



# From Waste to Resource: Innovations in Creating Value Chains from Agricultural Residues

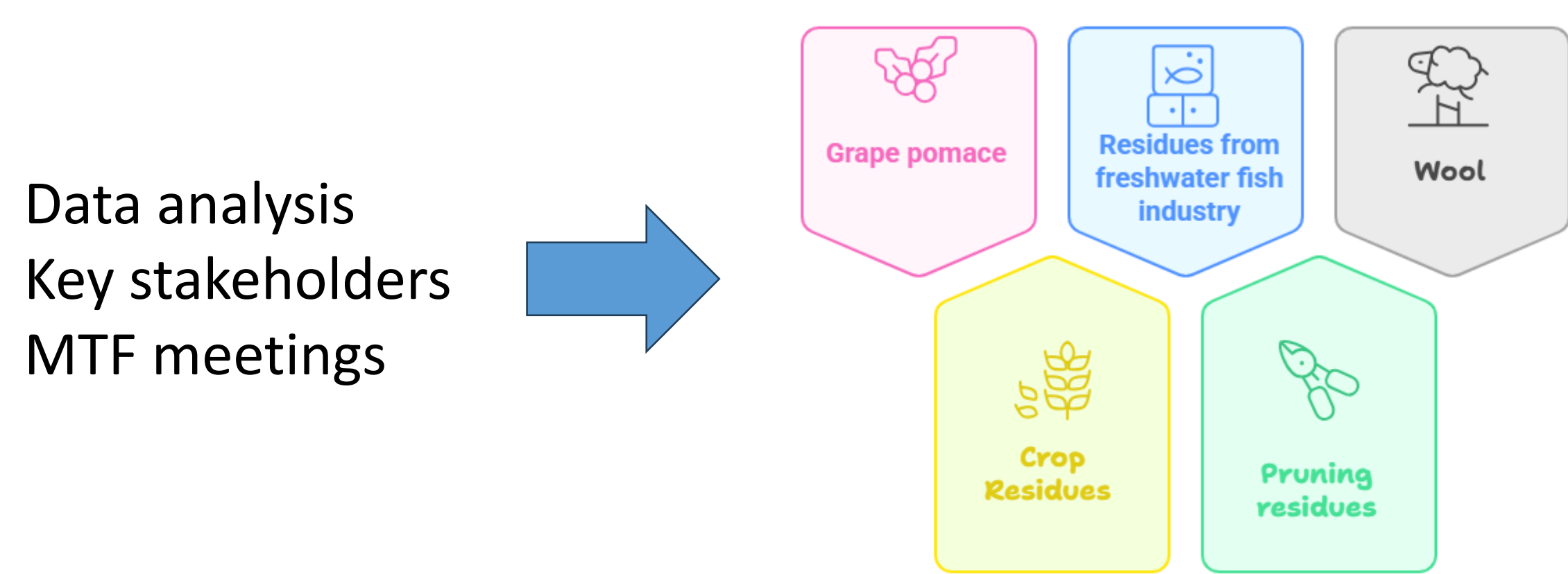


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A sustainable and inclusive bioeconomy is vital for addressing global environmental challenges and fostering green jobs within the EU. Despite its promising potential and significant R&D investments, progress in the bioeconomy sector has been slow, particularly in rural and peri-urban areas.

RIBES seeks to transition ten European regions from outdated, linear economic approaches to dynamic, circular economic models that foster social inclusion. In Croatia, i.e. Pannonian region, this challenge will be addressed by developing innovative value chains aimed at utilizing agricultural by-products.



## Principle of co-creation

Involving stakeholders early to actively participate in designing and implementing policies.

Through the project:  
Multi-Actor Transformative Forums (MTF) are established to foster collaboration among different stakeholders

Regional actors are included in co-creation of governance models and practices -> nine pilot regions

Development of RIBES Toolkit to support informed decision-making and foster development

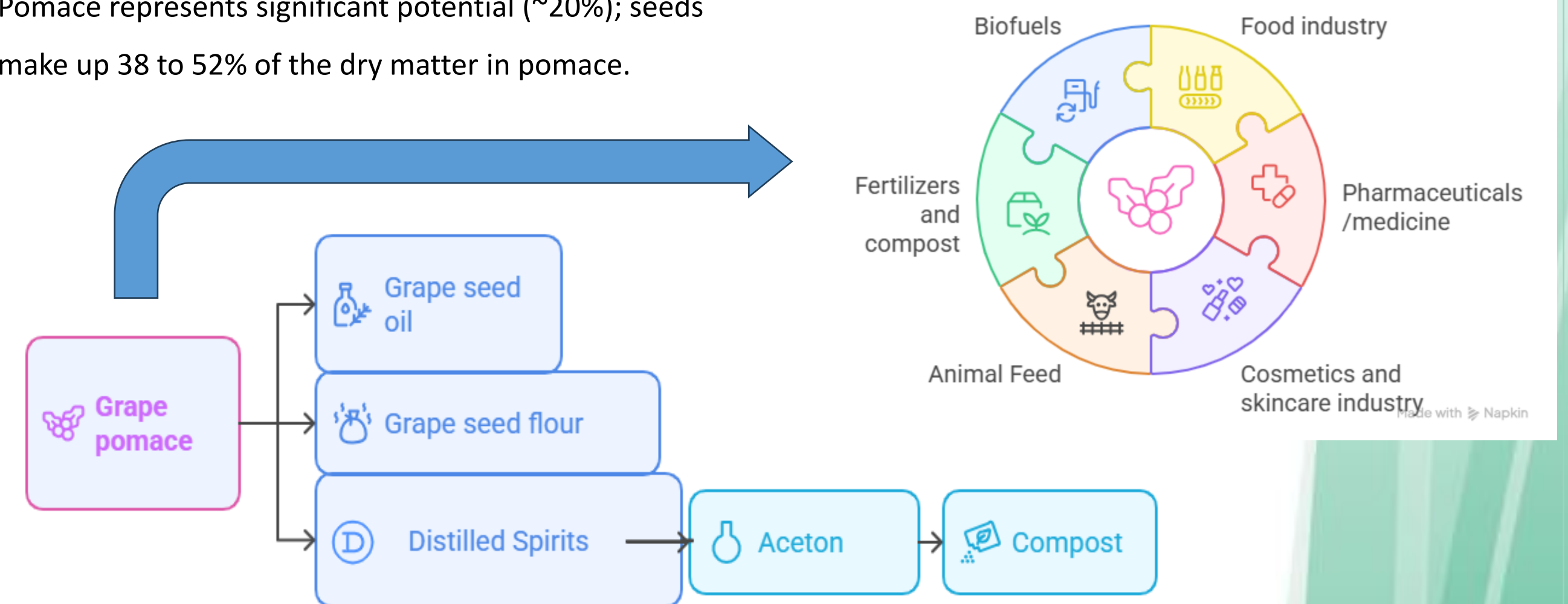
Trainings, capacity building and support to accelerate small – scale circular and bio – based enterprises.

## Key objectives of the project:

1. Accelerate the regional shift from traditional, linear fossil-based economies to efficient, circular bio-based systems.
2. Enhance awareness, governance, and social innovation to reduce resource use and boost the capacity for bio-based innovation in rural and peri-urban communities.
3. Involve key local actors and stakeholders in bio-based innovation to support and encourage social enterprises and entrepreneurs to address local needs.
4. Collaboratively develop innovative business and governance models supported by inclusive digital tools.
5. Build strong multi-actor collaborations with stakeholders and platforms and use the research insights to reinforce international science-policy connections.

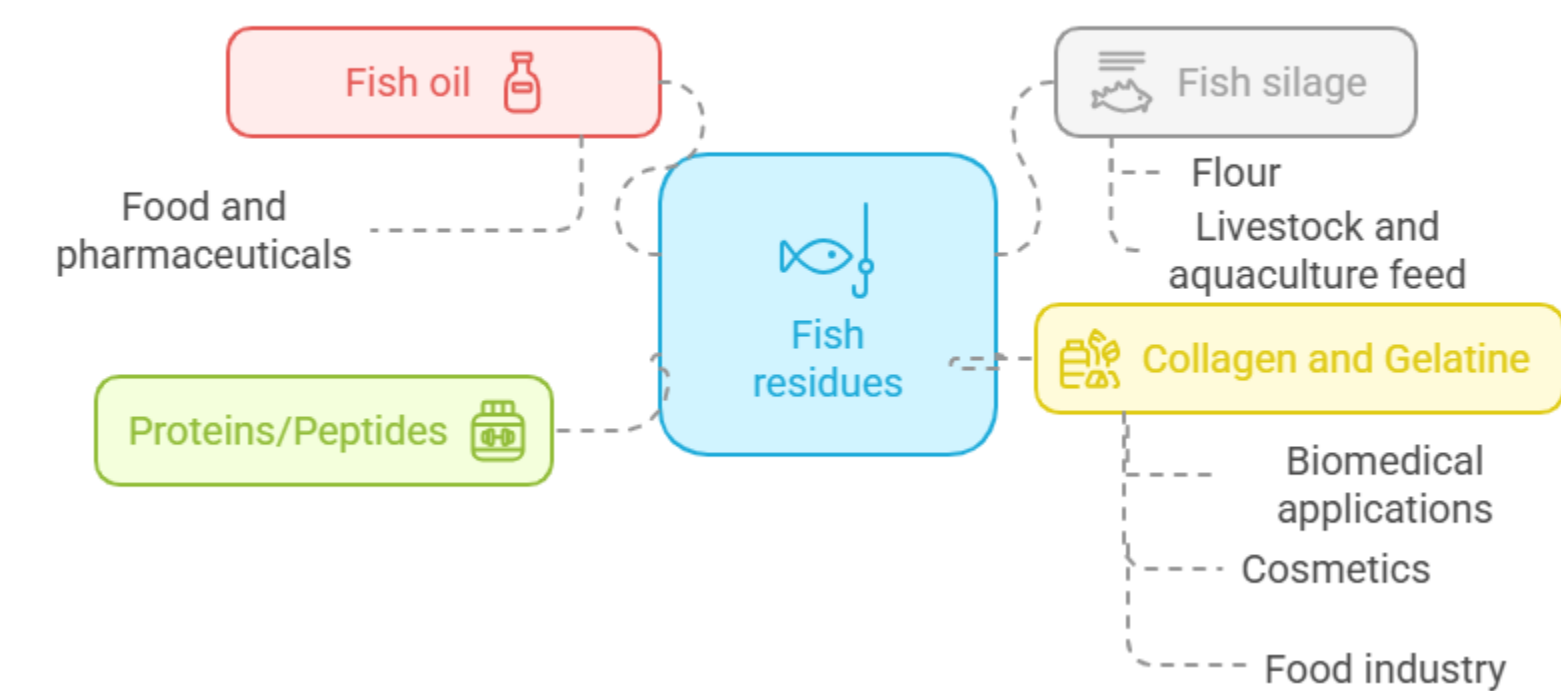
## Grape pomace

- 6,024.75 hectares of vineyards (~35.9%) are present in the Pannonian region
- 12.5% of all entities registered in the wine registry (2024)
- Pomace represents significant potential (~20%); seeds make up 38 to 52% of the dry matter in pomace.

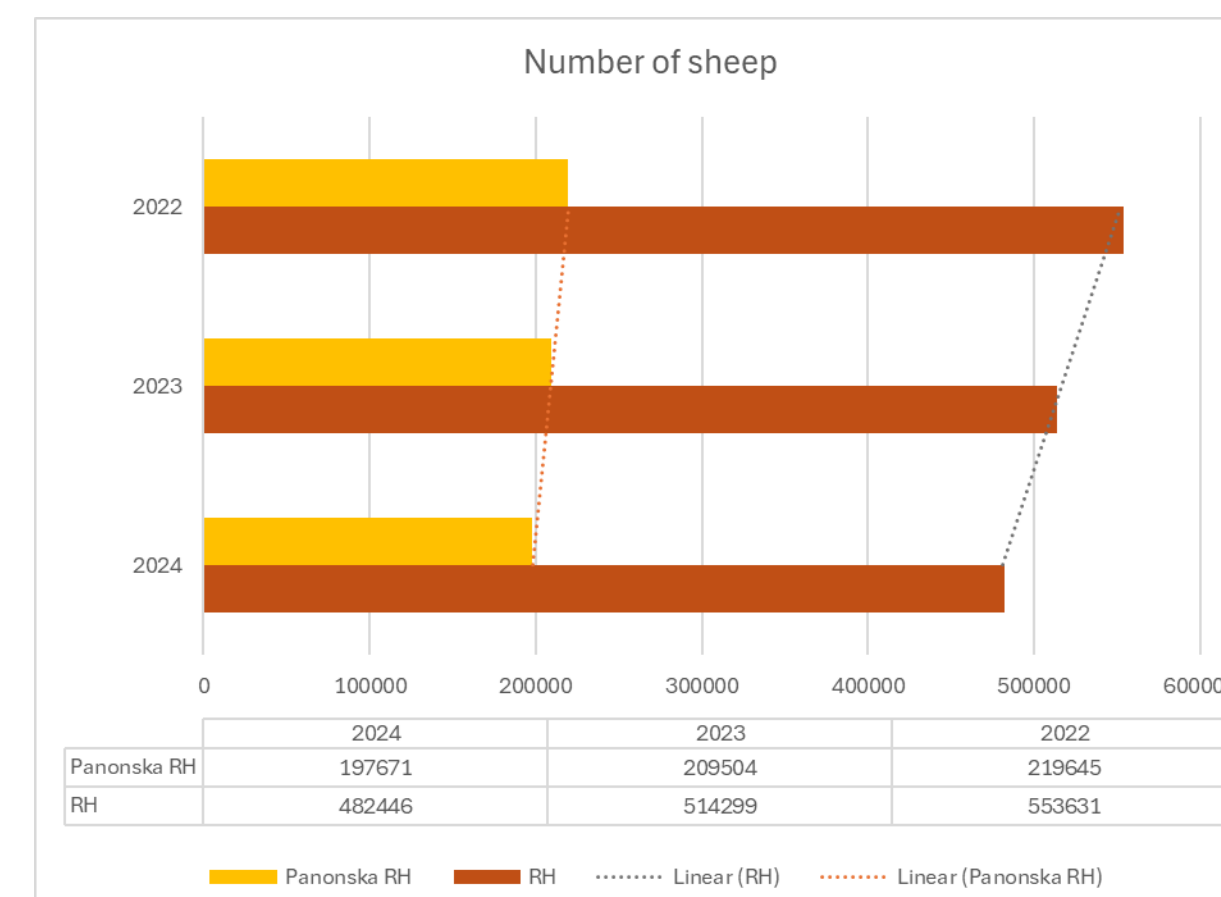


## Fish processing by-products

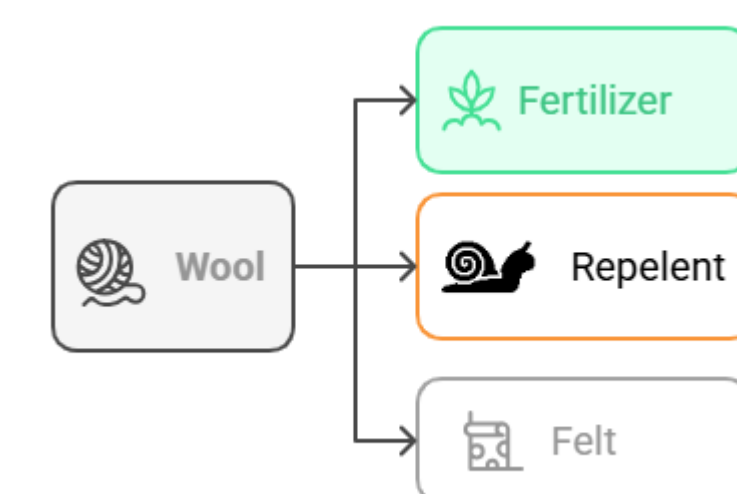
- 9 freshwater fish farms for commercial fish production are present in Pannonian region.
- ~ 5,000 tons of freshwater fish is produced annually
- ~ 300 tons of processing waste generated per year.



## Wool as a raw material

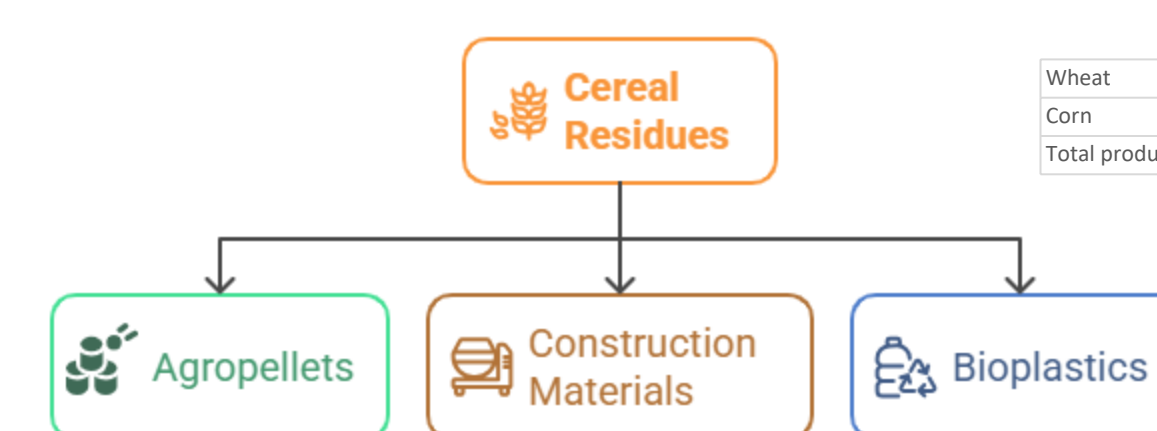
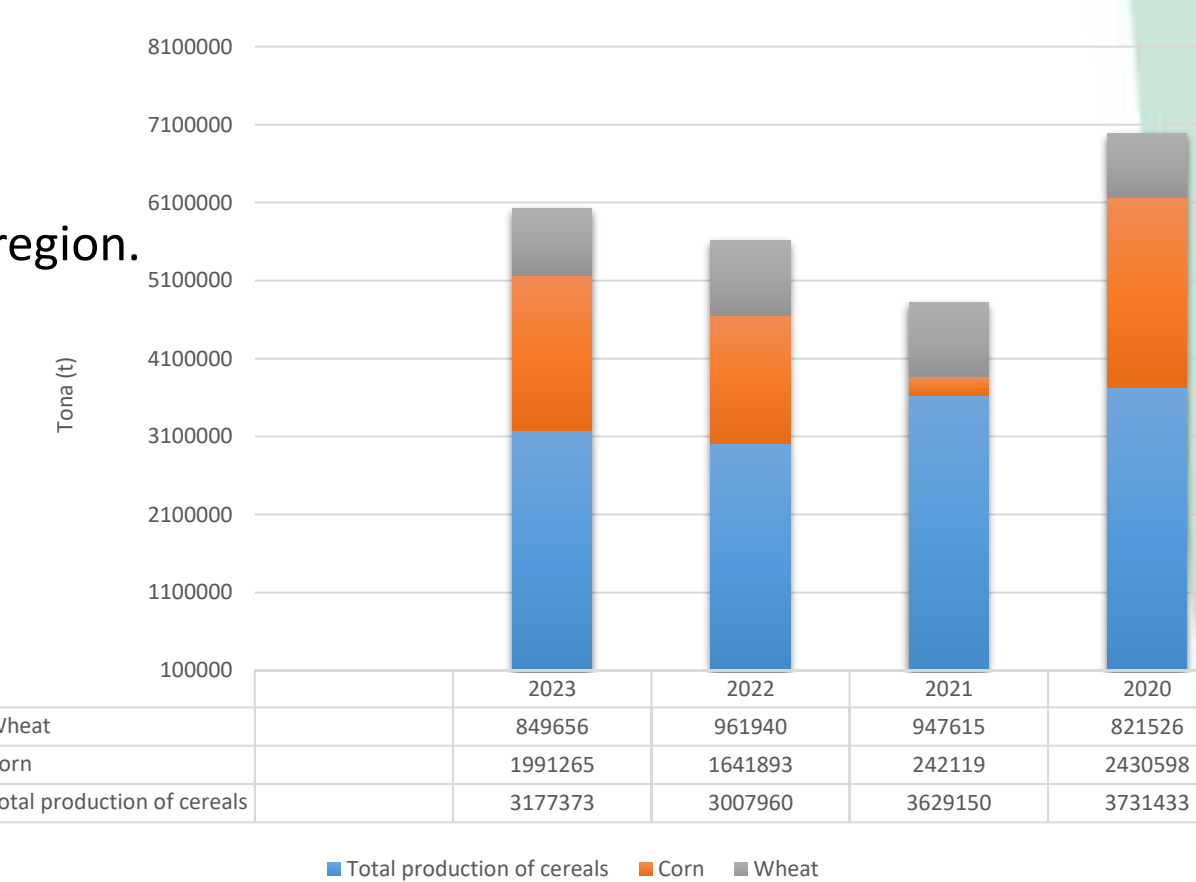


- Sheep and goats make up about 10% of the livestock sector.
- Wool has turned from a valuable raw material into waste.
- Each sheep produces between 1.33 and 1.5 kg of wool → approximately 292,127.85 kg in Pannonian Croatia.



## Cereals

- The Most Significant Sector in Pannonian region.
- Increase in sown area by 3.9%.
- Increase in production by 5.6%.



## Key barriers to overcome:

1. Bioeconomy knowledge gap
2. Low market awareness
3. Lack of skills/resources
4. Underdeveloped value chains



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**Project name:** RIBES - Regional Inclusive Biobased Entrepreneurship Solutions  
**Grant agreement:** 101134911  
**Programme:** Horizon Europe  
**Type of action:** HORIZON-RIA  
**Start date:** 1 March 2024  
**Duration:** 36 months  
**Grant budget:** 4,999,455.00 €  
**Coordinator:** Central European Initiative (CEI)

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