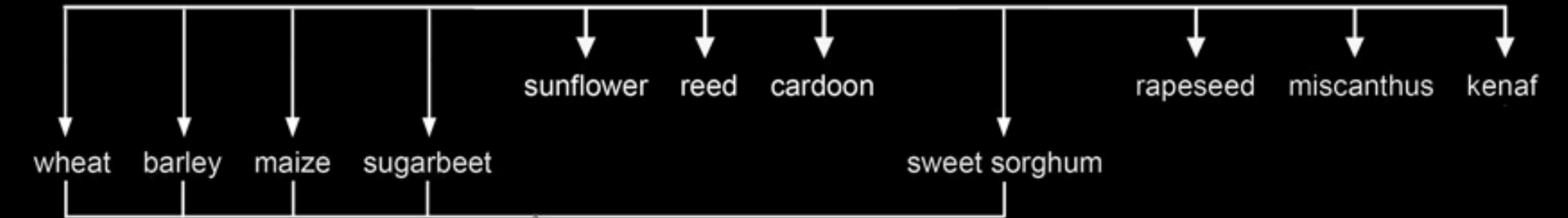
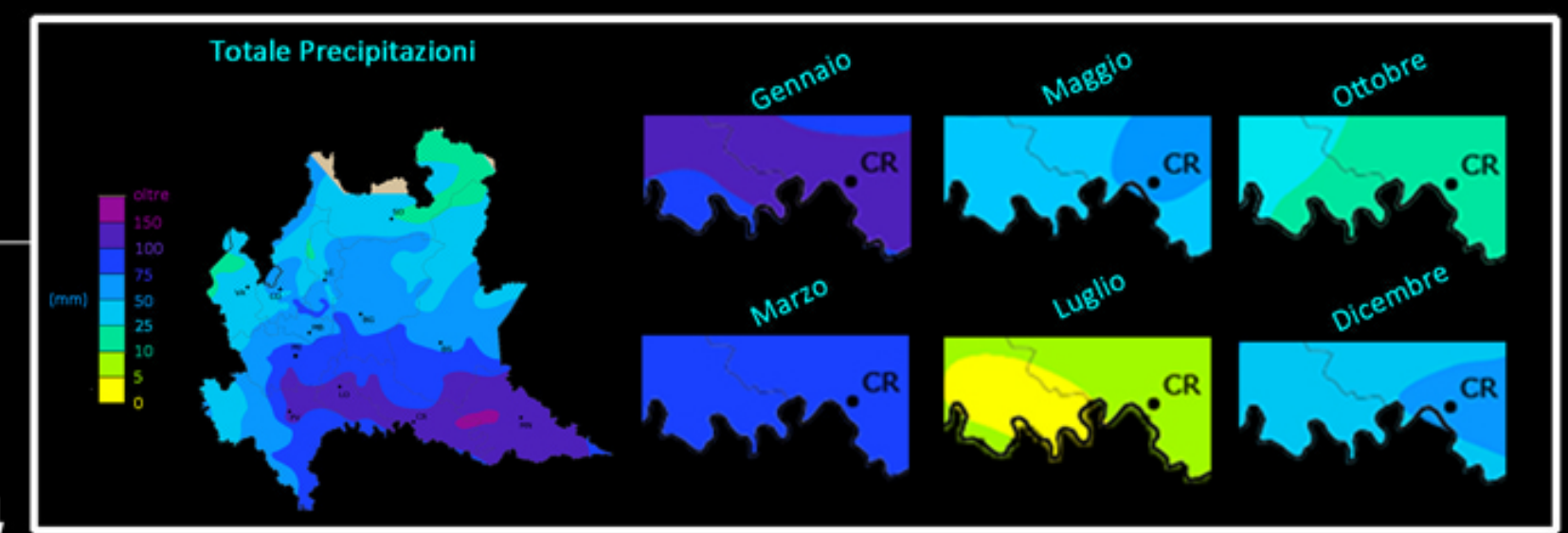


**AGRICULTURE**  
crops, seeds, branches,  
leaves, roots, soil  
KIND OF AGRICULTURE



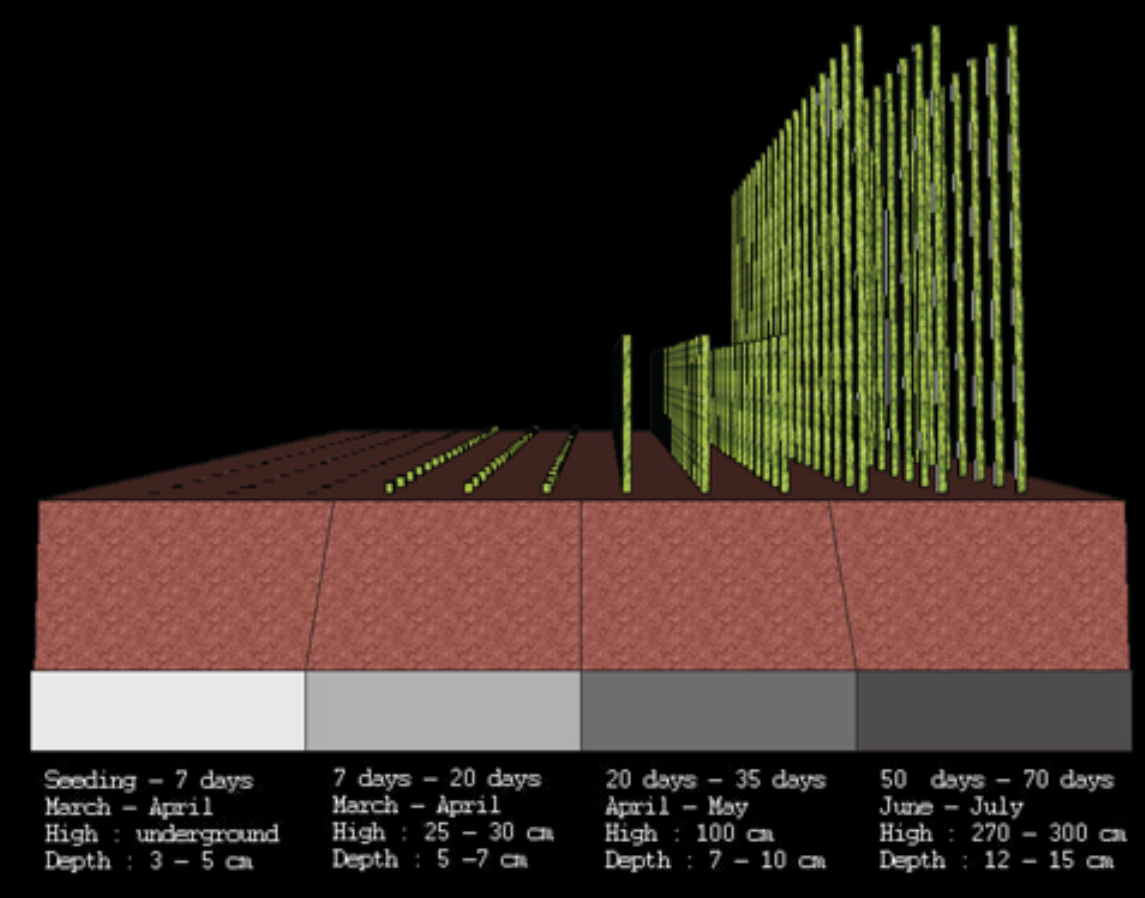
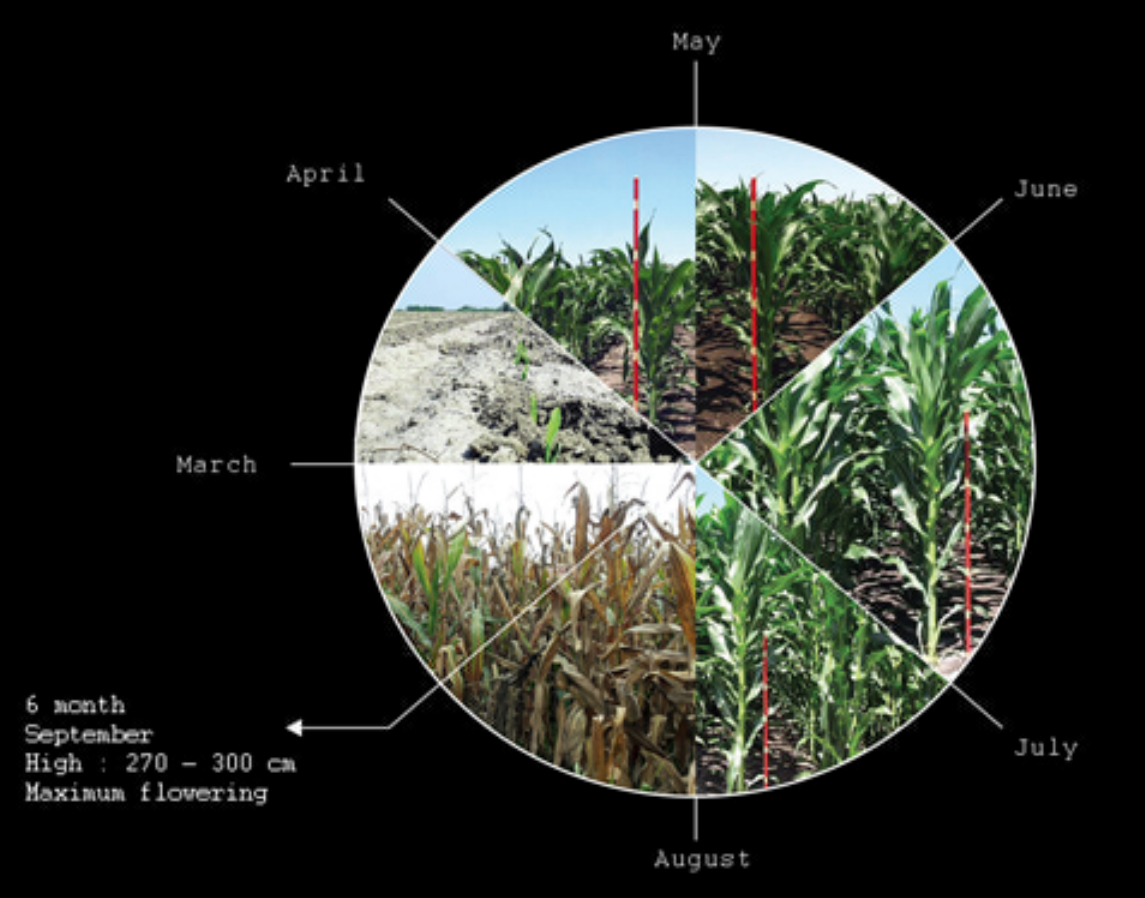
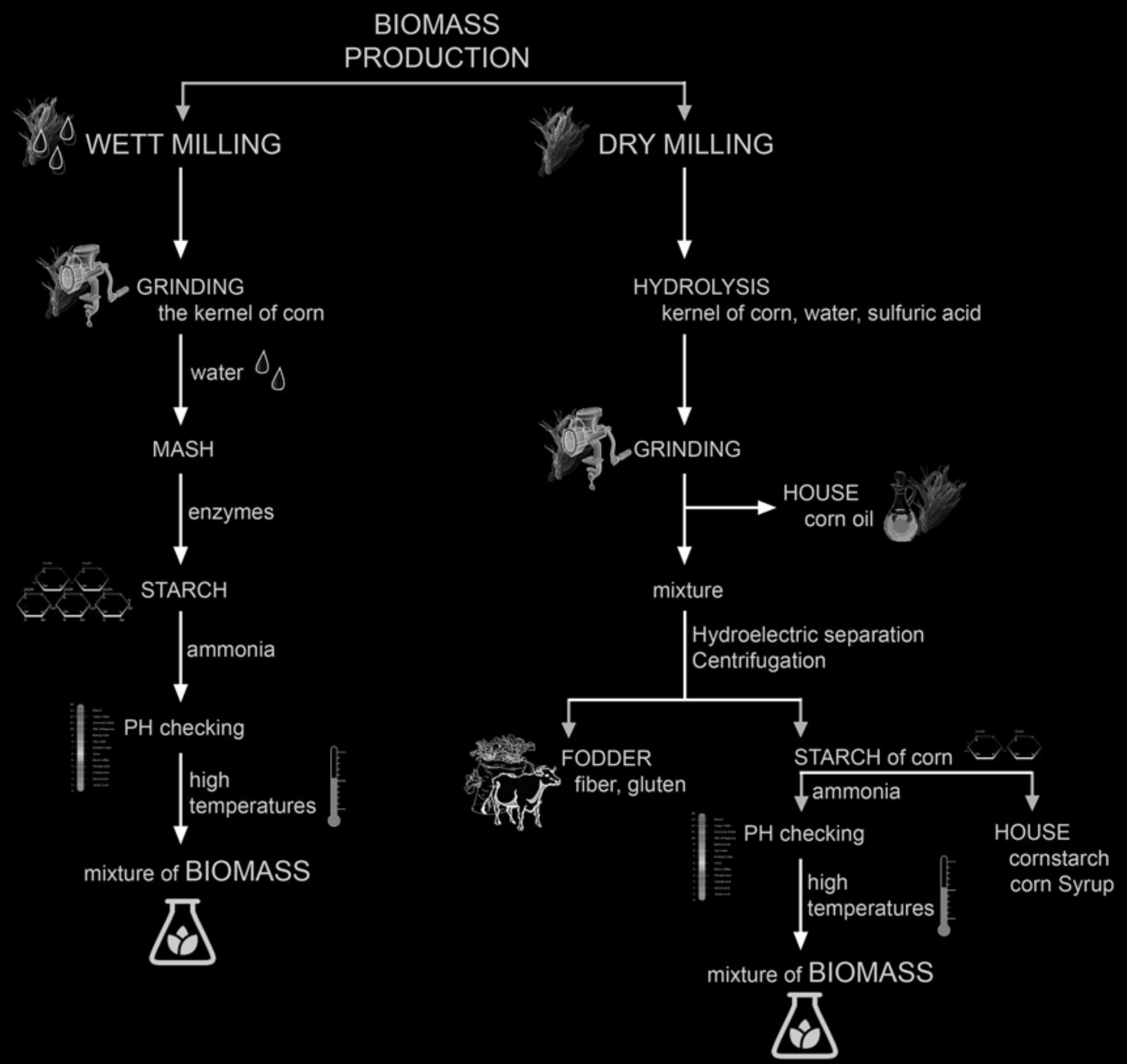
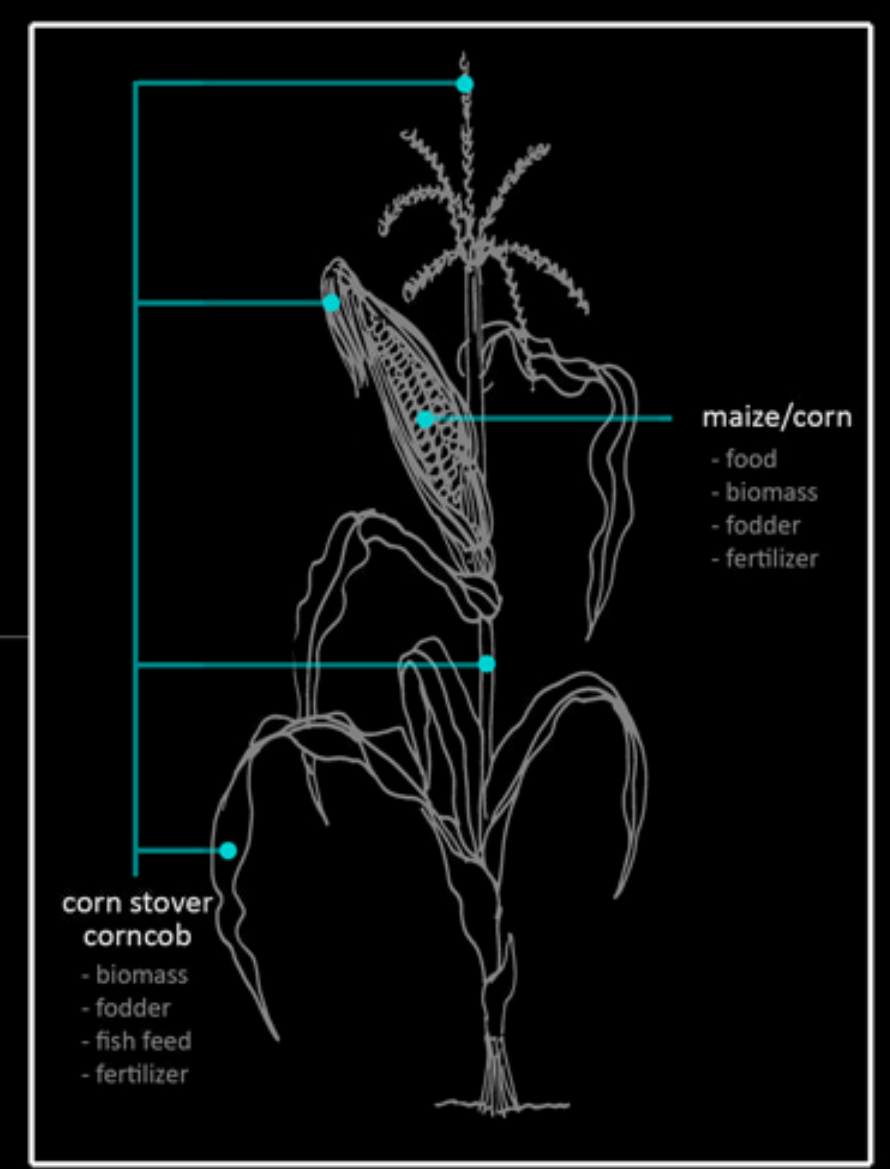
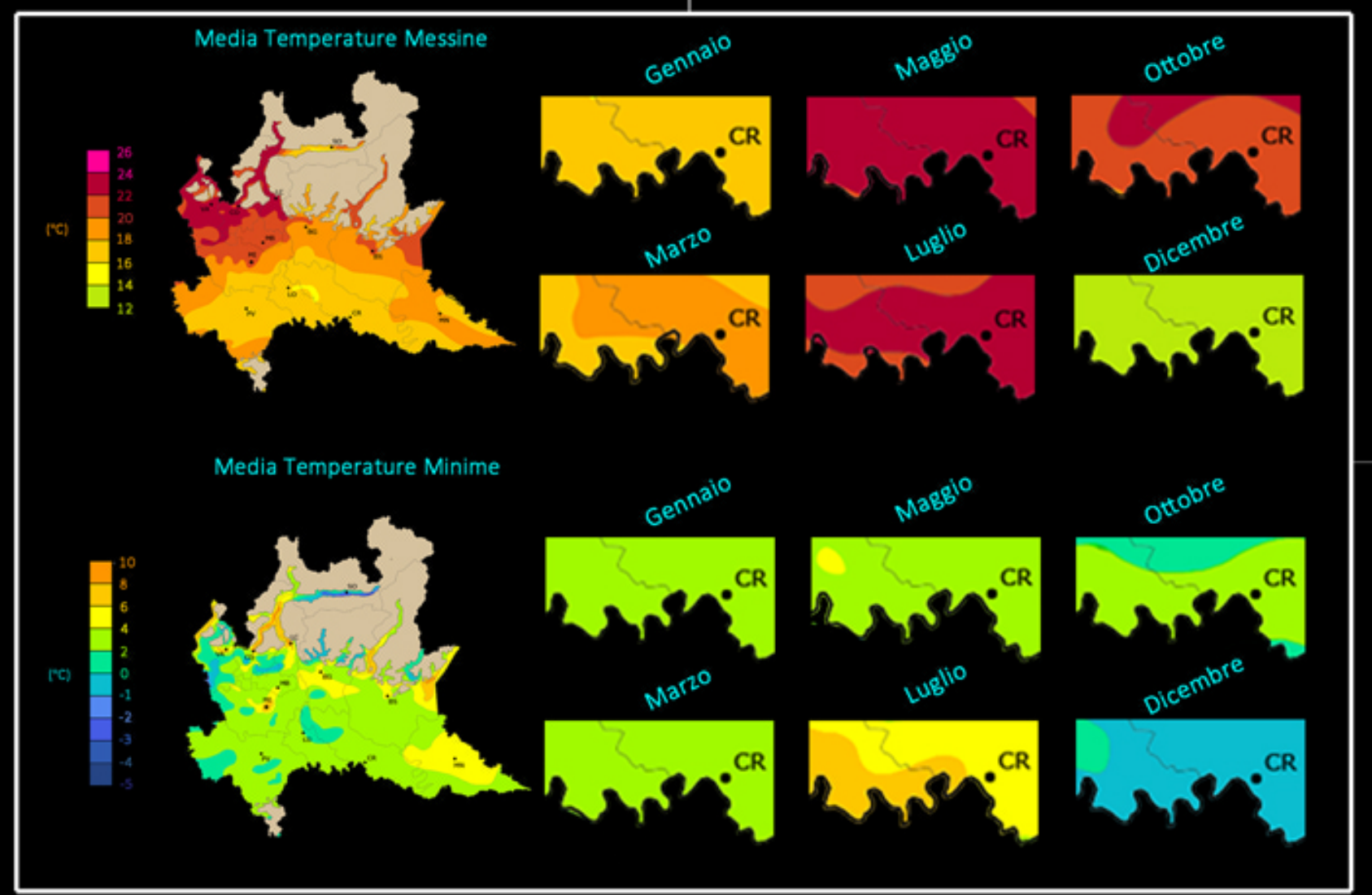
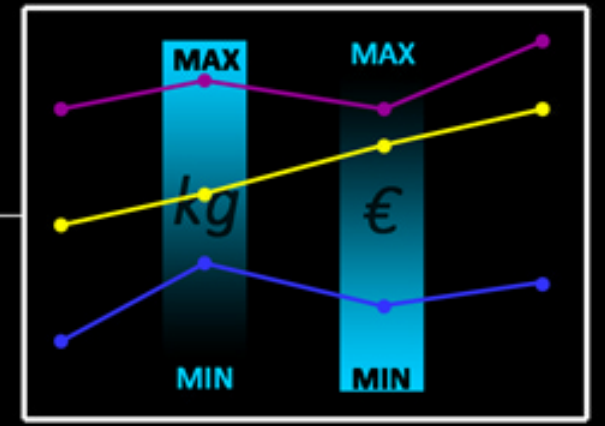
*Energy balance and needs of plantations producing ethanol in water and chemicals*

Plantation	Irrigation(mm)	Fertilizers component units / acre	Energy balance / gain
Sugar beet	750	N=5 P=1.5 K=5.6	1.76
Sugar cane	500	N=1 P=1 K=5	2.5-9
Sweet sorghum	250	N=0.9 P=0.9 K=1.3	2.5-5
Maize	500	N=10 P=4 K=5	1.3



*Estimated annuity extensive cultivation of Sweet Sorghum for ethanol production*

Plantation	Production (kg / acre)	Revenue from product sales (K / acre)
Sweet sorghum	1200	152.6
Maize	199	141.54
Common Wheat	166	19.54



**Data**

Cultivation area : 100 m x100 m -> 10 000 m<sup>2</sup>

Electricity needs house : 1 000 kcals/daily  
3 600 000 kcal

266 kg of fruit -> 100 L of bioethanol

1kg fruits -> 3 500 kcals

**Maximum Production**

60 000 (plants in all area) x 2.5 (medium fruits per plant) x 0.4 kg = 60 000 kg (maize)

$\frac{60\,000\text{ kg} \times 100\text{ L}}{266\text{ kg}} = 22\,500\text{ L (bioethanol)}$

60 000 kg (maize) x 3 500 kcal = 210 000 000 kcal/year

**Production for the house needs**

$\frac{3\,600\,000\text{ kcal/year}}{3\,500\text{ kcals}} = 1\,028.57\text{ kg (maize)}$

$\frac{1\,028.57\text{ kg} \times 100\text{ L}}{266\text{ kg}} = 387\text{ L/year (bioethanol)}$

**Features of Maize**

Distance between the plants : 50 cm - 70 cm

Maize height : 2 m - 3 m

Number of fruits per plant : 2 - 3 fruits

Fruit weight : 400 gr

Number of plants per square meter : 9

**When Maize grown up**

