

# Practice abstract n°14: Agricultural Plastic (AP) use – Insights from three European countries



**PAPILLONS engaged with farmers across the EU to explore the benefits and challenges associated with the use of agricultural plastics (AP). The selection of case studies was designed to reflect the diversity of European farming—capturing variations in climate, practices, and the ways APs are used, managed, and regulated. Three countries – Finland, Ireland and Italy – were selected for in-depth analysis through a series of workshops and interviews. Interactions with farmers associations and other relevant stakeholders began in the summer of 2024. The workshops and interviews were conducted between October 2024 and May 2025.**

## FINLAND

Finland presents **arctic farming conditions**, where short growing seasons and cold temperatures influence plastic use, and collection rates for agricultural plastic waste (APW) remain relatively low. The country has adopted a Plastic Roadmap that sets out targets to enhance plastic circularity by 2030, supported by the recent introduction of a voluntary national scheme for the collection and recycling of some AP streams. We engaged with farmer associations (e.g. MTK, ProAgria), small farmers who explained that conventional plastics are readily available and commonly used in the sector. In an effort to adopt more environmentally friendly practices, some of them experimented with biodegradable alternatives. However, **due to the cold weather, biodegradable plastics did not decompose** as expected but instead fragmented into many small pieces. This created additional challenges, as the fragments had to be manually collected—making the process more time-consuming and labour-intensive compared to conventional plastics. Traditional plastic films, by contrast, can be removed in a single step and do not appear to break apart in the same way.

### Key findings:

- Finnish farmers expressed **dissatisfaction with biodegradable mulch films**, leading to reduced trust in labelling claims and reluctance to try new similar products.
- Biodegradable mulch films use not only translate into **increased costs** but can also damage farmers' **reputation** due to the unsightly appearance of their lands. In some cases, this leads to **higher land rental prices**.
- Farmers are generally open to using more sustainable options—provided they **perform reliably under local conditions**.

## IRELAND

Ireland presents a **case of temperate, grassland-based farming**, with a long-standing national scheme for collecting and recycling agricultural plastics (IFFPG) (from 2001). Despite high collection rates, stakeholders highlighted growing challenges —particularly the rising costs of managing APW, which have nearly doubled over the past five years. These issues are attributed to the reclassification of AP waste (green and amber), the reconfiguration of international recycling markets (China's ban on plastic waste imports), and increased transport and energy costs.

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Hence, the recycling infrastructure is struggling to cope with the high volumes of collected APW, leading to significant stockpiles at collection centers.

During the first workshop, farmers also raised concerns about the lack of viable biodegradable alternatives—especially for bale wrap film, a critical material for silage. While biodegradable mulch films exist, their relevance is limited due to the small share of land used for crop production in Ireland (~2.5% of land). Based on these facts, the case study focused on bale wrap films in livestock feed systems.

## Key findings:

- The primary challenge with the bale wrap films stems from the **large volume** of 'dirty' film wrap waste, **insufficient** recycling **capacity**.
- **Lack** of effective biodegradable **alternatives** due to the product's specialized requirements (e.g. elasticity and airtightness for silage preservation).
- Farmers are dissatisfied with **financial burden** of bale wrap films **disposal**, despite this, they are committed to take part in the system, which boasts the highest collection rate of any waste stream in Ireland.

## ITALY

Italy presents a case of farming in a **warm Mediterranean climate**, where the use of APs is influenced by the long growing season and high temperatures. The possibilities for vineyard planting and management are highly diverse, significantly influencing the amount of plastic used. We engaged with farmers advisors, small vineyards owners and other experts. Through one-to-one interviews, we found that biodegradable and natural alternatives exist for nearly all commonly used plastic products in vineyards. For example, paper hooks are now available and naturally degrade over time, eliminating the need for collection and potentially reducing labour costs. Many farmers are unaware of the alternatives available or doubt their durability, especially if they've previously used biodegradable plastic products that didn't meet technical performance. So, in general, conventional plastic materials remain widely used. Farmers that are part of sustainability programmes or certification schemes are much more aware of sustainable alternatives. To date, **there is no national collection and recycling scheme of AP waste disposal**.

## Key findings

- **Alternatives often lack compatibility with existing machinery** used in vineyards, meaning tasks would have to be performed manually. This increases time and labour costs, making the switch less attractive.
- **Biodegradable hooks are less durable** than conventional ones and may not degrade as expected. Researchers confirmed that biodegradable materials are still under development and cannot yet match the decades of refinement seen in conventional plastics.
- Farmers are **hesitant to switch due to perceived cost** and performance risks. As noted by one of the farmers we interviewed, the main challenge lies in farmers' reluctance to explore unfamiliar products and practices.



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