USE OF SORGHUM FOR THE PRODUCTION OF ELECTRICAL ENERGY: THE COPROB EXPERIENCE
Massimo Zavanella – COPROB Group
COPROB – Cooperativa Produttori Bieticoli - is the main sugar producer and the only cooperative sugar company in Italy

* 7,000 beet growers supplying the raw material, 5,506 are associated

* 32,500 hectares beet area in Emilia Romagna and Veneto

* Confirmation of diversification in the field of energy production from renewable agricultural sources: from 2015, after the launch of three biogas plants, a partnership is reached with ENEL Green Power for the supply of biomass materials to the combustion plant of Finale Emilia (MO)
Location: Finale Emilia (MO) - Italy
Biomass Power Plant 12,5 Mwe
Realization: 2014 - 2016
WHAT KINDS OF VEGETABLE BIOMASS ARE USED?

- **Biomass Sorghum 2018**: 25%
- Corn Stalks
- Wheat Straw
- Wood Waste

**Legend**:
- Biomass Sorghum
- Corn Stalks
- Wheat Straw
- Wood Waste
THE ENERGY PROJECT - THE PRODUCTION CHAIN

- Agricoltori e Aziende
  Farmers and companies

- Biomasse
  Greenhouse gas

- Produzione energia Termica e Elettrica
  Thermal and electrical energy

- Prodotto e lavorazione del prodotto
  Product collection and manufacturing

- Cultivazione delle Biomasse
  Biomass cultivation

- Ricavi Economici
  Profits

- 2nd European Sorghum Congress 2018
WHY BIOMASS SORGHUM?

it is an annual crop
it is a valid agronomic alternative
has a limited water requirement
presents a high rusticity
has a positive energy balance
SOME DATA OF THE PRODUCTION CHAIN (YEAR 2018)

Farms involved: 150 (80% also grow sugar beet)
Surface area: 1,000 Ha
Sowing: April to May
Harvest: August to October
Average production: 17 t/ha dry matter
Harvest team: 7
Average distance from the power plant: 25-30 km
STEP ONE: THE HARVEST
STEP TWO: RAKING
STEP THREE: BALERS
STEP 4: LOADING AND TRANSPORT
Coprob since 2010 has started an experimentation activity on the main aspects of the cultivation of biomass sorghum.
Fertilizations
Sowing date and seed density
Plant growth phases and best harvesting period
Since 2010, more than 300 hybrids have been tested. The main features that must have are:

1. High resistance to lodging
2. High biomass production
3. Availability of hybrids with different maturation stages (early or late)
THANK YOU FOR YOUR ATTENTION