Introduction:
The shorter duration, changed morphoframe and boll setting points in Bt cotton offers new avenues for exploring promising cropping systems for improved water use efficiency. This project was conceived to explore innovative inter and double cropping systems.

Objectives:
1. To identify remunerative and sustainable Bt cotton based intercropping systems for rain-fed conditions
2. To study the resource complimentarily under Bt cotton-legume intercropping systems
3. To explore avenues for diversification of Bt cotton based cropping systems and evaluate their economic viability and practical feasibility

Salient findings:

SOUTHERN ZONE
1. RARS, Ivm
   - No intercropping system recorded higher BCRs compared to sole crop either under normal planting or paired row planting.
   - Bt cotton followed by watermelon +methi recorded the highest production efficiency which was closely followed by cotton cucumber wherever enough and assured irrigation resources are available.
   - Cotton-sesamum and cotton maize were found to be more promising with 1-3 irrigations in black cotton soils of Andhra Pradesh.
   - Direct sowing with two seeds per hill recorded significantly higher seed cotton yield by 13% more as compared to single seed.
   - Direct sowing was found to be superior as compared to transplanting of Bt cotton.

2. ARS, Dharwad
   - Method of sowing did not exert any significant impact on seed cotton yield of B10 cotton.
   - Cotton + green gram (1:3), cotton + pigeon pea (4:2) and cotton + soybean (1:1) recorded higher BCRs compared to sole cotton whereas cotton+green gram (1:3).

3. ARS, Siruguppa
   - Bt cotton followed by vegetables (ridgedgourd and tomato) and field crops (maize and bajra) recorded higher production efficiency in black cotton soils.
   - 15% more seed cotton yield was recorded with two seeds per hill when compared with single seed under direct sowing.
   - Direct sowing was found to be better than that of transplanting of Bt cotton.

4. CICR, Coimbatore
   - Intercropping systems viz cotton + coriander / radish / green gram / black gram recorded higher, net returns and BCR than sole cropping of Bt cotton.

CENTRAL ZONE
5. CRS, Nanded
   - Method of sowing did not exert any significant impact on seed cotton yield of B10 cotton.
   - Cotton+green gram (1:3), cotton + pigeon pea (4:2) and cotton + soybean (1:1) recorded higher BCRs compared to sole cotton whereas cotton+green gram (1:3).
   - Bt cotton followed by ground nut / sunflower / mungbean recorded higher production efficiency of...
the system as a whole when compared to rest of the crops under double cropping system.

6. CIp, Rahuri
- Method of sowing did not exert any significant impact on seed cotton yield of Bt. cotton.
- Bt cotton intercropped with greengram / soybean / blackgram in 1:1 ratio was found to be more promising compared to rest of the intercropping systems.
- Bt cotton followed by bengalgram / okra recorded higher production efficiency of the system as a whole with a similar land use efficiency of 71%.

7. CRU. Akola
- Normal planting recorded significantly higher seed cotton yield by 20% as compared to paired row planting.
- Bt cotton intercropped with clusterbean in 1:1 ratio recorded the highest cotton equivalent yield and this was significantly superior from rest of the treatments. This was closely followed by Bt cotton +sesamum (1:1).

8. CICR. Nagpur
- Intercropping of Bt cotton with beetroot + maize + tomato recorded the maximum net profit and BCR in shallow black soils.
- Intercropping of Bt cotton with maize (green cobs) recorded the maximum net profit with a BCR of 4.31 in medium black soils.

9. JNKVV. Indore
- Method of sowing did not exert any significant impact on seed cotton yield of Bt. cotton.
- Bt cotton intercropped with soybean in 1:2 ratio recorded the maximum net returns of Rs 48,650/ ha which was almost double the returns when compared to sale cotton.
- Bt cotton followed by okra / onion / cowpea recorded higher production efficiency of the system as a whole when compared to rest of the crops.

10. RCRS. Junagadh
- Bt cotton followed by fodder jowar / sesamum / fodder maize recorded higher production efficiency of the system as a whole as compared to rest of the crops.

NORTH ZONE
11. CICR. Sirsa
- Normal planting recorded 19% more seed cotton yield as compared to paired row planting.
- No intercrop was sustained due to shading effect of Bt cotton under irrigated conditions.
- Bt cotton followed by wheat was found to be the most prominent double cropping system with higher production efficiency of the system as a whole.
- Transplanting of Bt cotton recorded seed cotton yield on par with direct sown crop. The seed cotton yield recorded with transplanting of seedlings raised in cocopeat+FYM+soil (50:35:15) was significantly superior to seedlings raised in FYM+soil (50:50).

12. PAU. Faridkot
- Method of sowing did not exert any significant impact on seed cotton yield of Bt. cotton.
- No intercropping system was found to be beneficial as compared to sale cotton either in normal planting or in paired row under irrigated conditions.
- Bt cotton followed by wheat was found to be the most prominent double cropping system with higher production efficiency of the system as a whole.
- Direct sowing performed similar to transplanting of Bt cotton.