

INTEGRATING PRIMARY PRODUCERS INTO BIOBASED VALUE CHAINS

SESSION #3: INNOVATIONS AND CHALLENGES IN PRODUCTION AND MOBILISATION OF BIOMASS

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PLANNING, HARVESTING AND STORAGE: MAJOR CHALLENGES FOR FIBRE PLANT GROWERS

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Brittany, 1^{ère} agricultural region in France and 1^{ère} agri-food region in Europe

27 000 EXPLOITATIONS
AGRICOLES



84 %

des exploitations
consacrées à la
production animale...



37%

... dont plus du tiers
consacrées à la
production laitière.

Source : www.agreste.agriculture.gouv

Societal: Renewal of generations of farmers

Half of Breton farmers will retire in 10 years' time

Brittany is set to lose 25% of its farms in 10 years (-20% nationally)

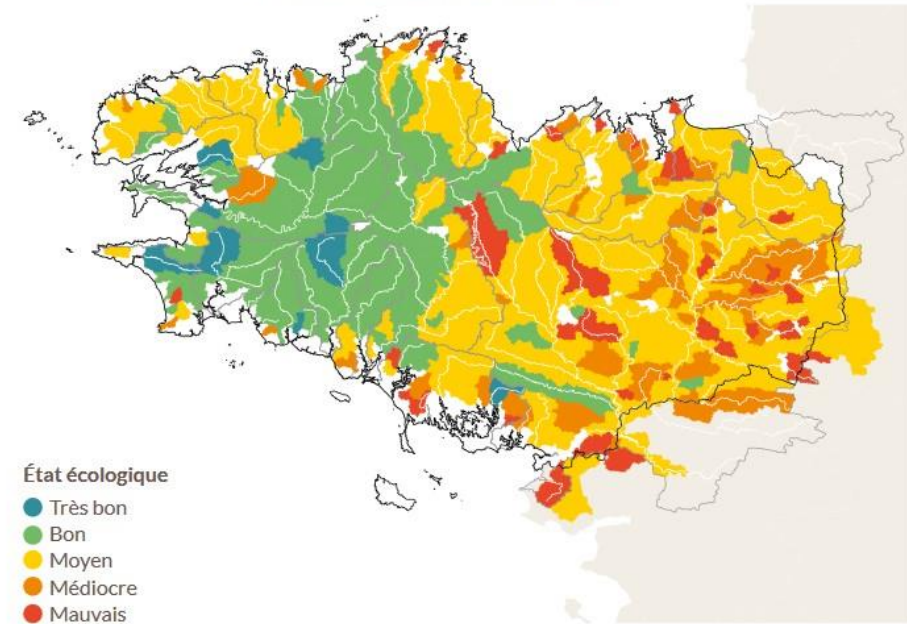
➤ The challenges facing agriculture in Brittany

- Environmental: The quality of watercourses needs to be improved

Pesticides in surface water

Nitrates in surface water

État écologique des masses d'eau « cours d'eau »
Période d'évaluation 2015 - 2017



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Local authorities get involved in restoring water quality and limiting the impact of farming activities



Emerging fibre plant sectors in Brittany

What projects for the region?

➤ An overview of what's possible in Brittany today

Cereal straw

Farm know-how and equipment
But competition from livestock needs

Flax fibres

Emerging, fast-growing private initiatives
West Brittany zoning for the moment

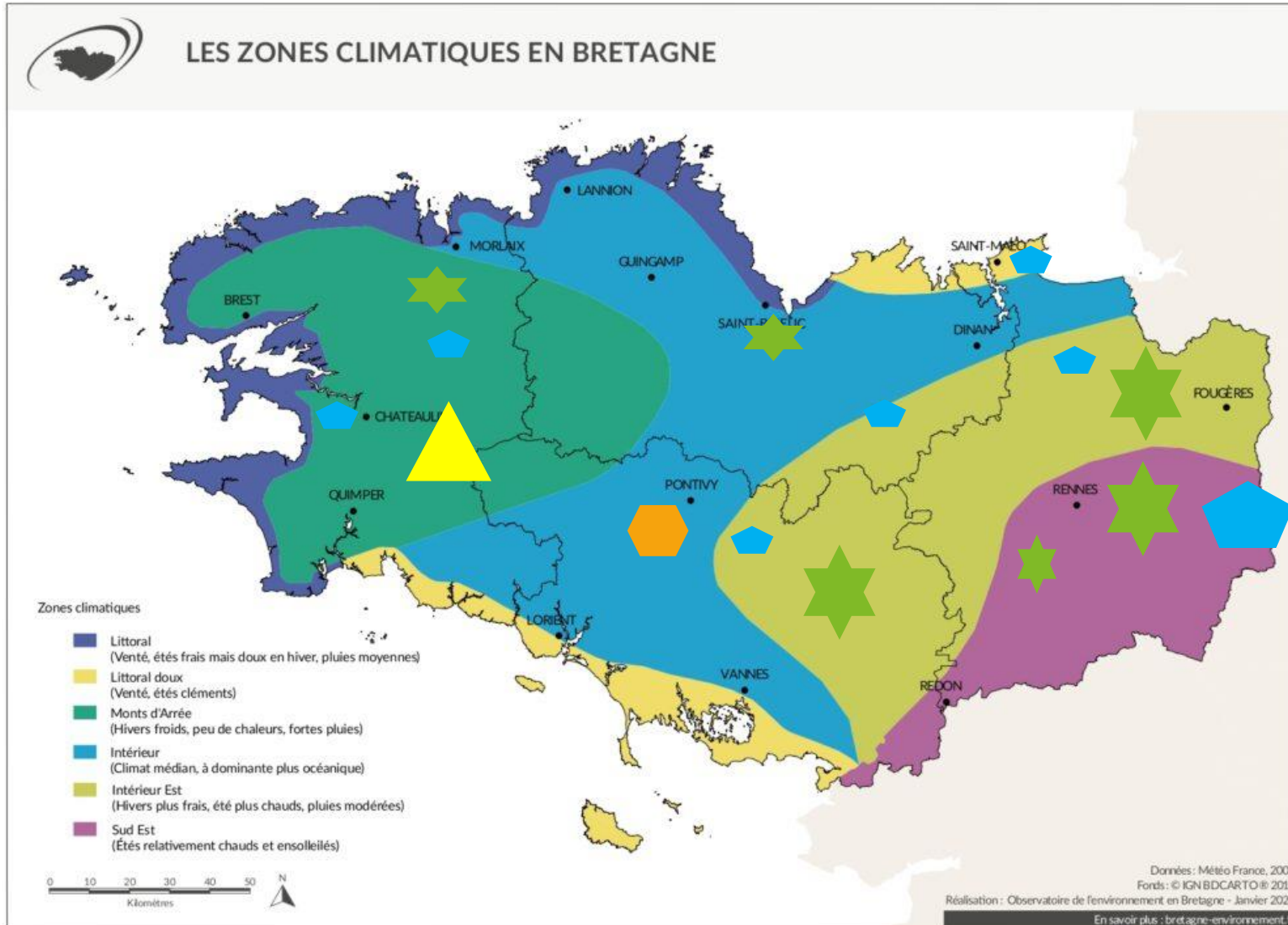
Hemp fibres

Still confidential in Brittany - very little effective
cultivation equipment / no primary straw processing
facilities in Brittany

Miscanthus

A variety of initiatives over the last 10
years - both individual and collective

Emerging projects in Brittany





Emerging fibre plant sectors in Brittany

What are the plans for farmers?

Flax and hemp: heritage plants in Brittany



A curiosity about technology

Hemp village

In Amanlis (35) during the
Fête des Jeunes
Farmers on 27-28/8/2023
3000 visitors in
a weekend



A popular success

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Tasting of products from the local food industry



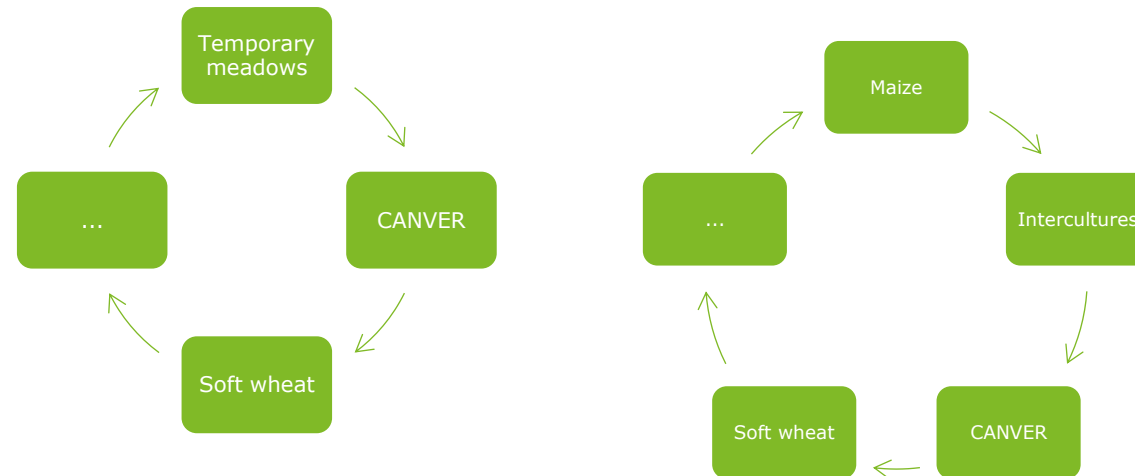
Demonstration of building expertise

Integrating a fibre plant into a cropping system: the agronomic basics

- **Choice of plot**: Good soil depth, absence of hydromorphy, soil pH and fertility, grass cover, compaction, etc.
- **Crop rotation**: No mustard cover for hemp - Variable crop return depending on the species: 4-5 years for hemp, 7 years for flax.

Points to watch :	
pH target: 6.5 minimum	If not, lime on installation
Compact soil	No compacted soil Deep ground cover essential Prepare the seedbed well: it's a small seed
Wet soil	Well re-wetted soil No damp, heavy or hydromorphic soil
Surface stones	Avoid their presence in straw bales → roll after sowing if necessary

Example of rotations





Integrating a fibre plant into a cropping system: the economic challenges

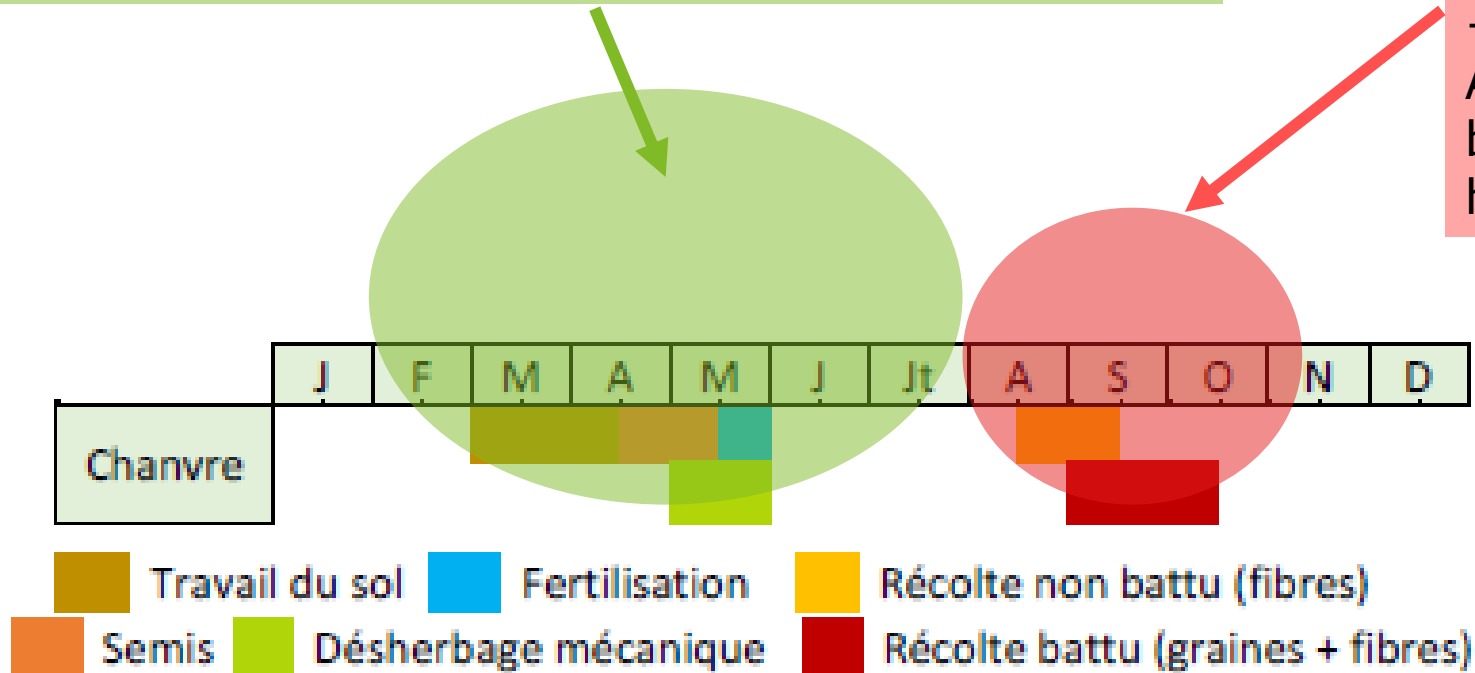
- Conventional: need to make the most of the straw "material" AND the seed
- Organic: the seed outlet is suffering from the drop in organic consumption

-> It is necessary to add value to the 2 products at current prices in the sector.

Integrating a fibre plant into a cropping system: the technical challenges

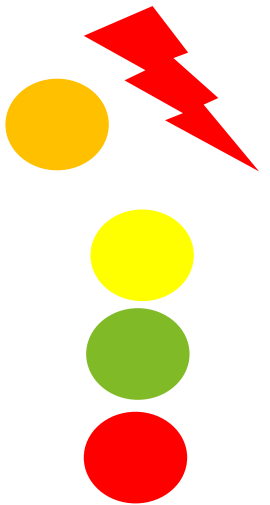
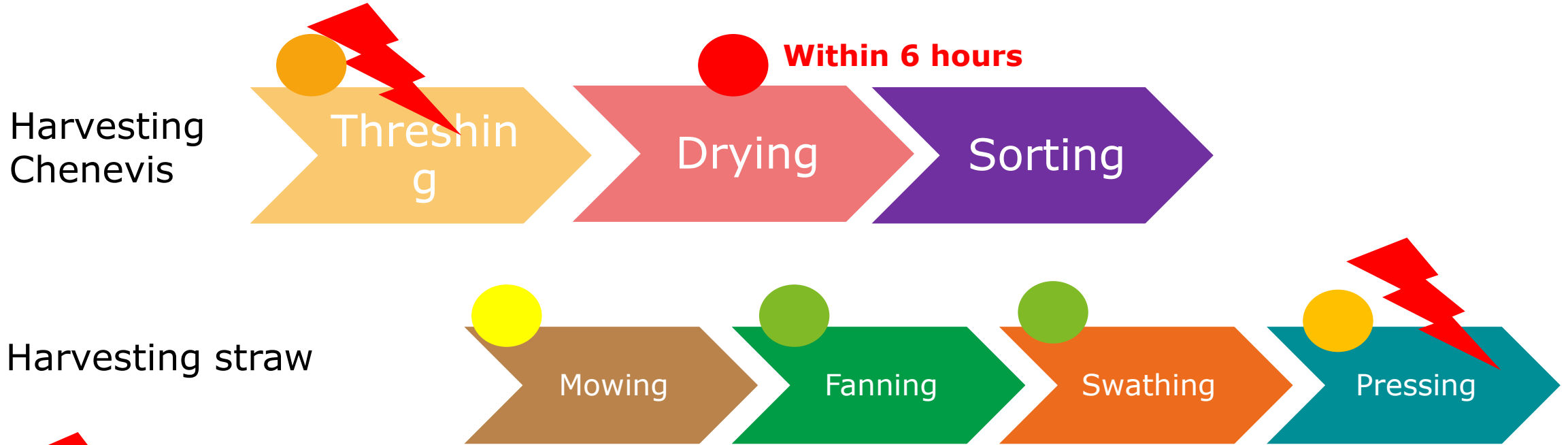
Classic control of a spring crop :
 No equipment at stake
 Simplified management: zero phyto - mechanical weeding rare

Fibre makes harvesting difficult
 +
 A very fragile seed to be dried within 6 hours of harvesting



Harvesting hemp: Securing the harvest first and foremost

Technique 1: Harvesting the seed and straw in 2 passes



Equipment available from ETA/CUMA but to be adapted specifically for hemp harvesting
Risk of failure - Preparation of equipment and driver expertise are crucial

Specific equipment but present on certain farms (e.g. Busatis section mower)

Common equipment used on farms or by service providers

There is currently very little equipment in Brittany

Hemp harvest in pictures

Incorrect setting of the threshing drum :
10 m in the field: 2 hours to break ground



Faucheuse à section
Busatis



Andaineur birotor



Round bale pressing



Integrating a fibre plant into a cropping system: the challenges for the sector and product standards



Example of **dryer boxes** with a biomass boiler (Agro-Logic in Mayenne)



The crop is poured directly into the caisson. deposited at the farm and then transported to the drying unit where the product is stabilised before sorting

Integrating a fibre plant into a cropping system: the challenges of organising logistics - storing hemp straw on the farm



On-farm straw storage: opportunity or obstacle depending on the situation

- Fibre industry practice: 6 to 18 months' straw storage on the farm
- Withdrawal according to the needs of the processor
- Use of buildings on the farm
- Investment in or hire of recovery equipment: telescopic forklift, farm valet, etc.



Integrating a fibre plant into a cropping system: the challenges of innovation and better market development



More attractive margins than in Materials opportunities

Investment costs very important

A sector to be evaluated on our territory

Introducing a fibre plant to a farm: levers for mobilising farmers

Summary of a discussion meeting between a group of farmers and elected representatives from the Roche aux Fées Community (35)

- **Controlling the technical itinerary: Support and training**
- **Competence of service providers: ETA, CUMA on the adjustment and choice of equipment according to the outlets**
- **Economic profitability + Risk management (payment deadlines, investment aid, collective investment)**
- **Contracts with reliable partners for high added-value outlets**
- **Playing an active role in the sector to control the value chain**

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Point to watch: Harvesting hemp during the fodder harvest - How can we ensure that farmers and service providers are mobilised and available?

Overview of potential players in the fibre plant sector - Summary of a 1/2-day exchange of views between players in the hemp sector

- Regional environmental issues: water quality, biodiversity
- Strong societal expectations for the development of virtuous relocated industries
- Few economic levers for small communities

Local authorities

- Many project developers as end users of products
- 1^{ère} processing industries not very present in Brittany

Industries 1^{ère} and 2^{ème} transformation

- Diversification of crop rotation
- A taste for novelty
- Economic profitability of the business
- Working hours and availability / other farm activities
- Equipment to be secured
- Competition with other opportunities (energy production)

Farmers

- Dynamic service providers in the West :
- experience of working in an equipment-use cooperative
- Very good network of private service providers - agricultural contractors - in the region
- But investment is needed + the challenge of a trained and available workforce

Agricultural service providers

THANK YOU !

SEE YOU IN THE NEXT
SESSION ...

SCALE^{UP}
community-driven
bioeconomy development



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