GIS Fruits – Proposal:

EIP focus group: production, harvest and durable storage of fruit

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The consumption of fruit and vegetables – fresh and processed - lies at the heart of public food policies throughout Europe. The fruit sector is currently facing diverse challenges: social (employment and consumer perception of the sector), economic (productivity gains, growth of consumption), and environmental (impact of practices, climate evolution). In response, GIS Fruits*, a consortium gathering together a range of sector actors, from R&D to professional organisations, works on changes to be made, and accompanies its members in their strategic reflections and implementation of various projects uniting them.

The 22 GIS Fruits partners have identified three priority action areas for this EIP Focus Group:

1 – Define viable crop systems: fruit quality begins in the orchard

Cultivation practices must continue to evolve while ensuring the viability of fruit farms by protecting orchards despite emerging parasites, climate change, a reduction in the number of solutions for plant protection and the expectations of citizens. Production techniques that are technically, socially, and economically acceptable while at the same time able to boost competitiveness must be sought.

Different GIS Fruits working groups already are focusing on these issues, namely: Reducing Contaminants, Important and Resurgent Biological Pests, Natural Plant Defence Stimulators, 'Ecophyto' Plan, Production Systems Approach, Innovative Assessment Methods and Mechanisms for Fruit Plant Material, Adaptation to Climate Change, Economic Organization.

In addition to these research areas, GIS Fruits partners have skills that are particularly adapted to responding to these types of issues, notably in the fields of breeding, experimentation, plant pathology, modelling, product quality, consumer expectations, and sector economics.

2 – Develop decision-support tools to define and maintain quality

A key to increasing fruit consumption is guaranteeing, in addition to appearance, an appealing and consistent taste. This is why it is important to have decision-support tools (DST) for every stage in the product chain in order to ensure the desired quality, in particular for:

- Triggering harvest: having DSTs to optimize the start of the harvest will allow optimal fruit quality to be guaranteed.

- Storage techniques: quality losses due to storage diseases or evolution in fruit ripeness must be minimized. Storage is a key issue with regard to managing and mastering markets. Over the last few years, changes in European regulations have led to limits on storage control; new, innovative means therefore must be found to optimize these processes.

- Improving the quality of processed fruits: adaptation raw material / process, contracting among producers and processing industries.

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- Fruit distribution methods: these also must evolve to ensure correct fruit quality maintenance conditions up to retail outlets and beyond.

GIS Fruits R&D partners are carrying out cutting-edge research and are conducting experiments on fruit quality and post-harvest conservation. This research is using tools and/or methodologies that could be used to develop DSTs. This experience and these skills could be used in European projects.

3- Increase the mechanization of the orchard fruit sector at the harvest and post-harvest stages

The sector's dependence on labour weakens its competitiveness given social standards in other countries. Thanks to technological advances, various initiatives are being put in place to mechanize operations done by people (thinning, pruning, harvesting...). If successful, these projects will enable work to be standardized by increasing the speed by which work is carried out and lead to reduced production costs for industrialized countries. Likewise, it must be possible to optimize the labour component and energy consumption of the packaging stage, which remains highly manual.

The GIS Fruits Mechanization working group brings together different stakeholders to achieve this objective.

Conclusion:

The pooled skills of the different GIS Fruits partners should enable us to meet the challenge of producing quality fruit while respecting the environment and being internationally competitive. To do so, production techniques must evolve, quality control tools must be developed, and production in Europe must be mechanized to ensure the sustainability of the European sector as a whole. European partnerships are required and GIS Fruits wishes to be one of the catalysing elements behind the achievement of these objectives. GIS Fruits therefore supports the creation of a Focus Group covering these three key fields for arboriculture in Europe.

*GIS FRUITS, the French Scientific Consortium

From research to practice

This scientific interest group draws together 22 French partners involved in research, training, and professional organization in the fruit sector. GIS Fruits aims to develop a long term, joint strategy covering a range of activities in the sector, from research up to the transfer of innovations to economic actors.

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From research to practice

> **A threefold challenge:** combining economic, social, and environmental performance in the sector.

> **A global approach:** from breeding varieties to the integrated production, marketing, processing and consumption of fresh and processed fruits.

6 scientific priorities

- **Organisation of stakeholders and sector competitiveness.**
- Societal expectations: **consumer and buyer behaviour, citizens' needs.**
- **Understanding of the functioning of fruit production systems and pest control.**
- **Adaptation to, and anticipation of, climate change.**
- **Systems approach on 3 levels:** field, farm and territory.
- **Develop and maintain the quality** of fresh and processed fruits.

The GIS programme

- **Identify new research questions** through dialogue between partners.
- **Launch research, development, and training projects.**
- **Accompany innovations** in the field.
- **Disseminate results** of actions.
- **Provide information** for the general public.
- **Enlighten public policy** with scientific knowledge acquired by the GIS.

To keep up to date on GIS Fruits news: http://www.gis-fruits.org/