Scanning report
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Country:	France
NUTS 3 region(s)[1]:	FR611 Dordogne
WP no. and title:	WP 2 – Performance of new fruit varieties
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	[Y1 report due May 2016 for the period 03-16 to 05-16
	Y2 report due May 2017 for the period 06-16 to 05-17
	Y3 report due May 2018 for the period 06-17 to 05-18]

Source materials and methodology

[Please detail your source materials for the scanning and how you have approached it. Approx. 1500-2500 characters incl. spaces.]

Testing new apple varieties is organized around a national charter established by industry partners implicated in varieties: growers (FNPF), nurserymen (CEP), Inra (research) and Ctifl (experimentation) since 1997. Ctifl is coordinating the national network of regional stations.

3 members of the network act as experts in an expert comity of the French catalogue and OCVV in order to have links between these 2 instances. Ctifl is a member of Eufrin and participate to the WG 'Apple and pear variety and rootstock testing'.

The network is organized around 2 levels:

- Level 1: is implanted in 3 sites (2 trees / variety) located in the main areas of production (South west, south east and north west of France). 2 trees / variety are planted in IPM (but without pre-harvest treatment). Observations are based on the Eufrin descriptors. For apple, 726 numbers have been observed since 18 years. Hybrids (79 %) and mutants of Gala, Cripps Pink, Fuji, Red Delicious, Golden, Cripps Red (21 %) are observed. The part of monogenic scab resistant varieties is 44 % mainly due to Novadi program. For pear, 256 varieties have been planted since 18 years. Some of them present a low sensitivity to fire blight.
- Level 2: is implanted in 8 sites (20 trees / variety) located in the main areas of production. 55 apple varieties and 20 pear varieties have been studied since 18 years. Monogenic scab resistant varieties represents 53 % of the total varieties. At level 2, scab resistant varieties are planted in a plot where fungicides are applied on high risk periods. In some sites, trees are also planted in organic orchards.

The data are stored in a private database.

This scheme should be evolve in the next months (2016) in order to lower the costs associated to this work and consider the new challenges facing fruit growing : sustainability to biotic and abiotic, decreasing the number of phytosanitary treatments, climatic changes.

The threats to network testing are the following:

- Development of private evaluation by producer organizations concomitant with the development of club varieties ; compromises the role of public and collective evaluation
- High number of selections to test at level 1 raising the cost of studies

[1] Please see ec.europa.eu/eurostat/ramon/nomenclatures/ for details on NUTS regions, level 3

Source material

Ctifl (2007). Goldrush® Coop 38 cov, variété de pomme. Arboric. Fruitière Encart.
Ctifl (2009). Choupette® Dalinette cov, variété de pomme. Fiche technique 82. Arboric. Fruitière Encart.
Ctifl (2012). Story® Inored cov, variété de pomme. Fiche technique 134. Arboric. Fruitière Encart.
Ctifl (2013). Opal® UEB 32642, variété de pomme. Fiche technique 158. Arboric. Fruitière Encart.
Hutin, C. (2015). L'inventaire 2013 du ministère de l'agriculture. Le verger français. Infos Ctifl 14–18.
Vaysse, P., Reynier, P., Codarin, S., Méry, A., and Dierstein, H. (2014a). Etude qualitative sur la pomme de petit calibre. Les préférences des jeunes consommateurs. Infos Ctifl 29–35.
Vaysse, P., Reynier, P., Codarin, S., Brossault, A., and Rival, L. (2014b). Etude qualitative sur la pomme. Les préférences gustatives des jeunes consommateurs. Infos Ctifl 21–29.

Best practice findings

[Please summarise the finding of your scanning in terms of best practice for your particular regional and thematic context. Approx. 2000-5000 characters incl. spaces.]

Apple is still the top species grown in France despite a decrease of 21 % between 2002 and 2013 (37 300 ha), followed by walnut (20 600 ha) and plum (17 300 ha). Golden delicious stays the main cultivated variety (30 %) followed by Gala (16 %) and Granny Smith (8%). Cripps Pink and associated are in 4th position (6 %, + 40 % in 10 years). The dynamic of varietal renewal is driven by mutants of these varieties (mainly Gala and Cripps Pink). Monogenic scab resistant varieties are experiencing a relative significant increase with 3 % of the total (Hutin, 2015).

New apple varieties in development:

- New sports of Gala (Galaval, Galafab), Cripps pink (Rosy Glow, Sekzie), Golden delicious (Parsi), Fuji (Aztec, Fubrax): renew the old clones, improve pack out and percentage of fruit harvested at the 1st picking. These varieties are the standard offer adapted to local market and export.
- Monogenic scab-resistant varieties :
    - Story® Inored: bicolor, high pack out (yield, long storage, low level of defects), good quality (Ctifl, 2012)
    - Opal® UEB 3264/2: yellow, medium productivity, good quality and good storage (Ctifl, 2013)
    - Goldrush® Coop 38: yellow, medium to high productivity, very good quality, good storage (Ctifl, 2007)
    - Dalinette (Ctifl, 2009), Juliet® Coop 43: bicolor

Acreage of pear orchard lost 43 % in 10 years (5053 ha, 2013). Summer pears (Guyot and Williams) dominate with 54 % of surface, autumn pears (Conférence and Comice) represents 38 %.

New pear varieties in development:

- Sweet sensation®: Red sport of Comice
- Xenia : very productive variety

Apple consumption is more or less stable whereas that of pear is in decline. In order to stimulate apple consumption by young consumers, Ctifl's project 'Pom'Enfant' aims to find out the expectations of young consumers in term of taste. A test was carried out with small size varieties of apple offered for testing (Vaysse et al., 2014a), (Vaysse et al., 2014b).

In France, one of the major political and regulatory constraints is linked to Ecophyto 2 plan. The objective of Ecophyto 2 plan is to reduce by 50 % the use of phytosanitary products (-25 % in 2020 and -25 % in 2025). The raise of disease-resistant or tolerant varieties in orchard would facilitate this objective. Plant material with disease-tolerance qualities is an effective lever to limit the use of phytosanitary products. Other major constraint is cost and lack of workforce to operate in orchard. A high productivity and an increase in the rate of mechanization while maintaining a good quality of product (1st category) is one of the challenge facing arboriculture.

Demands for a new apple variety:

- High pack-out (productive, good quality, long storage)

- Disease-tolerant (polygenic resistance to scab), low susceptibility to canker, mildew, rosy aphid, Gloeosporium (pyramidal resistance)
- High resilience to environmental changing conditions

Demands for a new pear variety:

- Productive, easy to grow
- Long storage period (until march / april)
- Disease and pest tolerant (scab, fire blight, psylla)