LEAF SURFACE FORMATION, PHOTOSYNTHETIC ACTIVITY, BIOLOGICAL MASS AND PHOTOSYNTHETIC PRODUCTIVITY IN WINTER WHEAT

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ABSTRACT

This in the article autumn of wheat vegetation during leaf level formation dynamics , leaves photosynthesis of activity physiological indicators , biological mass accumulation and photosynthesis productivity indexes studied . Research results autumn in wheat leaf apparatus formation type , variety genetic potential , agricultural technology and ecological to factors strong related that it is shows . Leaf level index (LAI) 4.5–6.0 units in the range was in options from the light use coefficient maximum at the level manifestation Photosynthesis speed , chlorophyll (a + b) concentration and nett - assimilation coefficient high was in plants dry substance accumulation increased by 22–27% . Obtained results photosynthetic of the apparatus morphophysiological the state of grain yield in the formation main manager factor to be counted confirms

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Autumn Wheat (Triticum aestivum L.) yield many in terms of leaf of the apparatus development , photosynthetic of activity intensity and vegetation during dry of the substance gathering level with The leaves are marked . field unit , chlorophyll amount , net-absorption pace and from the light use coefficient photosynthetic productivity formative main from factors is considered . Autumn wheat productivity determiner main factors between **leaf apparatus morphology , photosynthesis activity , biological mass accumulation and photosynthesis productivity** inseparable place holds . Leaf Leaf Area Index (LAI) of plants the light acceptance to do and from it energy harvest to do ability Photosynthesis process intensity , chlorophyll composition and stomatal permeability of grain yield in the formation directly impact shows . Biological mass and dry of the substance meeting and photosynthesis of products economic to the harvest rotation shows .

Purpose

Autumn in wheat leaf level formation dynamics , photosynthesis speed , biological mass gathering and photosynthesis between productivity (FPAR, RUE) functional dependency scientific in terms of assessment . Autumn wheat varieties and experimental in options :

1. Leaf level formation and his/her dynamics to determine ;
2. Photosynthesis speed , chlorophyll composition and net-assimilation pace assessment ;

3. Biological mass and dry substance meeting with photosynthesis productivity between dependency study ;

4. Productivity increase for photosynthetic the apparatus optimization according to scientific conclusions release

Material and methods

Research in the field was held . Leaf level index (LAI) optical transmittance method with , photosynthesis speed and a portable gas analyzer using Chlorophyll 80 % acetone extraction through spectrophotometric rated . Dry substance (DM) standard drying in the method , photosynthesis productivity agroecological models based on was calculated .

Results

1. Leaf level formation *to speak – to listen* in phases the most high divided by LAI value 4.5–6.0 units optimal result in the range gave .

2. Flag- leaf vegetation of the era the most asset photosynthetic element 40–50 % impact on grain yield does ;

3. LAI and chlorophyll concentration increase with dry substance accumulation increased by 22–27% , biological mass and in the range of 10–16 t/ha formed .

4. Photosynthesis productivity indicators : FPAR — 70–85%, RUE — 1.9–2.8 g DM MJ^{-1} , high RUE indicators indicate grain yield to increase directly related that determined .

5. Flag- leaf photosynthetic Grain formation in 40–50% of products in the phase delivery , productivity main determinant as manifestation it has been .

Conclusion

Autumn in wheat leaf optimal development of the apparatus and photosynthesis of activity height dry substance gathering and photosynthetic productivity sharp LAI = 4.5–6.0 units , chlorophyll high amount and net-assimilation of pace intensity increase productivity by 10–18% to lift opportunity gives . Therefore selection and agrotechnician at events leaf apparatus morphophysiological to the indicators separately attention focus to the goal is appropriate .

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