Climate resilience in PMDS+ZBNF and Chemical farms

Cotton and Paddy

Comparison of damage Cotton

19 Oct 2020 3:27:29 p.m
Nagarjuna Sagar-Srisailam Road
Mandad
Guntur
Andhra Pradesh

PMDS based Cotton field

Chemical Cotton field

PMDS BASED COTTON AND CONVENTIONAL COTTON COMPARISON

PMDS BASED COTTON

- Root length 35.56 cm
- Number of flowers per plant 8
- Number of bolls per plant : 48
- Percentage of Flower drop 10%
- Less damage of Branches

CONVENTIONAL COTTON

- Root length 27.94 cm
- Number of flowers per plant 5
- Number of bolls per plant: 32
- Percentage of flower drop 90%.
- More damage of branches.
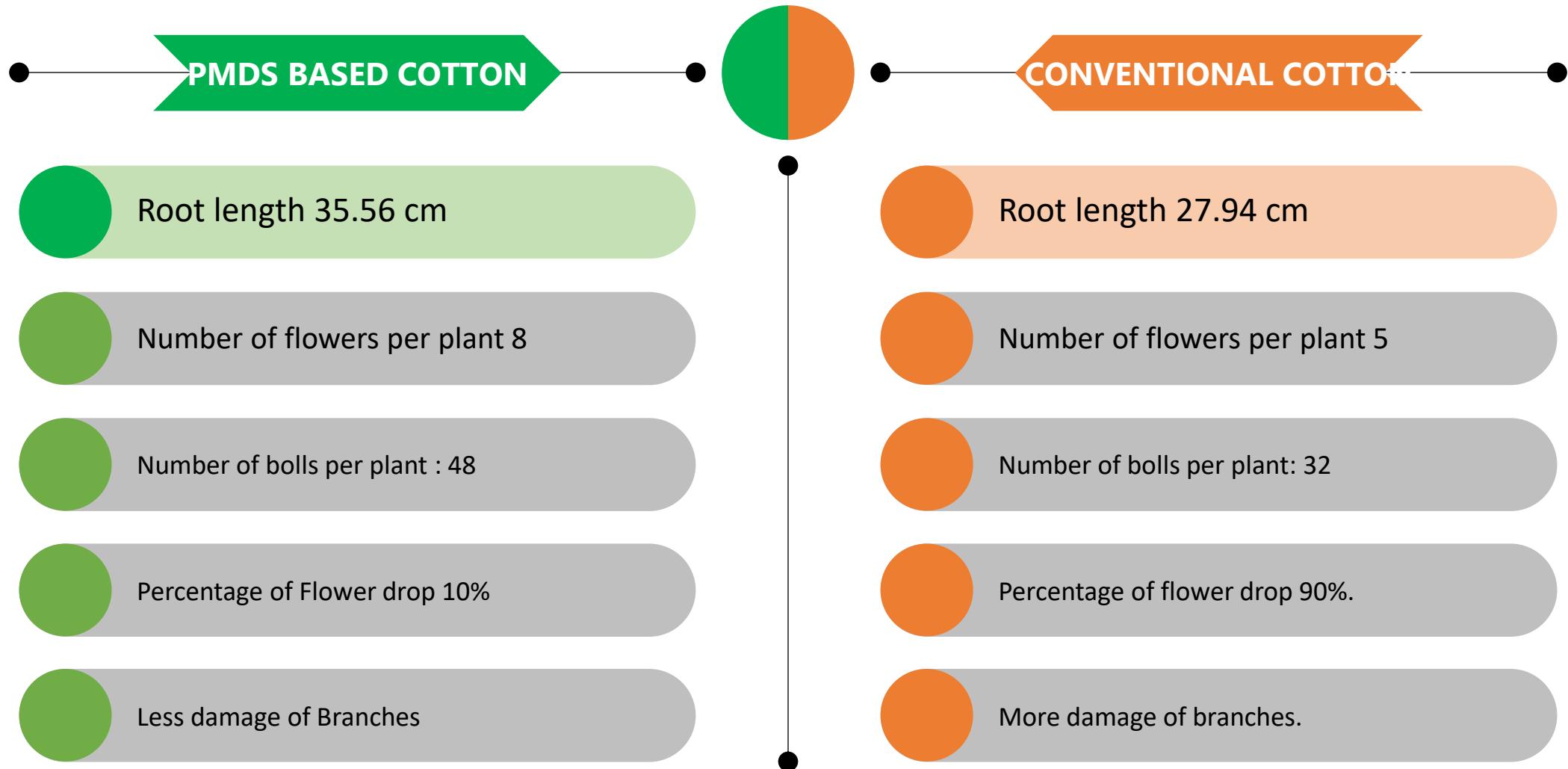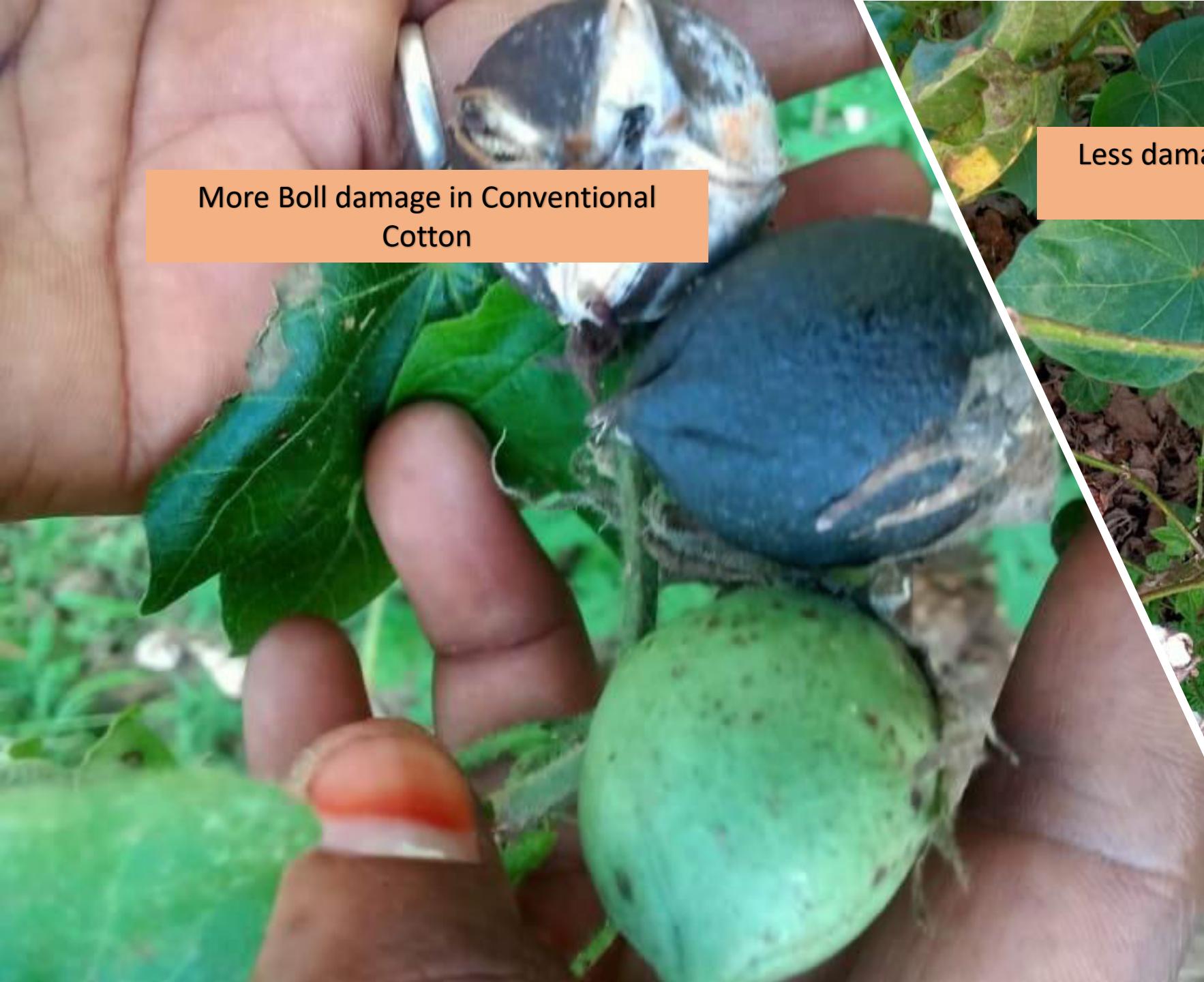
More Boll damage in Conventional Cotton

Less damage to bolls in PMDS based Cotton

Rain impact on PMDS+ZBNF Cotton and Chemical Cotton
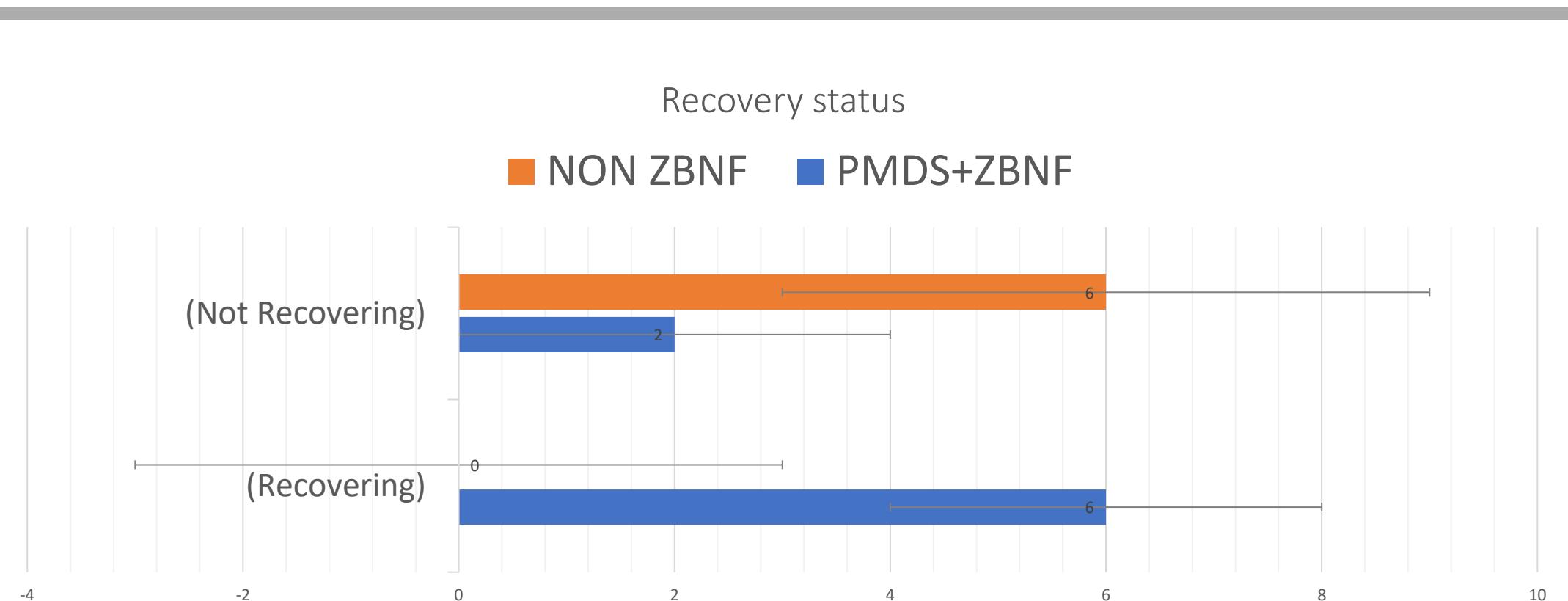
Chi-square analysis

RESULT:.

- From the results we can conclude that crop recovery after heavy rains is more in PMDS+ZBNF fields compared to Conventional fields

|	CHI-SQUARE	DF	P-VALUE
Pearson	7.875	1	0.005
Likelihood Ratio	10.124	1	0.001

Breakage of stem in PMDS+ZBNF and Chemical Cotton

# Breakage of stem and Plant parts due to heavy rains

Chi-square test:

	Chi-Square	DF	P-Value
Pearson	5.091	1	0.024
Likelihood Ratio	6.230	1	0.013
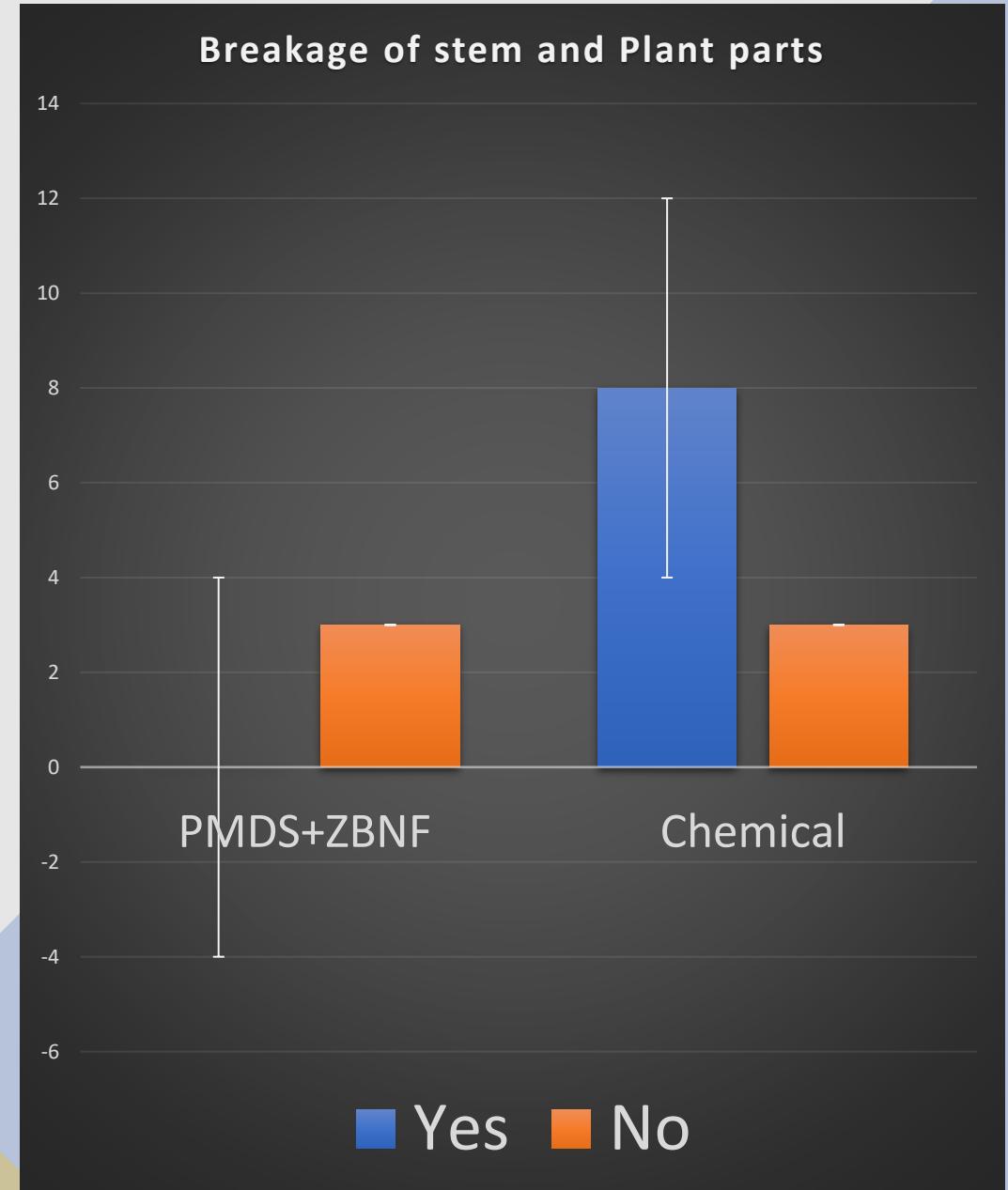
Damage to flowers and fruiting bodies

Chi-Square Test:

|	Chi-Square	DF	P-Value
Pearson	7.875	1	0.005
Likelihood Ratio	10.124	1	0.001
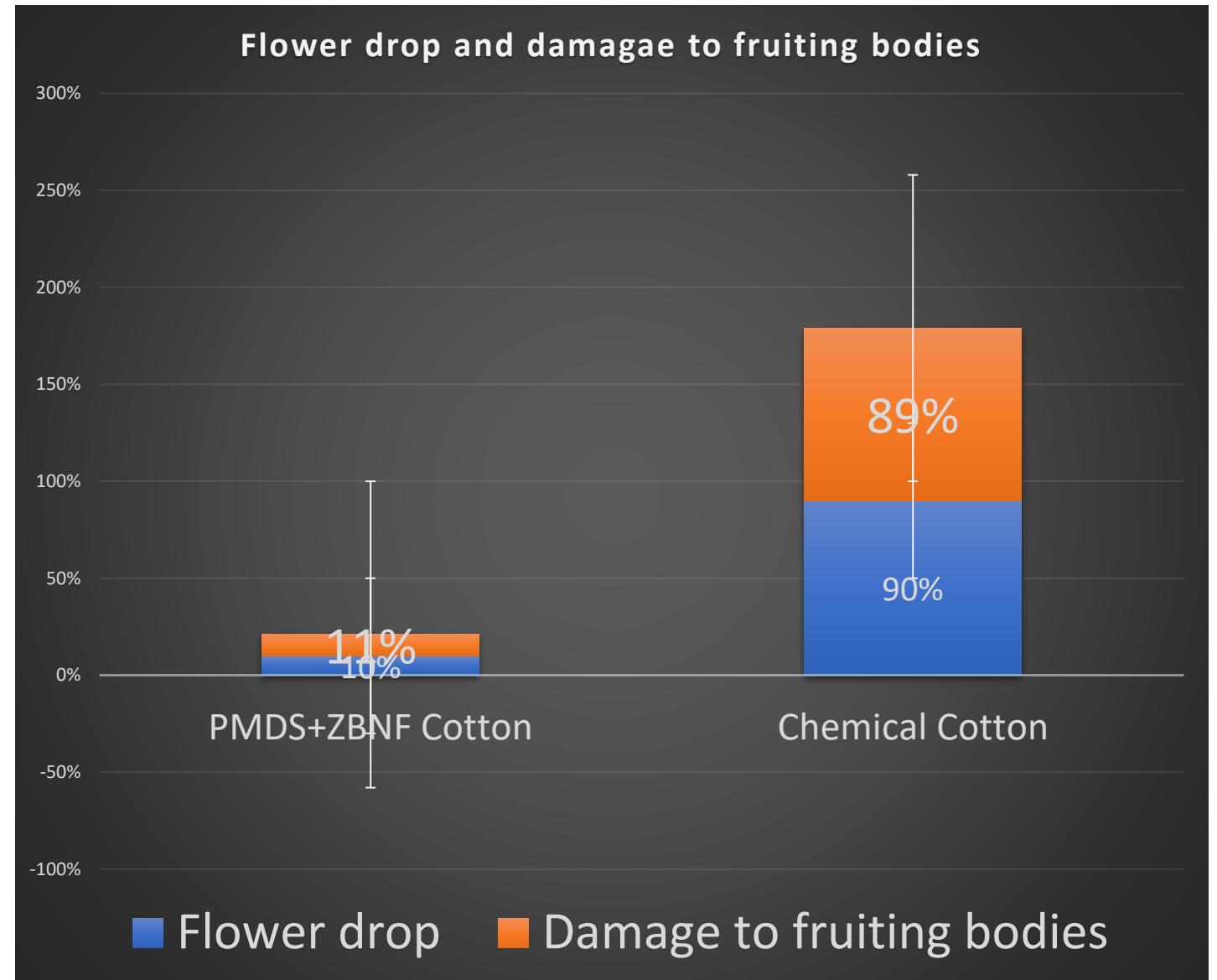
PMDS+Paddy and Chemical Climate Resilience
Heavy Rains

PMDS+ZBNF

Conventional

NON ZBNF

PMDS+ZBNF

PMDS+
ZBNF

NON ZBNF

ZBNF + PMDS

NON ZBNF
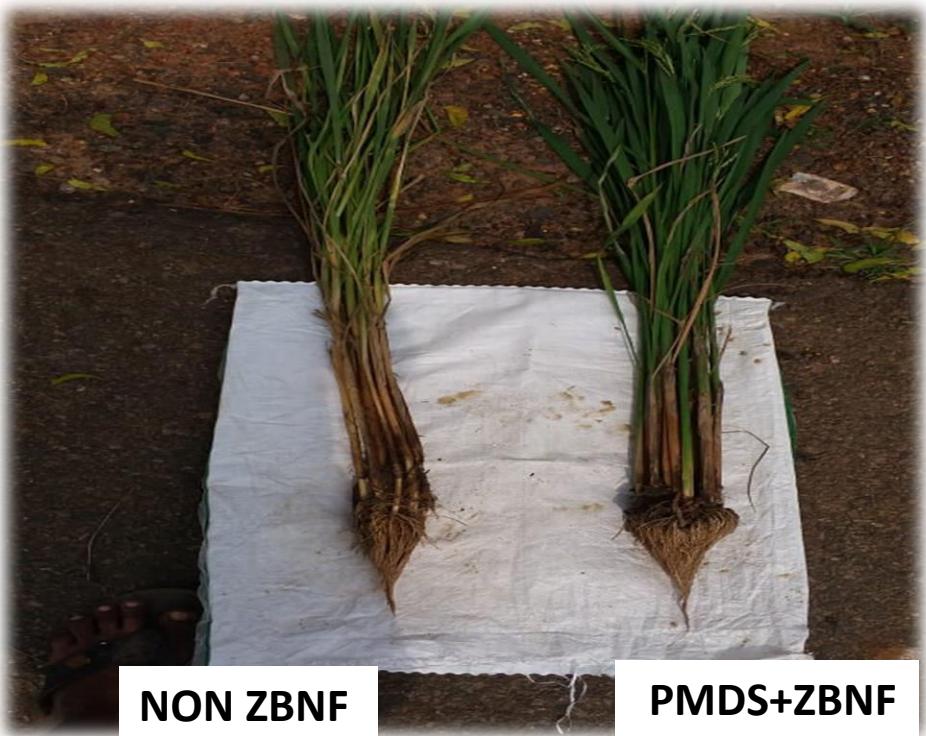
ZBNF

NON ZBNF

Present situation of the crop

PMDS+ZBNF

NON ZBNF

ZBNF paddy	Non ZBNF paddy
• 5cents land is affected by recent rains, in 2 acres of land. • Recovery rate is 80-85% • Zbnf paddy has higher number of tillers compared to chemical field i.e., 26 tillers. • Good and deep robust root growth.	• 50cents of land is affected by recent rains , total land is 1.0 acre. • Recovery rate- 30-40% • It has less no. of tillers i.e.,24 , compared to zbnf. • Weak and shallow root growth.

Recovery status in Paddy

Recovery status
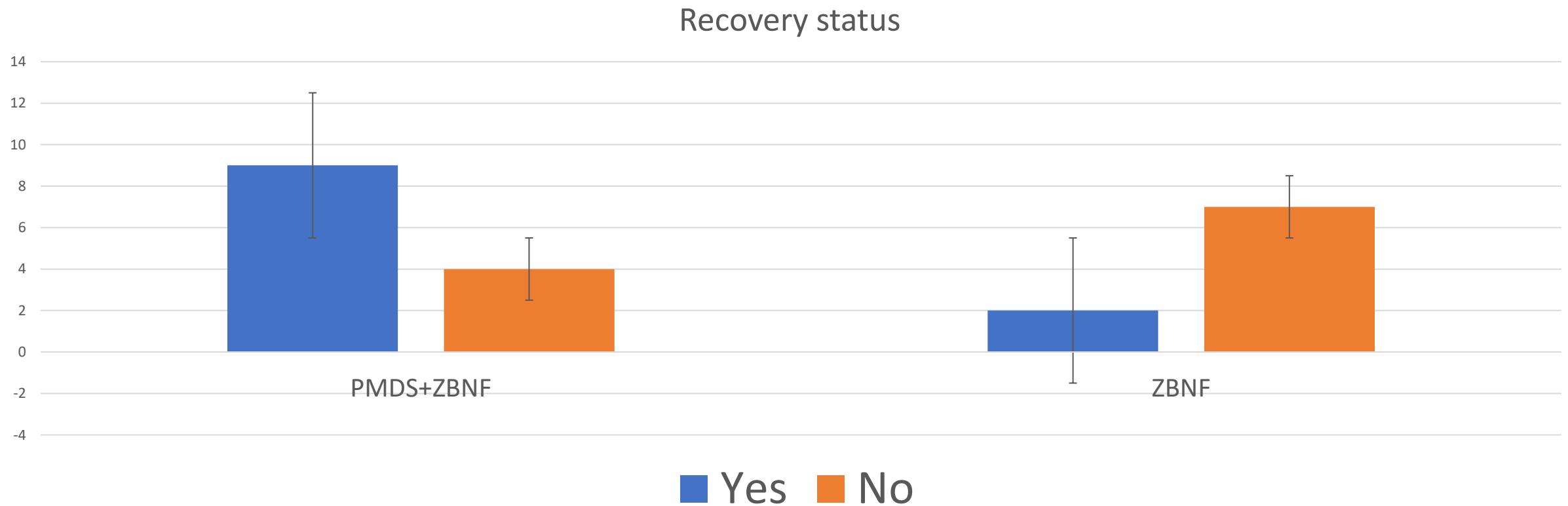
Chi-square Test:

	Chi-Square	DF	P-Value
Pearson	4.701	1	0.030
Likelihood Ratio	4.915	1	0.027

Case from East Godavari

- **Deep submergence due to heavy rains in Chemical plots**

PMDS + ZBNF PLOT

CHEMICAL PLOT

No pest and disease attack reported from both ZBNF and chemical fields, but Chemical fields were prone to severe lodging effect due to heavy rains and recovery rate was very

PMDS + ZBNF Plot

CHEMICAL Plot

ZBNF PLOT

CHEMICAL PLOT

Bacterial Leaf Blight Incidence

PMDS+ZBNF Plot

Chemical Plot

Lodging in PMDS and Chemical plot Sharat field

PMDS+ZBNF plot

Chemical Plot