

ROSBREED

Enabling marker-assisted breeding in Rosaceae

USE OF PEDIMAP IN ROSBREED
FOR VISUALIZING GENETIC AND
PHENOYYPIC DATA ACROSS
PEDIGREES IN ROSACEOUS CROPS

Cameron Peace for Cholani Weebadde, Extension Team Leader, MSU



Outline of Presentation

- ❖ What is Pedimap?
- ❖ What does Pedimap Do?
- ❖ Who is Pedimap For?
- ❖ Some Pretty Diagrams



Outline of Presentation cont'd

❖ How Can I Get Pedimap?

Pedimap

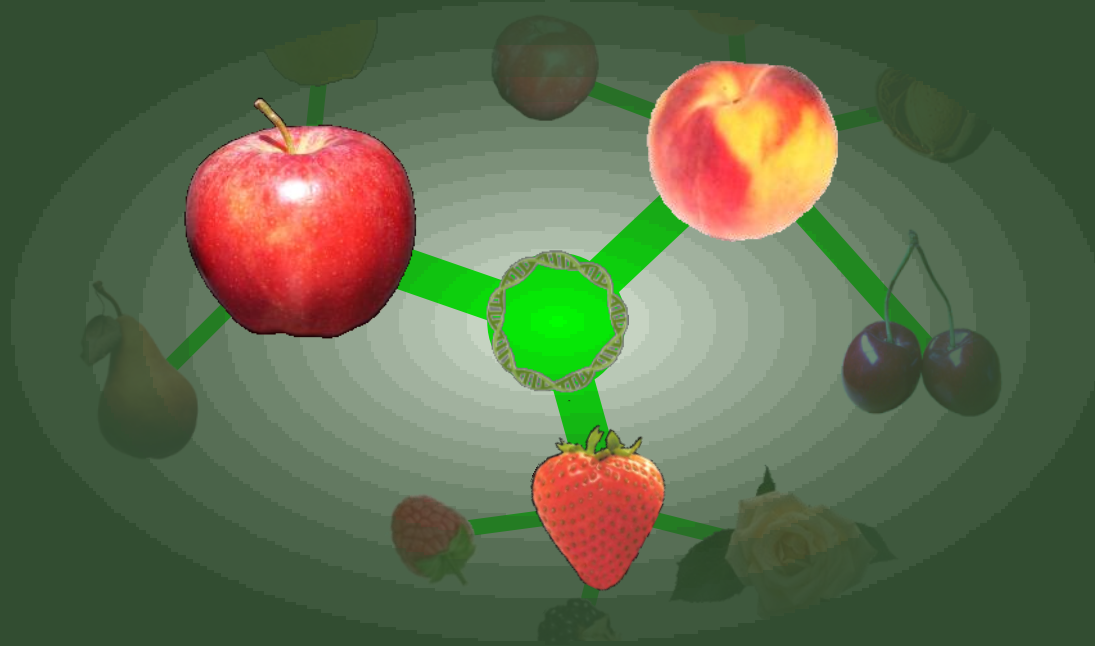
Software for the visualization of genetic and phenotypic data in pedigrees

Roeland E. Voorrips, Wageningen UR – Plant Breeding

Pedimap is a tool for exploring and visualizing the flow of phenotypes and alleles (observed or based on Identity-by-Descent calculations) through pedigrees. It has tools for the manual and automatic selection of parts of the pedigree based on criteria such as ancestors and/or progeny to a specified number of generations, along the maternal, paternal or both lines, sibs etc. For each selection multiple views can be generated to display different linkage groups, phenotypic traits etc. Once a view is created for one selection, it can be automatically recreated for any other selection. Pedimap can deal with numeric as well as textual phenotypic scores, and hence the name.

[www.plantbreeding.wur.nl/UK/
software_pedimap.html](http://www.plantbreeding.wur.nl/UK/software_pedimap.html)

32 bit versions,

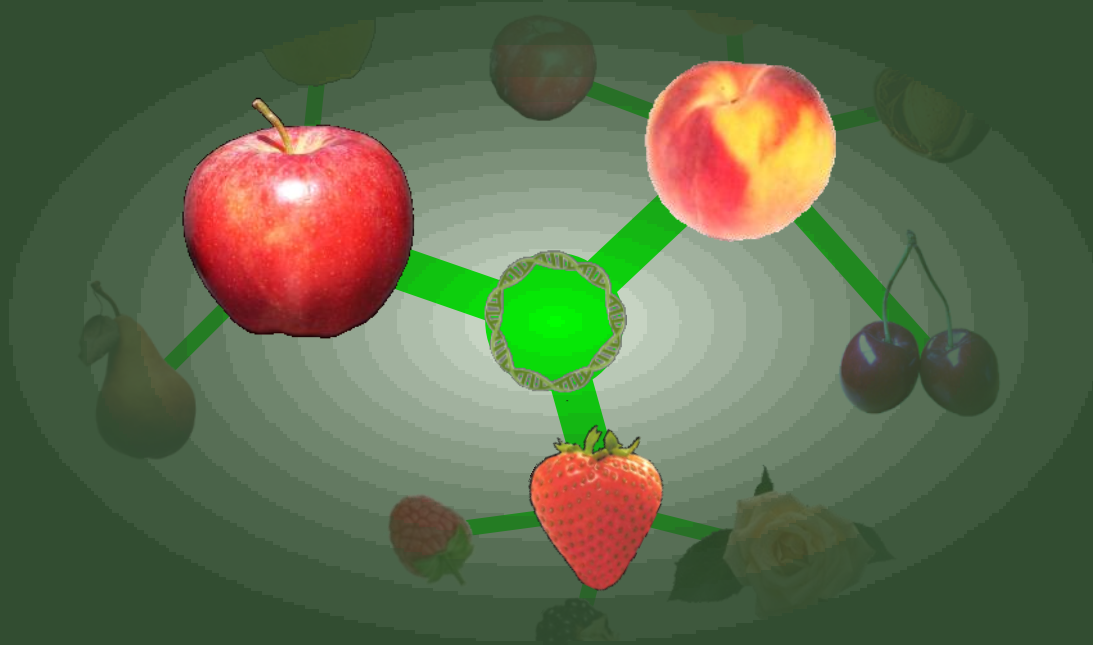


What is Pedimap?

What is Pedimap?

- Software for exploring and visualizing the “flow” of phenotypes and alleles through pedigrees
- Developed by Roeland E. Voorrips at Wageningen UR – Plant Breeding, The Netherlands
- Freely available!





What does Pedimap Do?

What does Pedimap Do?

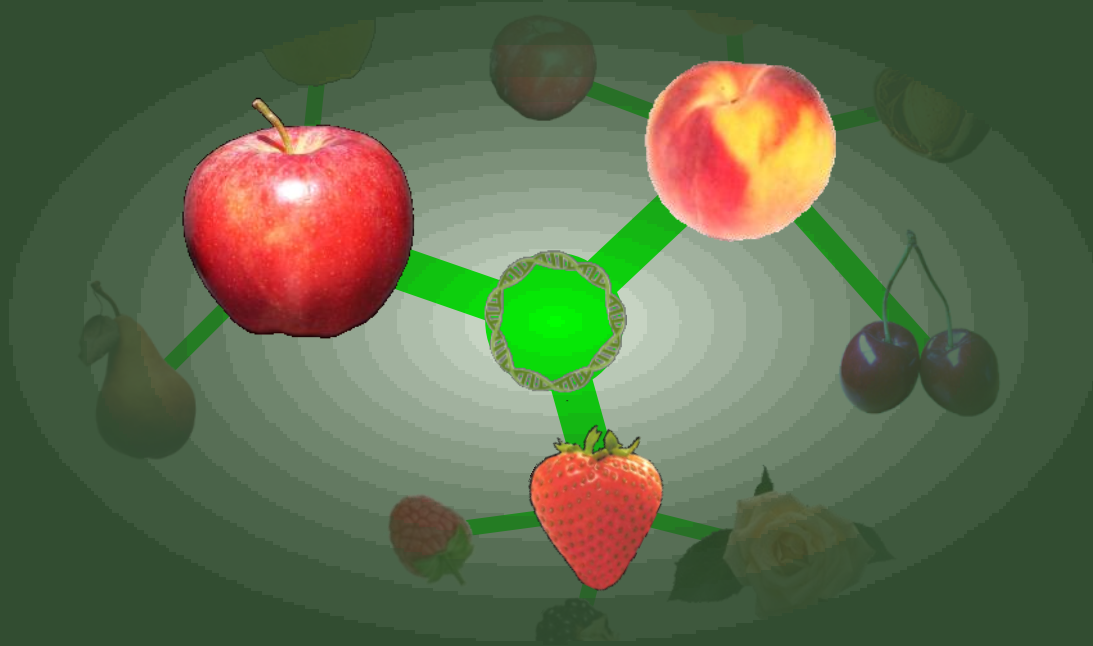
- Can be used to present genetic information such as:
 - phenotypic traits
 - scored marker alleles
 - Identity-By-Descent probabilities
 - QTL functional allele probabilities



What does Pedimap Do?

- Allows breeders to visualize distribution of desirable alleles for important traits across their germplasm
- To support decisions in parent selection and crossing





Who is Pedimap For?

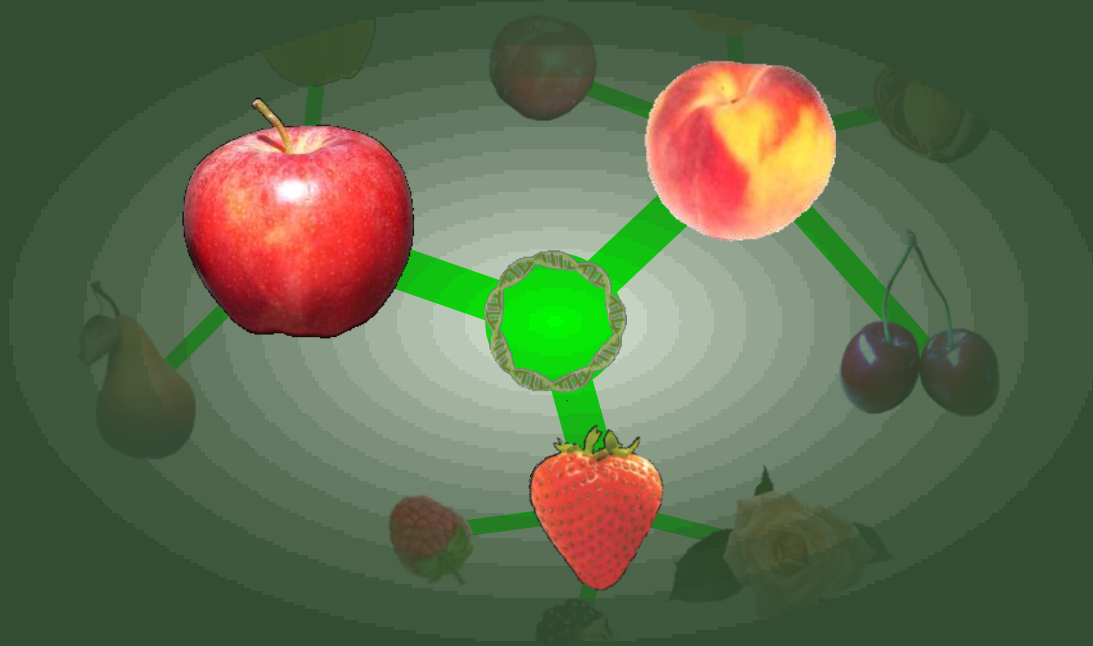
Who is Pedimap For?

- **Plant Breeders!**

who...

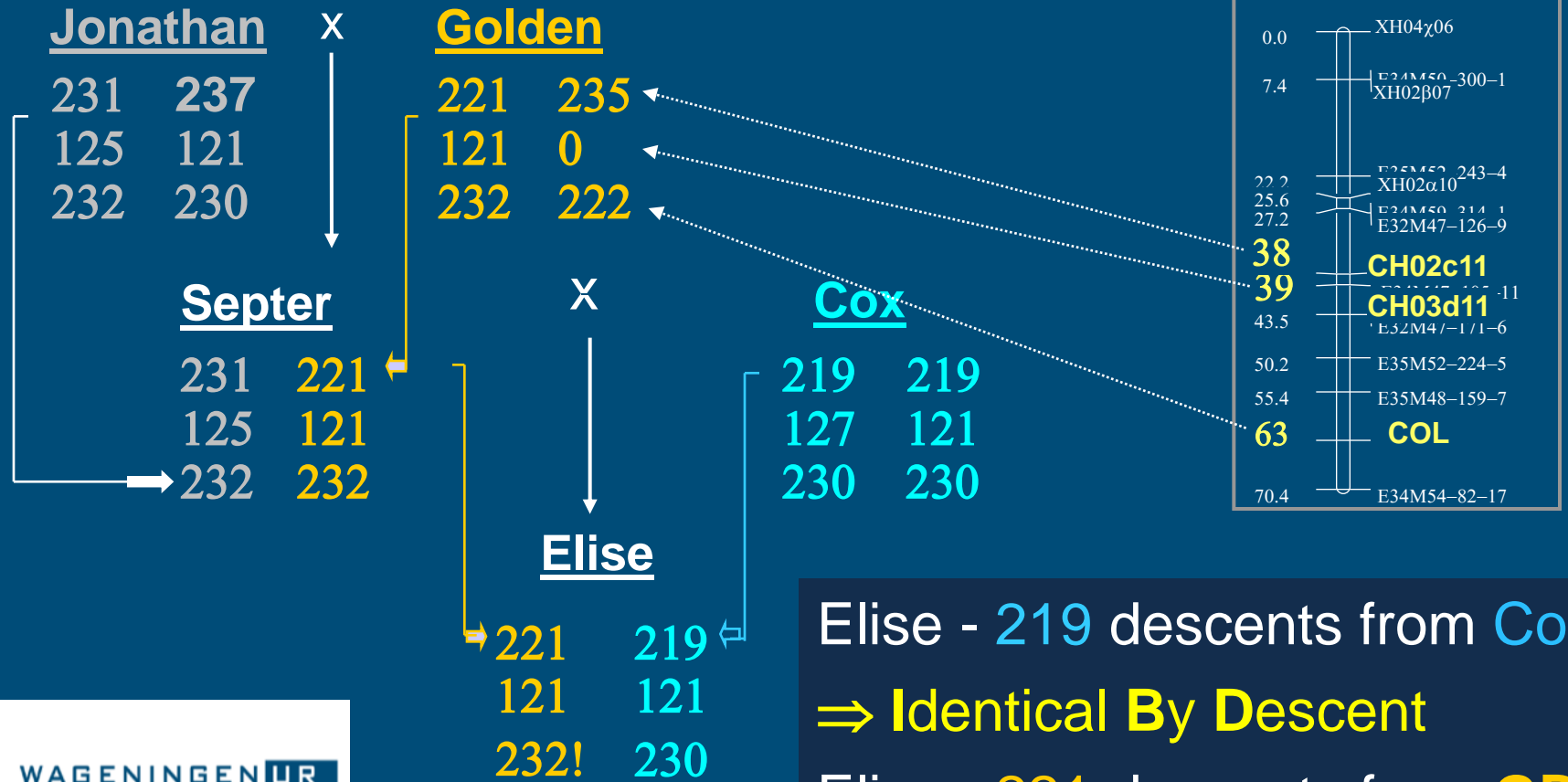
- Want to see pedigree relationships of traits to make crossing decisions
- Work with complex traits
- Work with genetic markers for more informed breeding of complex traits
- Handle large data sets for crop improvement programs





Some Pretty Diagrams

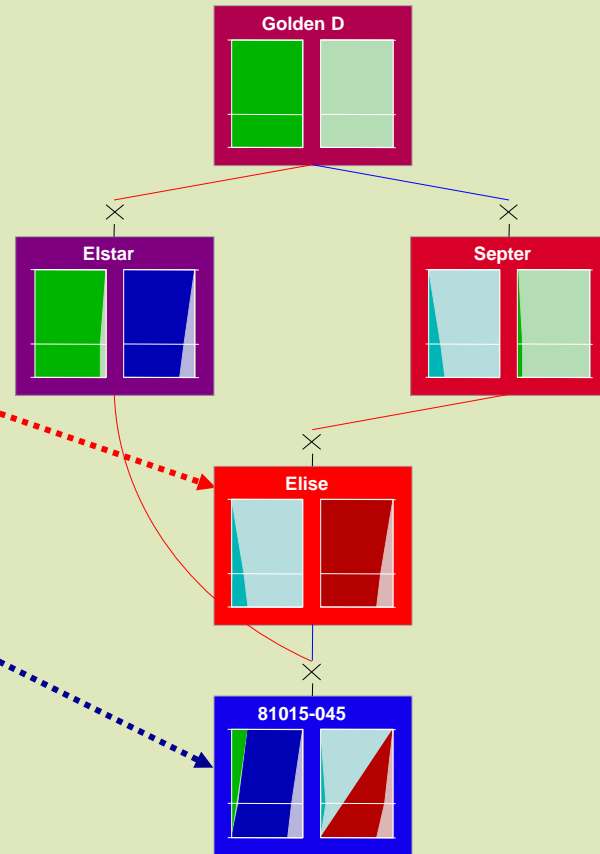
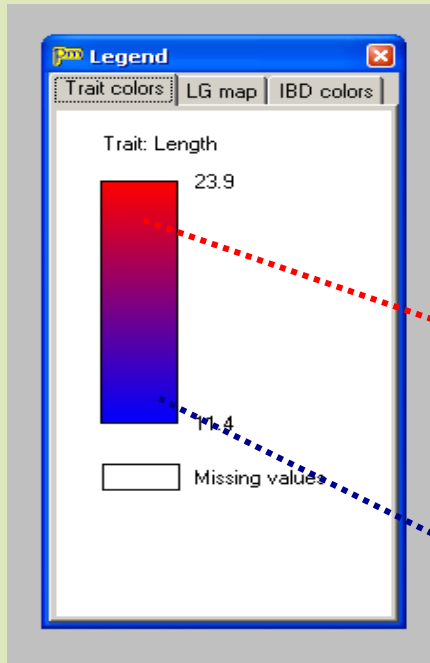
Identity-By-Descent (IBD)



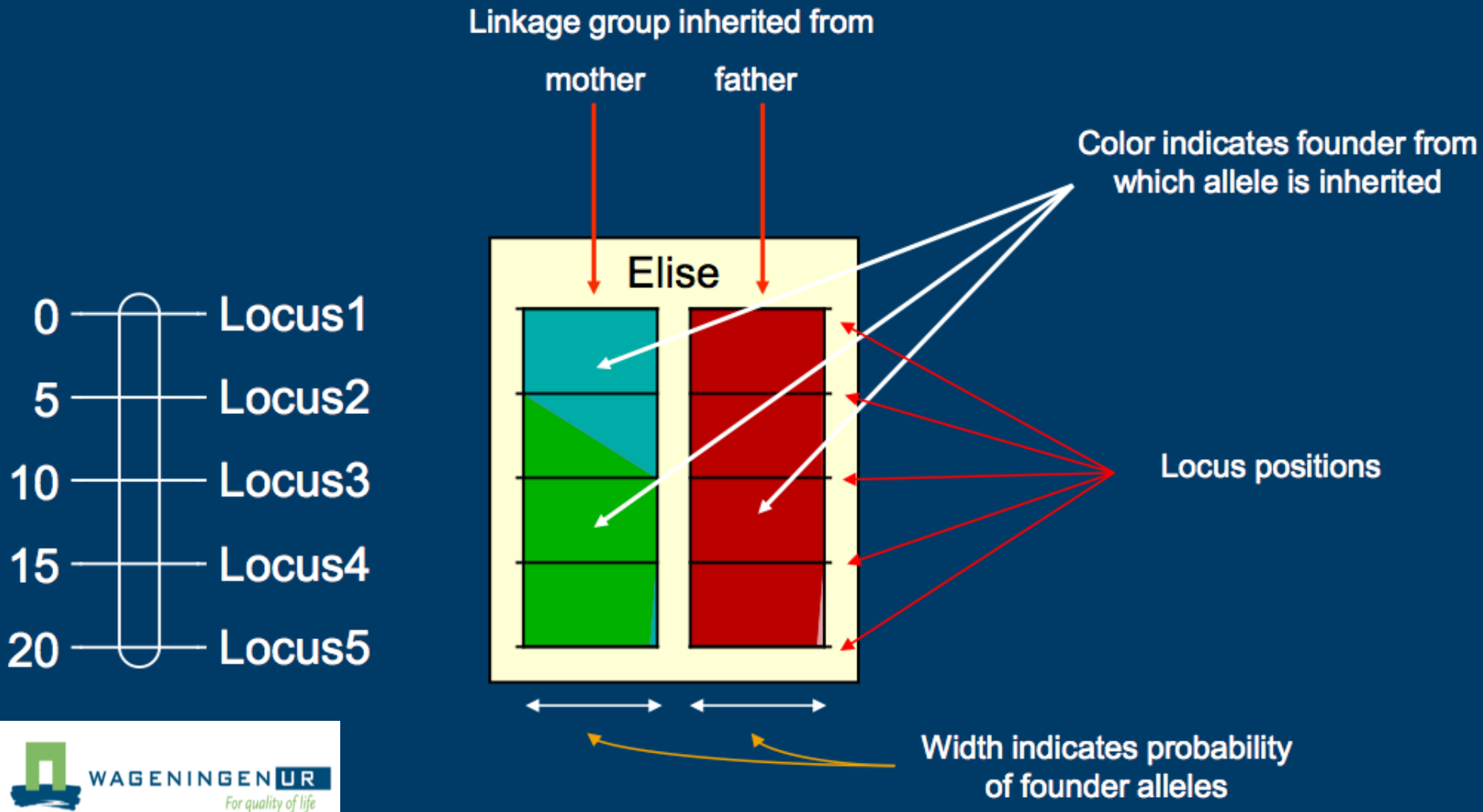
Elise - 219 descents from **Cox**
 ⇒ **Identical By Descent**
 Elise - 221 descents from **GD**



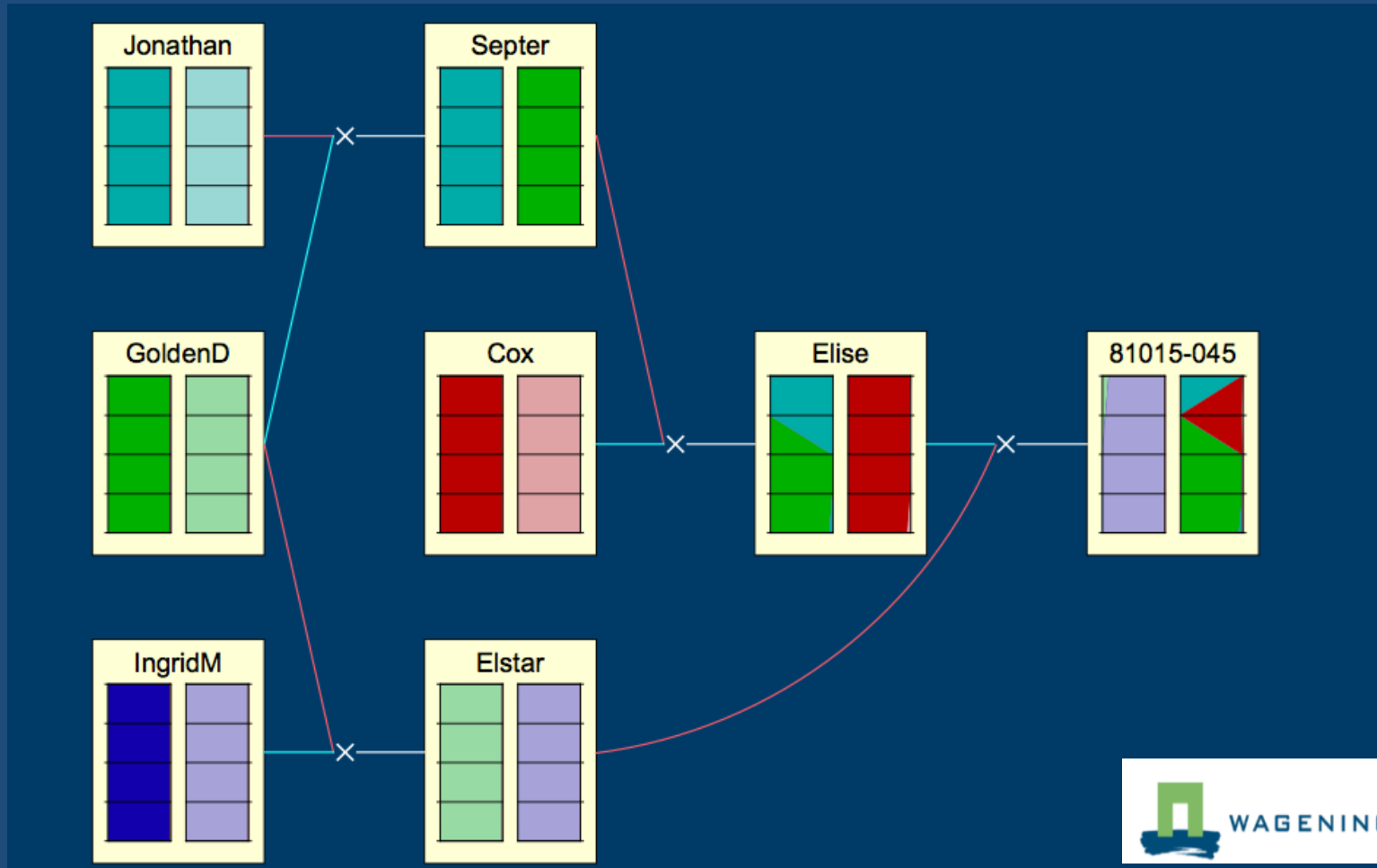
Visualizing Phenotypic Data

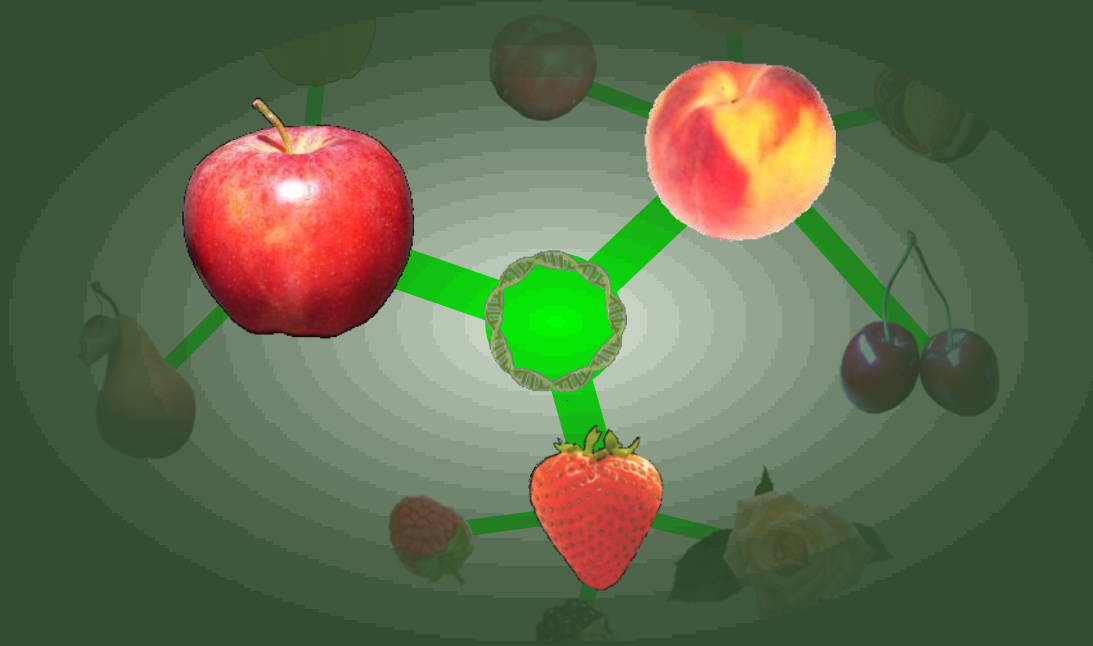


Visualizing Genotypic Data



Visualizing Genotypic Data





How Can I Get Pedimap?

How Can I Get Pedimap?

- Step 1: Go to website

www.plantbreeding.wur.nl/UK/software_pedimap.html

- Step 2: Read webpage
– interesting stuff!

- Step 3: See below
first paragraph

Pedimap

Software for the visualization of genetic and phenotypic data in pedigrees

Roeland E. Voorrips, Wageningen UR – Plant Breeding

Pedimap is a tool for exploring and visualizing the flow of phenotypes and alleles (observed or based on Identity-by-Descent calculations) through pedigrees. It has tools for the manual and automatic selection of parts of the pedigree based on criteria such as ancestors and/or progeny to a specified number of generations, along the maternal, paternal or both lines, sibs etc. For each selection multiple views can be generated to display different linkage groups, phenotypic traits etc. Once a view is created for one selection, it can be automatically recreated for any other selection. Pedimap can deal with numeric as well as textual phenotypic scores, and with polyploids as well as diploids. The genetic information can be displayed according to genetic linkage maps, hence the name.

Pedimap is available for the Windows platform (all 32-bit or 64-bit versions, Windows98 up to Windows7). Pedimap can be downloaded [here](#).

“Pedimap can be downloaded **here**”



How Can I Get Pedimap? cont'd

Step 4

Step 5

Step 6

Pedimap

Software for visualization of genetic and phenotypic data in pedigrees

Download & Installation instructions

You can download Pedimap by clicking [this link](#). Installation is simple: just copy all files from the downloaded zip file to any directory on your PC.

How to obtain a licence

Pedimap can be used, with limitations, without a license. However, a free, personal license can be obtained [here](#). The license file will be send to you by email. To unlock all Pedimap features, simply copy the license file to the same directory where you installed Pedimap and restart the program.

www.plantbreeding.wur.nl/UK/software_pedimap.html



How Can I Get Pedimap? cont'd

Pedimap

Software for visualization of genetic and phenotypic data in pedigrees

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How to obtain a licence

Pedimap can be used, with limitations, without a license. However, a free, personal license can be obtained [here](#). The license file will be send to you by email. To unlock all Pedimap features, simply copy the license file to the same directory where you installed Pedimap and restart the program.

Step 7 (final)



www.plantbreeding.wur.nl/UK/software_pedimap.html



Acknowledgements



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Questions?

