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The role of the Arabidopsis AHL15/REJUVENATOR gene in developmental phase transitions

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Stellingen

Behorende bij het proefschrift

The role of *Arabidopsis AHL15/REJUVENATOR* gene in developmental phase transitions

1. AHL15 and its paralogs are required for the maintenance of embryo identity in *Arabidopsis* (This thesis).

2. AHL15 and its paralogs act as general suppressors of developmental phase transitions and ageing in flowering plants (This thesis).

3. *AHL* genes may are key-molecular switches between the monocarpic (annual or biannual) and the polycarpic (mostly perennial) life strategy during plant evolution (This thesis).

4. Reversal of developmental phase transitions requires extensive modulation of the chromatin configuration (This thesis).

5. The finding that polycarpy induced in tobacco, in contrast to *Arabidopsis*, does not lead to viable seed production suggests that this trait has different requirements in different plant species (This thesis, Kahn 2017, Thesis, Leiden University)

6. Despite the wealth of data from microarray or RNA seq experiments on co-regulated genes in plants, surprisingly the co-regulation of physically linked genes has not been analyzed in great detail.

7. There is a striking similarity between the role of sugars in plant ageing and their detrimental effect on life expectancy and health in humans (This thesis, Matsoukas et al., 2013; Yang et al., 2013; Lee et al., 2015).

8. Identification of genes that improve crop production offers an effective approach to enhance food security (Tester and Langridge, 2010; Kebrom et al., 2012).

9. Ageing is a plastic process that can be slowed down or even reversed by expression changes of age-related genes (Wyss-Coray, 2016, Nature).

10. The observation and search for similarities and differences are the basis of human knowledge.

11. Healthy competition is essential for acquiring knowledge and innovation.

12. It does not matter what others think about you, it is important that what you think about yourself.