

## Did you know ?

Feathers are composed of nearly 90% of keratin, a valuable feedstock for biodegradable materials.



Microbial degradation can already occur after 6 hours, if feathers are not stored under chilled conditions.

→ **UNLOCK works on optimized logistic strategies!**

## Did you know ?

External factors - such as time or temperature - can impact the biodegradability of end-products.



The effects of treatment conditions on keratin-based products' characteristics need to be further investigated

→ **UNLOCK works on improving the feather conversion technologies!**

## Did you know ?

**7 million tonnes of plastic** are used worldwide in agriculture production each year.



Using plastics in agriculture presents some **environmental benefits**, such as a more efficient use of water.

→ **UNLOCK works on replacing fossil-based plastics used in agriculture!**

## Did you know ?

**Poland, France & Spain**  
are among the five biggest EU  
producers of poultry.



Stakeholders must be involved in **co-creation processes** to facilitate the market uptake of innovative solutions!

→ **UNLOCK prepares the market through regional innovation clusters!**



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## Did you know ?

**Feather landfilling is a threat for ecosystems** as they contain microorganisms that disrupt soil cycles and consequently biodiversity.



After valorisation, **keratin-based products can release organic nitrogen** to the soil, with a desired fertilizing effect!

→ **UNLOCK's eco-design closes the nutrient cycle!**

## Did you know ?

In Europe, about **460.000 ha** of agriculture fields are covered with **fossil-based mulch-films**.



Due to **difficult waste collection**, a significant part stays in the fields, **generating microplastics!**

→ **UNLOCK works on adjusting the biodegradability of bio-based materials to the crop duration!**