

# Introduction to Botany. Lecture 11

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September 21, 2016



## 1 Questions and answers

- Quiz

## 2 Plant cell

- Cell structure



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# Questions and answers

## Quiz



# Final question (2 points)

How to avoid photorespiration?



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How to avoid photorespiration?

- Decrease photosynthesis (foolish solution)
- Pump oxygen out (does not really work – why?)
- Pump carbon dioxide in (C<sub>4</sub> pathway)



# Plant cell

## Cell structure



# *Plant cell*





# List of cell structures

- Cell membrane
- Cytoplasm
- Nucleus, nuclear pore, nucleolus, chromatine
- **Chloroplast, thylakoids**
- Mitochondrion, cristae
- ER (endoplasmatic reticulum/network)
- Goldgi apparatus (AG)
- **Vacuoles**, lysosomes, peroxisomes
- Ribosomes
- **Cell wall**

Chloroplasts and mitochondria are both results of symbiogenesis



# Final question (1 point)



# Final question (1 point)

How to avoid photorespiration? (Yes, again.)



# Summary

- Eukaryotic and prokaryotic cells are cells of different levels of organization
- Eukaryotic cell is a “second-level” cell, cell from cells, ecosystems
- Chloroplasts and mitochondria are both results of symbiogenesis



# For Further Reading



A. Shipunov.

*Introduction to Botany* [Electronic resource].

2016.

Mode of access:

[http://ashipunov.info/shipunov/school/biol\\_154](http://ashipunov.info/shipunov/school/biol_154)

