# Growth and Clorophyll Content Dynamics of Winter Wheat (Triticum aestivum, L.) in Different Cropyear

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***SUMMARY***

*The experiments were carried out at the Látókép experimental station of the University of Debrecen on chernozem soil in a long term winter wheat experiment in the season of 2011 and 2012 in triculture (pea-wheat-maize) and biculture (wheat-maize) at three fertilisation levels (control, $N_{50}+P_{35}K_{40}$, $N_{150}+P_{105}K_{120}$). Two different cropyears were compared (2011 and 2012).*

*The research focused on the effects of forecrop and fertilisation on the Leaf Area Index, SPAD values and the amount of yield in two different cropyears. We wanted to find out how the examined parameters were affected by the cropyear and what the relationship was between these two parameters and the changes of the amount of yield.*

*Examining the effects of growing doses of fertilizers applied, results showed that yields increased significantly in both rotations until the $N_{150}$+PK level in 2011 and 2012. By comparing the two years, results show that in 2011 there was a greater difference in yields between the rotations (7742 kg $ha^{-1}$ at $N_{150}$+PK in the biculture and 9830 kg $ha^{-1}$ at $N_{150}$+PK in the triculture). Though wheat yields following peas were greater in 2012, results equalized later on at $N_{150}$+PK levels (8109-8203 kg $ha^{-1}$).*

*Due to the favorable agrotechnical factors, the leaf and the effects of the treatments grown to a great extent in 2011, while in 2012 the differences between treatments were moderate. Until the $N_{150}$+PK level, nitrogen fertilisation had a notable effect on the maximum amount of SPAD values (59,1 in the case of the biculture and 54,0 in the triculture).*

*The highest SPAD values were measured at the end of May (during the time of flowering and grain filling) in the biculture. In the triculture, showed high SPAD values from the beginning. The same tendency could be observed in the 2012 cropyear, although increasing doses of fertilizers resulted in higher SPAD values until $N_{150}$+PK level only from the second measurement. Maximum SPAD values were reached at the end of May in both crop rotation system.*

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