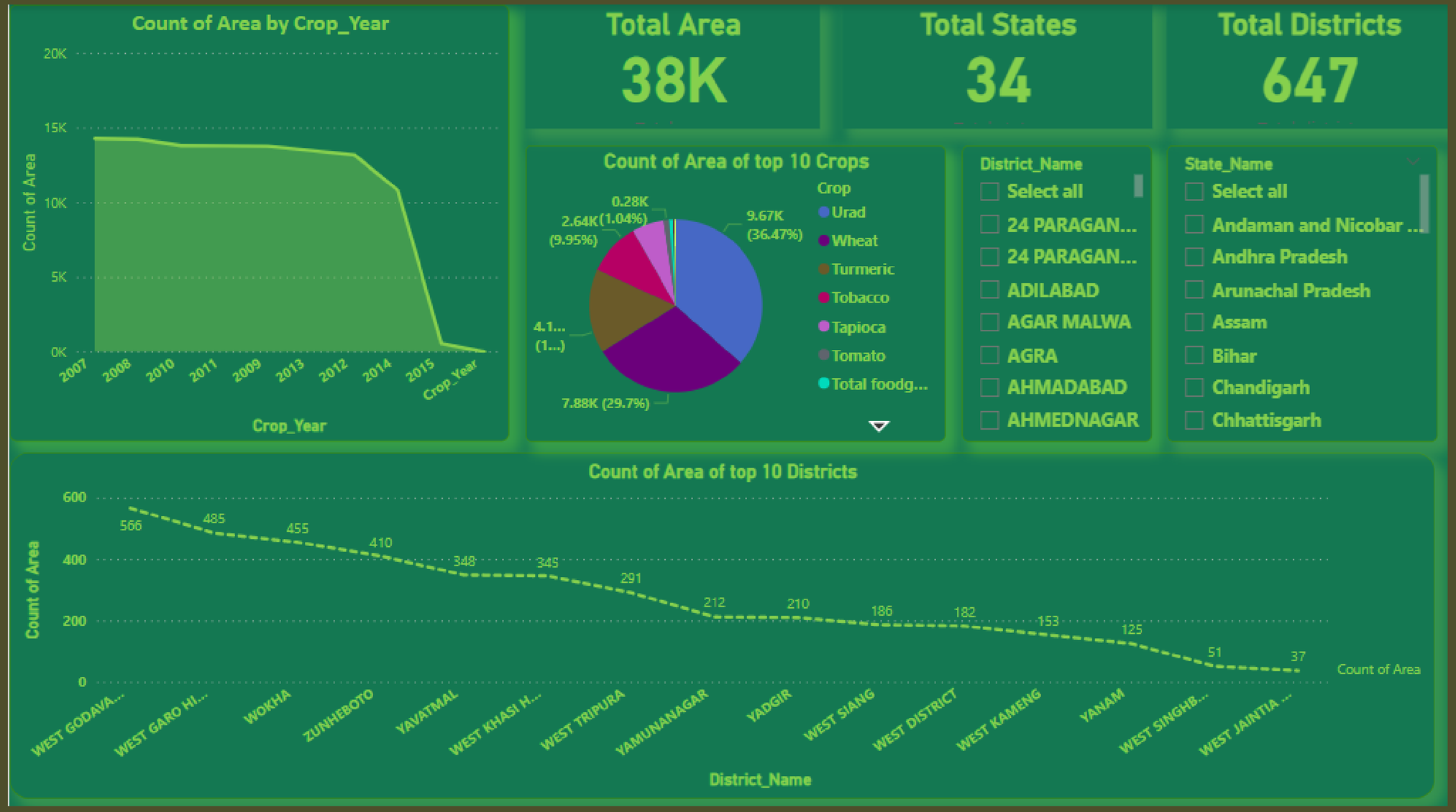
- Select all
- Autumn
- Kharif
- Rabi
- Season
- Summer
- Whole Year
- Winter

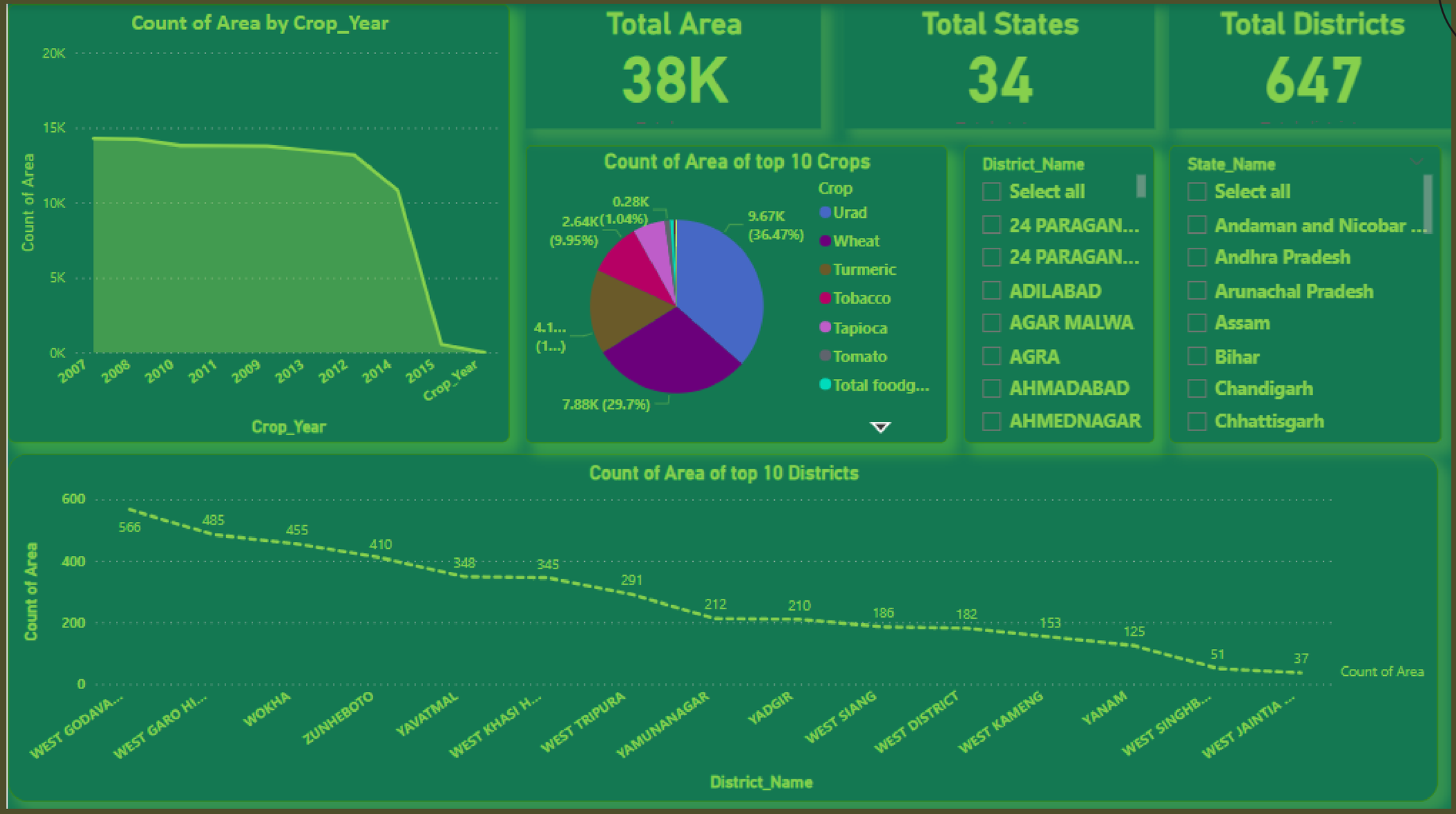
Count of Production top 15 States

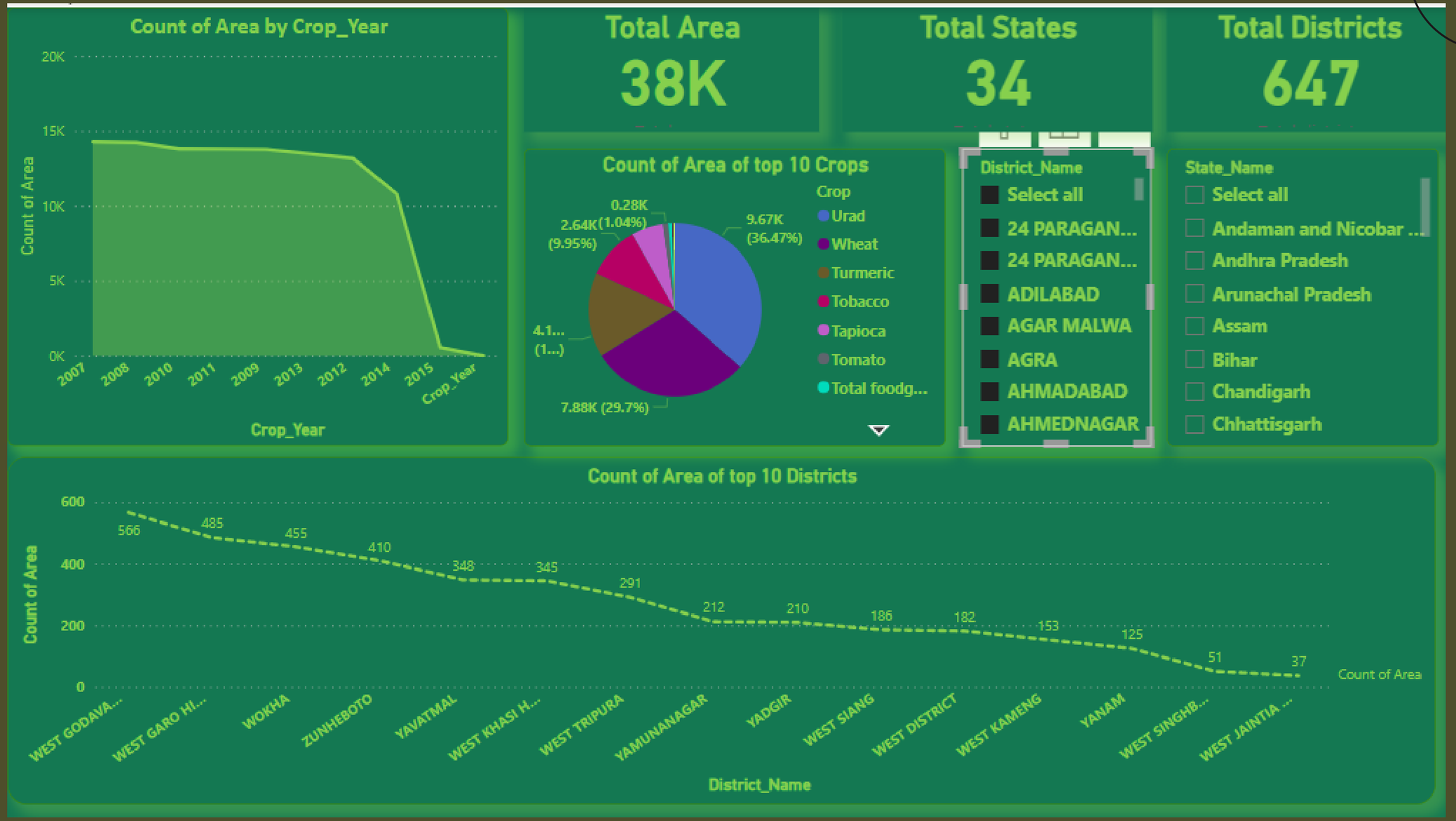


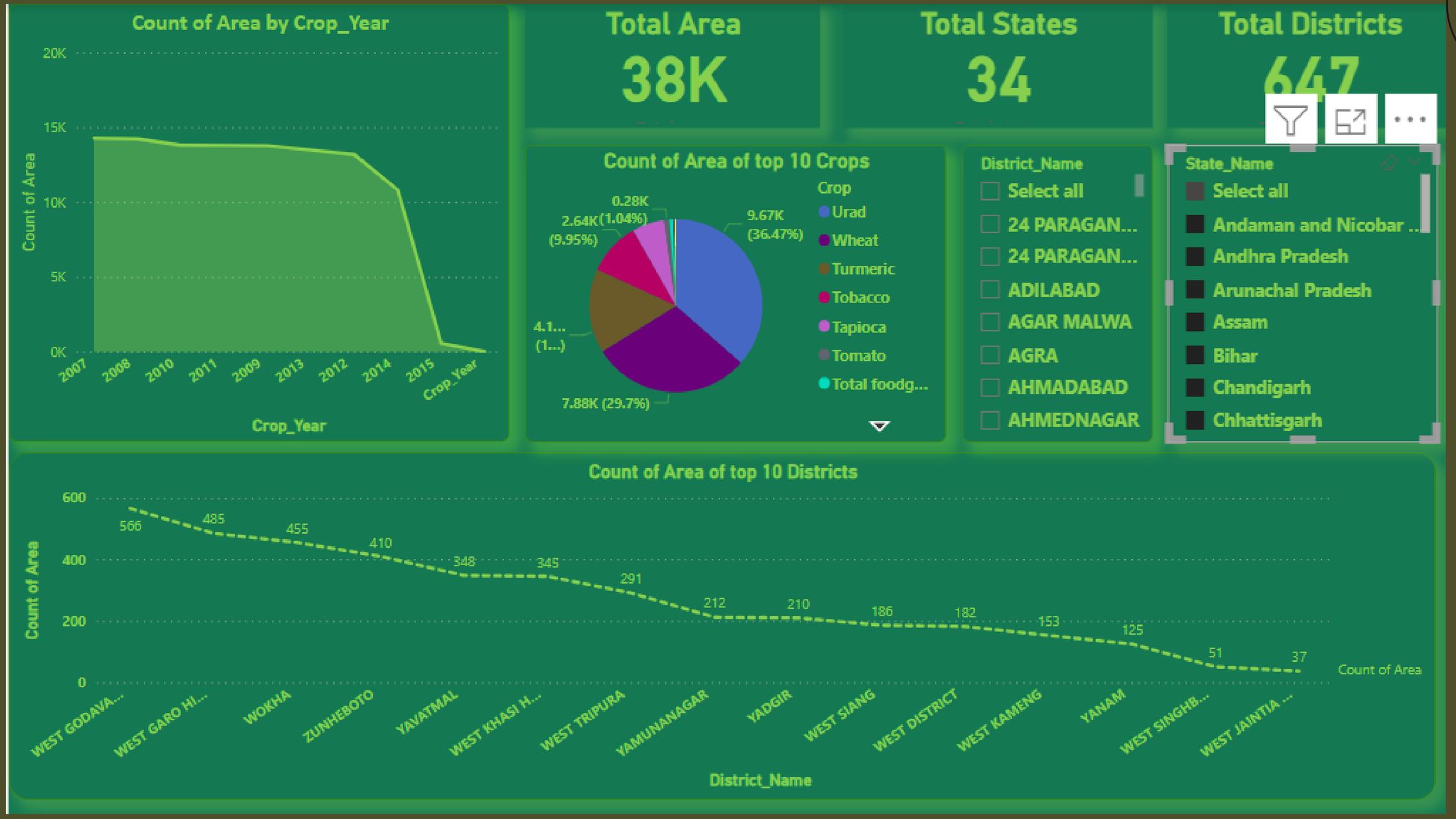
Count of Production by Season




Count of Area by Crop_Year
20K
15K
10K
5K
0K
Count of Area
2007
2008
2010
2011
2009
2013
2012
2014
2015
Crop_Year
Crop_Year
Total Area
38K
Total States
34
Total Districts
647
Count of Area of top 10 Crops
0.28K
2.64K (1.04%)
(9.95%)
9.67K
(36.47%)
4.1...
(1...)
7.88K (29.7%)
Crop
Urad
Wheat
Turmeric
Tobacco
Tapioca
Tomato
Total foodg...
District_Name
Select all
24 PARAGAN...
24 PARAGAN...
ADILABAD
AGAR MALWA
AGRA
AHMADABAD
AHMEDNAGAR
State_Name
Select all
Andaman and Nicobar ...
Andhra Pradesh
Arunachal Pradesh
Assam
Bihar
Chandigarh
Chhattisgarh
Count of Area of top 10 Districts
600
400
200
0
Count of Area
566
485
455
410
348
345
291
212
210
186
182
153
125
51
37
WEST GODAVA...
WEST GARO HI...
WOKHA
ZUNHEBOTO
YAVATMAL
WEST KHASI H...
WEST TRIPURA
YAMUNANAGAR
YADGIR
WEST SIANG
WEST DISTRICT
WEST KAMENG
YANAM
WEST SINGHB...
WEST JAINTIA ...
District_Name
Count of Area


Count of Area by Crop_Year
20K
15K
10K
5K
0K
Count of Area
2007
2008
2010
2011
2009
2013
2012
2014
2015
Crop_Year
Crop_Year
Total Area
38K
Total States
34
Total Districts
647
Count of Area of top 10 Crops
0.28K
2.64K (1.04%)
(9.95%)
9.67K
(36.47%)
4.1...
(1...)
7.88K (29.7%)
Crop
Urad
Wheat
Turmeric
Tobacco
Tapioca
Tomato
Total foodg...
District_Name
Select all
24 PARAGAN...
24 PARAGAN...
ADILABAD
AGAR MALWA
AGRA
AHMADABAD
AHMEDNAGAR
State_Name
Select all
Andaman and Nicobar ...
Andhra Pradesh
Arunachal Pradesh
Assam
Bihar
Chandigarh
Chhattisgarh
Count of Area of top 10 Districts
600
400
200
0
Count of Area
566
485
455
410
348
345
291
212
210
186
182
153
125
51
37
Count of Area
WEST GODAVA...
WEST GARO HI...
WOKHA
ZUNHEBOTO
YAVATMAL
WEST KHASI H...
WEST TRIPURA
YAMUNANAGAR
YADGIR
WEST SIANG
WEST DISTRICT
WEST KAMENG
YANAM
WEST SINGHB...
WEST JAINTIA ...
District_Name


Count of Area by Crop_Year
20K
15K
10K
5K
0K
Count of Area
2007
2008
2010
2011
2009
2013
2012
2014
2015
Crop_Year
Crop_Year
Total Area
38K
Total States
34
Total Districts
647
Count of Area of top 10 Crops
0.28K
2.64K (1.04%)
(9.95%)
9.67K
(36.47%)
4.1...
(1...)
7.88K (29.7%)
Crop
Urad
Wheat
Turmeric
Tobacco
Tapioca
Tomato
Total foodg...
District_Name
Select all
24 PARAGAN...
24 PARAGAN...
ADILABAD
AGAR MALWA
AGRA
AHMADABAD
AHMEDNAGAR
State_Name
Select all
Andaman and Nicobar ...
Andhra Pradesh
Arunachal Pradesh
Assam
Bihar
Chandigarh
Chhattisgarh
Count of Area of top 10 Districts
600
400
200
0
Count of Area
566
485
455
410
348
345
291
212
210
186
182
153
125
51
37
WEST GODAVA...
WEST GARO HI...
WOKHA
ZUNHEBOTO
YAVATMAL
WEST KHASI H...
WEST TRIPURA
YAMUNANAGAR
YADGIR
WEST SIANG
WEST DISTRICT
WEST KAMENG
YANAM
WEST SINGHB...
WEST JAINTIA ...
District_Name


Count of Area by Crop_Year
20K
15K
10K
5K
0K
Count of Area
2007
2008
2010
2011
2009
2013
2012
2014
2015
Crop_Year
Crop_Year
Total Area
38K
Total States
34
Total Districts
647
Count of Area of top 10 Crops
0.28K
2.64K (1.04%)
(9.95%)
9.67K
(36.47%)
4.1...
(1...)
7.88K (29.7%)
Crop
Urad
Wheat
Turmeric
Tobacco
Tapioca
Tomato
Total foodg...
District_Name
Select all
24 PARAGAN...
24 PARAGAN...
ADILABAD
AGAR MALWA
AGRA
AHMADABAD
AHMEDNAGAR
State_Name
Select all
Andaman and Nicobar ...
Andhra Pradesh
Arunachal Pradesh
Assam
Bihar
Chandigarh
Chhattisgarh
Count of Area of top 10 Districts
600
400
200
0
Count of Area
566
485
455
410
348
345
291
212
210
186
182
153
125
51
37
WEST GODAVA...
WEST GARO HI...
WOKHA
ZUNHEBOTO
YAVATMAL
WEST KHASI H...
WEST TRIPURA
YAMUNANAGAR
YADGIR
WEST SIANG
WEST DISTRICT
WEST KAMENG
YANAM
WEST SINGHB...
WEST JAINTIA ...
District_Name

KEY MATRICES

- Total crop production is 239K,Total crops are 106,Total area is 38K,Total state are 34,Total districts are 647.
- Increasing crop production offers economic growth and food security prospects but demands sustainable management to tackle environmental degradation, resource depletion, and socio-economic disparities for enduring agricultural prosperity
- A positive trajectory in crop production over time, influenced by either expanded cultivation or enhanced agricultural methods, emphasizing the need for sustainable practices to address evolving challenges and ensure long-term agricultural prosperity
- Kerala state exhibits higher levels of crop production compared to other states.
- Crop production reached its zenith in 2011, reflecting potential favorable conditions or advancements conducive to higher yields during that year.

- A significant amount of land was cultivated for crops during that 1997 year compared to other years.
- Largest area is in Uttar pradesh state.The statement highlights Uttar Pradesh's dominance in agricultural land, suggesting extensive crop cultivation within the state.
- Largest crop production area is in Murshibad district.Murshidabad district's preeminence in crop production area, reflecting its agricultural prowess and potential for localized agricultural development strategies.
- crop production peaks during the Kharif season, likely due to favorable environmental conditions, guiding seasonal agricultural planning and resource allocation strategies for optimal yield during this period.
- Urad crop exhibits the largest crop production area compared to other crops.

- Largest area is in Uttar pradesh state.The statement highlights Uttar Pradesh's dominance in agricultural land, suggesting extensive crop cultivation within the state.
- Largest crop production area is in Murshibad district.Murshidabad district's preeminence in crop production area, reflecting its agricultural prowess and potential for localized agricultural development strategies.

THANK YOU