

Preparation for the Second Exam

1. Focus of exam will be topics presented on-line

- Map-Based Cloning of Plant Genes
- Genome Sequencing
- Plant Genome Evolution
- Plant Transposable Elements
- Plant Transcription
- Plant Non-Coding RNAs

Preparation for the Second Exam

2. Understand how all of the topics are interrelated

Examples:

- How has genome sequencing affected our understanding of plant genome evolution?
- What role do transposable elements have in controlling transcription through non-coding RNAs?
- How are resources developed from reference genome sequencing project used for map-based cloning?

Preparation for the Second Exam

3. Completely achieve all of the learning objectives

Examples:

- How has genome sequencing affected our understanding of plant genome evolution?
- What role do transposable elements have in controlling transcription through non-coding RNAs?
- How are resources developed from reference genome sequencing project used for map-based cloning?

Preparation for the Second Exam

4. Understand learning objectives that relate to the discovery of genetic factors controlling phenotype

Examples:

- Be able to explain the steps and results of the recombination mapping experiments and their importance for defining the interval that contains the candidate gene
- Explain how phylogenetic considerations can be useful in cloning genes controlling a specific phenotype
- Understand the effects of transposable elements on gene function and evolution and how these are manifested during gene expression

Preparation for the Second Exam

5. Complete all activities in the mentioned in the “Reflections” section

Examples:

- Create a table that lists five genes whose function is modified/controlled by a plant transposable element and review the paper referenced in Table 1 of Wei and Cao.
- Summarize the steps used to discover why different grape berry types have different flavonoid compositions
- Create a table that summarizes the major steps used to clone the GLW7 QTL in rice.