



**भारतीय चरागाह एवं चारा अनुसंधान संस्थान,  
झाँसी**

# Handling fodder issues during drought

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**Indian Grassland and Fodder Research Institute**  
**Jhansi**

# Contribution to the income of farmers in Jhansi

Category of household	Contribution of crops	Contribution of livestock
Landless Labour	Labour mainly	Minor contribution
Marginal farmers	60 %	35 %
Small farmers	67 %	26 %
Medium farmers	77 %	20 %
Large farmers	84 %	12 %

# Fodder issues during drought

- Poor germination and growth of fodder crops
- Lesser availability of fodder
- Shortage of other crops's byproducts used as fodder
- Less availability of weeds used as fodder supplements
- Higher cost of Concentrate
- More uncontrolled grazing ( Anna pratha)
- Crop harvesting with combine to save cost/labour
- Less income from Livestock



# How to manage the fodder/feed during drought

- Keep space for Perennial fodder grasses
- Grow dual purpose grain crops
- Efficient use of irrigation methods
- Adopt Fodder conservation practices as Silage and hay making
- Grow azolla as concentrate replacement to certain extent
- Field protection from uncontrolled grazing
- Rely on small ruminants
- Crop harvesting with reaper/hand operated machines to save byproducts
- Grow fodder trees on bunds

# Keep space for Perennial fodder grasses



**Hybrid Napier grass, 2500 quintals/ha**















**Grow the crops near water bodies, unused lands**





# Hybrid napier grass on strips





# Grow the crops on unused bunds in fields





# Hybrid napier grass on bunds









# Growing the crops on bunds/channels to save water









## Growing the crops on bunds/channels to save water





# Draught resistant- anjan grass



***Cenchrus ciliaris***



# Sowing of Shade tolerant- Guinea grass in orchard









# Fodder production from Orchard





**Farm pond is must for lifesaving irrigation  
and utilise the available water efficiently**





# Fodder conservation for lean period- Silage



**Less water requiring Oat seed/grain  
production: a profitable enterprise**

## Economics of seed production, Oat (JHO822) in Jhansi



Parameters	Values
Total cost, Rs	47202
Total, pure seed, Quintal	1816
Straw, q	32.42
Total Return, Rs	59182
Net Return, Rs	11970
C:B Ratio	1 : 1.25
Cost of production of seed ( Rs/kg) ( When both seed and fodder are considered)	18.41







**Oat seed crop cv JHO 822 seed crop in Aonla orchard in Badagaun Jhansi, Rabi 2014-15**





**0.5 ha Oat seed crop cv JHO 822 seed crop in Richhore Jhansi, Rabi  
2014-15**





# Oat, JHO-822 seed crop in badagaun, Jhansi



# Berseem seed production in Mustard fields for additional income





# Grow less water requiring sorghum crop in place of maize



Sorghum and Maize





# Seasonal Dinanath grass fodder/seed for less fertile/rainfed soils



# Dinanath grass tolerance





# Azolla as concentrate replacement ( up to 50%)



# Azolla production method





# Other ways





# धन्यवाद

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