«Climate influence on photosynthesis related morphophysiological traits of wheat»

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• Determination of the direction of changes in leaf morphophysiological traits of spring soft wheat due to weather conditions

• Is there any difference in photosynthetic related traits at different geographic locations?

• What traits can predict the grain yield in this case?
Solution methods

- Soft spring wheat samples of the single variety at different geographic locations were collected
- Chlorophylls and carotenoids contents were determined
- Stoma features were described
- Leaf area was measured

Pigment content, mg/g of dry weight

| Time  | ChlA | ChlB | Car |
|-------|------|------|-----|
| M     |       |      |     |
| U     |       |      |     |
| M     |       |      |     |
| U     |       |      |     |
| K     |       |      |     |
| M     |       |      |     |
| U     |       |      |     |
| K     |       |      |     |
| M     |       |      |     |
| U     |       |      |     |

Indentation of leaf microstructures

M – Minino, U – Uzhur, K - Kuragino.
Conclusions

Results, implementation

• Low precipitation resulted in low chlorophyll and high carotenoids levels.
• Chlorophyll content reacted faster on stress conditions than content of carotenoids did.
• Ratios of pigments levels are mostly sensitive to hydrothermal conditions at booting and tillering stages.
• The chlorophyll content and stoma area were the main predictors of further grain yield at 2020 vegetation period.
Contacts

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