**SUMMARY**

This study aims to provide an overview of non-processed fruit and vegetables on the one hand and fresh bread products on the other for which there is potential to avoid single-use packaging and, where not possible, to replace it with reusable alternatives. This is linked to the advantages and disadvantages in banning single-use packaging or replacing it with reusable packaging for these food products.

This study does not intend to be a detailed implementation guide and describes the possibilities where single-use business-to-consumer (B2C) or business-to-business (B2B) packaging can be omitted or, if not feasible, where this packaging could be implemented in a reusable variant.

Based on the **scientific knowledge and literature**, results of a **co-creation session** and **implementations of legislation** in several EU countries, a list of potential vegetables, fruits and bread products for which the packaging can potentially be omitted or replaced with a reusable alternative has been drawn up. Recommendations were also made for further research or solutions to enable reusable packaging as an alternative to single-use packaging in the future.

Literature and practical experience (information stakeholders) show that the most sensitive fruits and vegetables are more likely to have a high respiration rate, high moisture loss and/or be highly susceptible to damage. For these products, packaging (single-use or reusable) will add value for a longer shelf life, in combination with other factors such as storage temperature. Given the wide variation in cultivar and origin, it is not easy to extrapolate the limited studies available to all types of fresh fruit and vegetables. Moreover, season and meteorological factors during cultivation also play a significant role during post-harvest storage. Studies do show that lowering the temperature gives a significant extension of shelf life for fresh vegetables and various fruits. In addition, for fresh fruits and vegetables that are sensitive to moisture loss, packaging with a good water vapour barrier is important.

A survey in several European countries (12 responses) found that four countries have specific national legislation in place around the packaging of unprocessed fruit and vegetables. A transition period was provided for unprocessed fruit and vegetables in these countries and more specific product lists of what is or is not covered by this legislation were drawn up.

Consultation with stakeholders through a questionnaire and co-creation revealed that several fresh, unprocessed fruit and vegetables, are already offered unpackaged, but that others still have the potential to be offered the products unpackaged. This study shows that bulk packaging is possible for (i) 18 out of 29 vegetable categories (66%), (ii) 11 out of 17 fruit categories (64%). However, avoiding single-use packaging by switching to bulk or switching to reusable packaging will involve many new challenges, both economic, technical and social.

**Economically**, it must be possible to guarantee, among other things, that unpacked products can be sufficiently differentiated at the point of sale (e.g. different varieties of tomatoes, organic or non-organic, etc.) so that there is no impoverishment of supply and no food losses are induced. In addition, setting up a reusable packaging system involves several investments in terms of packaging purchase, cleaning infrastructure and the entire logistic system. After all, reusable packaging is not (yet) cheap. Consequently, capital and time must be invested. To get a return on these assets or to justify the cost if leased from a pooler, the packaging must be returned. On a **technical** **level**, the aim should be to make the packaging as standardised as possible, with good traceability, while ensuring food safety and hygiene. If reusable packaging is industrially cleaned and decontaminated, these processes should be validated and certified. Preferably, a certification system is also set up to ensure this. At the **social** **level**, the role of the consumer is particularly important, and sufficient attention should be paid to consumer acceptance and engagement. With the renewed system (bulk or reusable packaging), consumer convenience must be sufficient to maintain the current consumption of fresh fruit and vegetables, given their impact on a healthy diet and public health.

Furthermore, adjustments will also have to be made at the **legislative level** regarding the food safety and hygiene of such packaging systems as well as ensuring a level playing field for all stakeholders. This adapted legislation is best **harmonised** at a European level to ensure the international competitiveness of companies and thus, for example, avoid the temptation for consumers to buy (even more) across borders.