Crop load management

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LA TAPY

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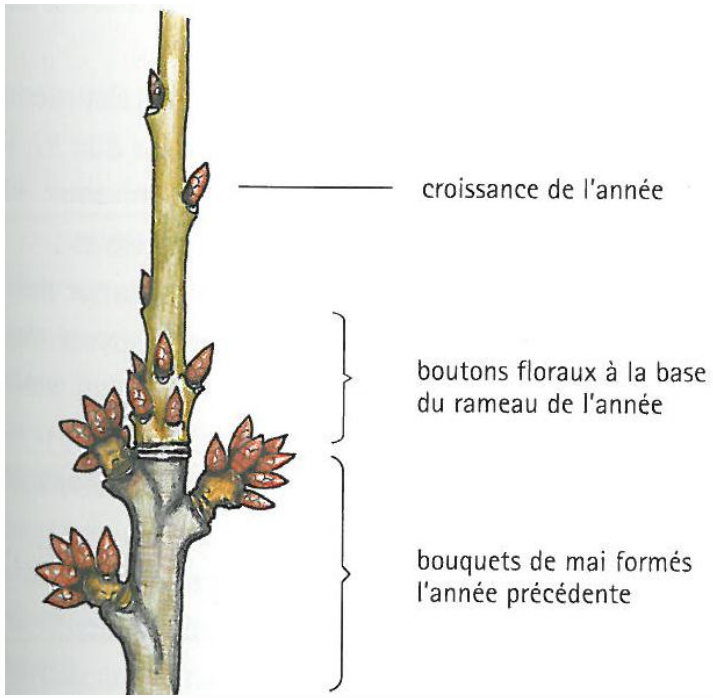
Spur hand thinning

- What is it?
- How?
- When?
- In which case? (circumstances)

Spur thinning: which are removed?



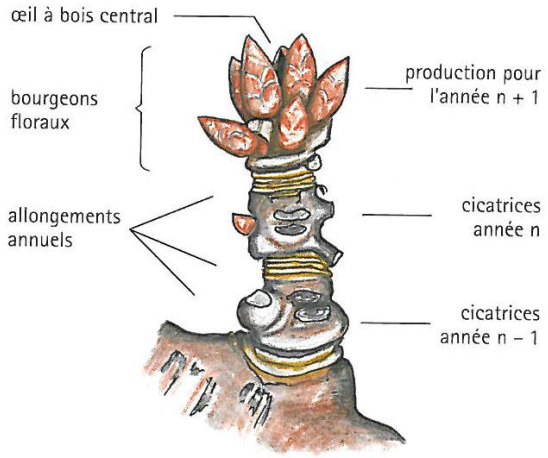
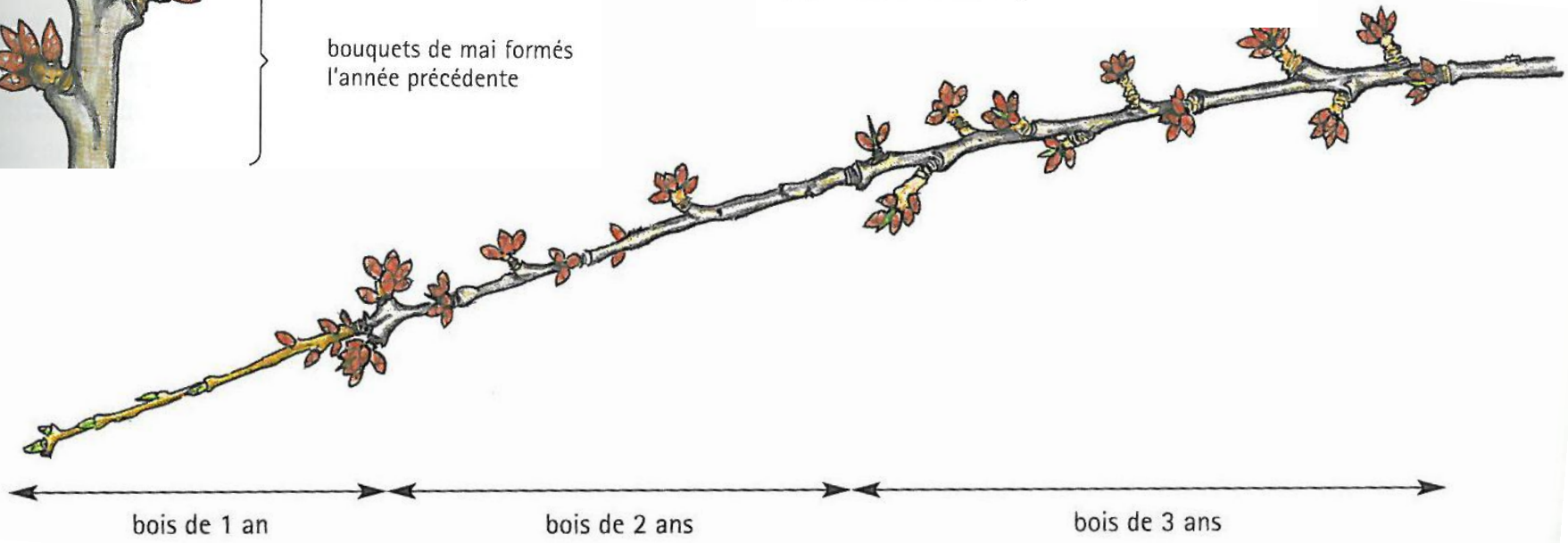


Fig. 7. Fonctionnement pluriannuel du bouquet de mai (observé de la fin de l'été à la floraison).



Spur thinning: effects and results

Anyways, the fruit weight and size increase

But result depend on thinning intensity and numerous others factors come into play.

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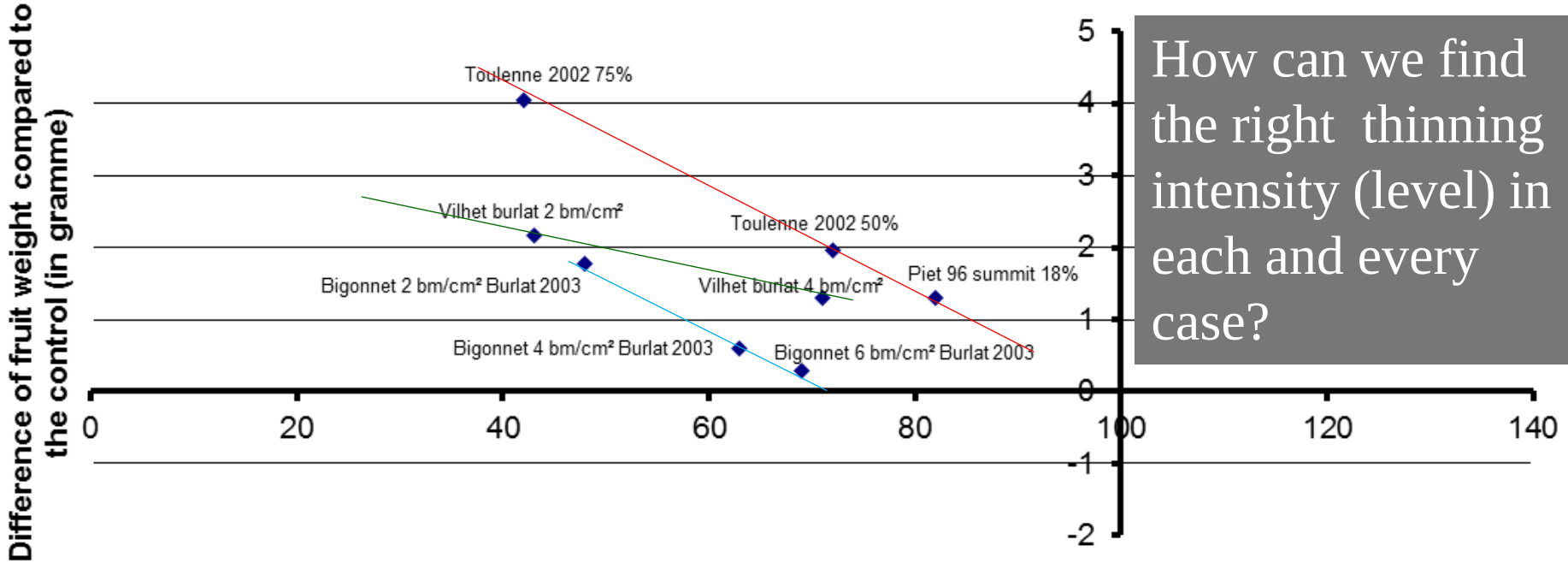


How can we find the right thinning intensity (level) in each and every case?

Spur thinning:

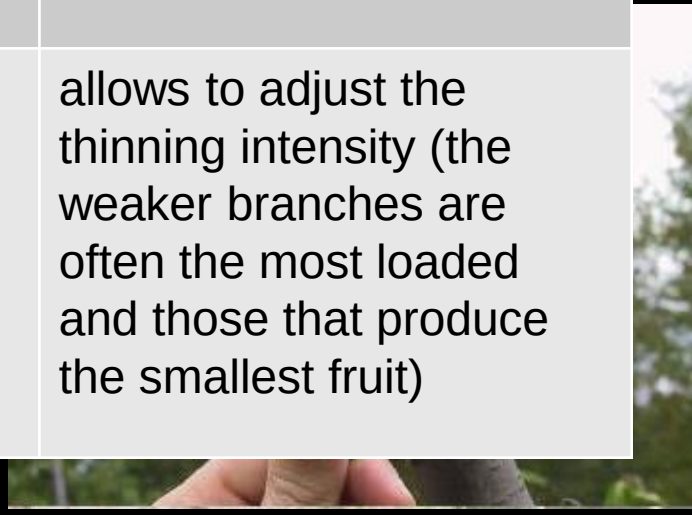
different way to evaluate the thinning intensity level

% spur removed

spur number / cm^2 of
branches cross-sectional area

Spur thinning:
different way to evaluate the thinning intensity level

	Advantages	Drawbacks
% spur removed	Easy to explain and to do	performed consistently without adaptation to the force and the load branch
Spur / cm^2	hard to explain to farm workers (technical labor)	allows to adjust the thinning intensity (the weaker branches are often the most loaded and those that produce the smallest fruit)



Spur thinning:

difficulty of assessing the intensity of spur thinning

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- It’s depend on:

- variety: potential caliber/production, Productivity

- vigor of trees (variety/rootstock): weak trees high density (axes palmettes, little cups), more spur thinning, strong trees low density (traditional Cup) less spur thinning

- the production potential of the Orchard (soil, irrigation and fertilization, technical level ...)

- market and economic opportunities

Spur thinning:

difficulty of assessing the intensity of thinning

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Tanguy 2000

PRESSION D'EXTINCTION APPLIQUEE A L'ARBRE ENTIER

VARIETE SUMMIT

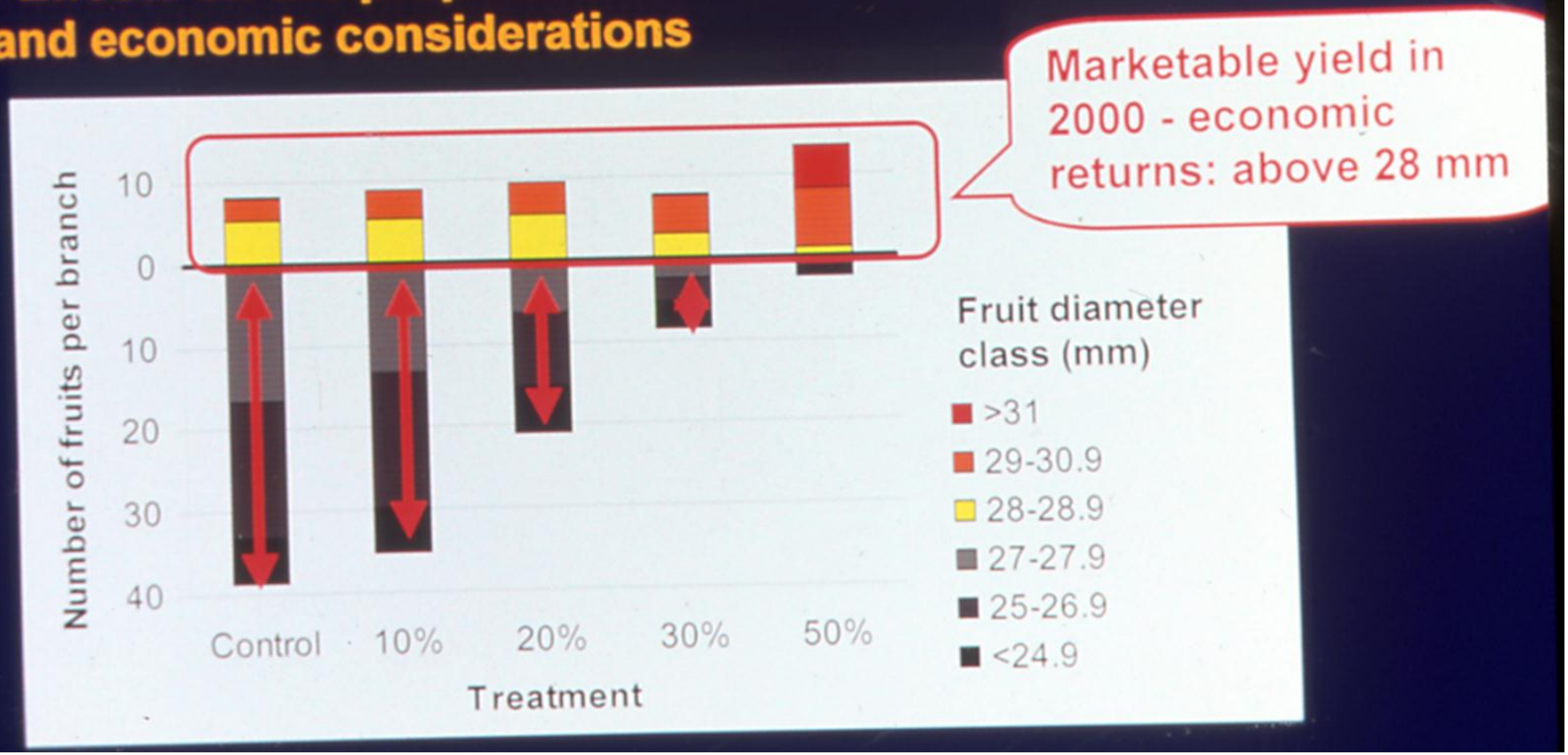
INFLUENCE SUR LE CALIBRE (% par calibre)

TRAITEMENT	< 24 et 24 mm	26 mm	28 mm	30 mm	32 mm et >	Diminution réelle de charge
Témoin	35%	35%	22%	8%	0%	Indice 100
10%	30%	37%	25%	8%	0%	10%
20%	21%	29%	39%	11%	0%	30%
30%	16%	20%	40%	30%	4%	25%
50%	3%	5%	13%	50%	20%	60%

Spur thinning: difficulty of assessing the intensity of thinning

II – The influence of different degrees of extinction on fruit size - Results

- Effects on the proportion of fruits in each fruit size class and economic considerations



Limits of spur thinning: The compensation phenomenon

Test spur thinning intensity, Burlat - Bigonnet (GRCETA, 2003)

	Témoin	6 Bm/Cm^2	4 Bm/Cm^2	2 Bm/C
• Nb Bm	629	429	263	145
• Bm/cm^2	7,86	5,70	3,89	2,09
• Nb Fruits	2171	1446	1256	808
• Fruits/cm^2	27,04	19,68	18,87	11,58
• Fruits/Bm	3,43	3,45	4,85	5,55
• kg / Arbre	12,840	8,824	8,146	6,241
• Poids moyen	5,92	6,21	6,52	7,69
• T/Ha	10,272	7,059	6,516	4,992

Limits of spur thinning: Less effects when spur is done several years away

Test Belge/Gisela 5 spur thinning for 3 consecutive years, SEFRA, 2005)

	2003			2004			2005		
production	kg/a	pmf	nbf / a	kg/a	pmf	nbf / a	kg/a	pmf	nbf / a
témoin	35,7	**8,2 g**	4378	33,0	**8,0 g**	4097	21,5	**11,0 g**	1955
extinction	32,9	**9,4 g**	3504	27,5	**8,5 g**	3247	19,9	**10,7 g**	1860

52% 35 % 35 %

Spur thinning advantages

- Gain cherries size
- Less ‘fruit sleeves'
- the removal spur are stronger and have best qualitative potential
- best distribution of the shoot on remaining spur
- Adaptation of the fruit load to the branch size
- Reduction of production potential limited / short pruning (we keep the whole branch length)
- improves the regularity of production

Spur thinning disavantages

- Difficulty of assessing the intensity (variety, force, potential fruit size and yield production...)
- Risks related to early thinning (before fruit set)
- labor time
- limited new wood when interventions have already been made
- Compensation of remaining BM (tend to retain more fruit / BM)

In practice …

- Never alone, in addition to the prunning and possibly other charge control techniques (bud or flower thinning , chemical or manual fruit thinning ...)

- To adapt as appropriate:
  - not, little or much
  - whole trees or only low branches
  - According to variety , rootstock , tree vigor and objectives