

**QUANTITATIVE ANALYSIS OF GROWTH AND DEVELOPMENT OF SPRING WHEAT
(*TRITICUM AESTIVUM* L.) IN RELATION TO NITROGEN AND WATER SUPPLY
DURING TILLERING**

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ABSTRACT

The study was conducted to quantitatively separate the effects of differential nitrogen and water supply levels on growth and development of spring wheat during vegetative phase/tillering. Three levels of nitrogen and three levels of water supply were established at three leaf stage and continued until the first node on the main stem was visible, in a carefully controlled environment. The results revealed that failure to initiate tiller bud growth in the window in time when that tiller would normally be produced, was the most sensitive process affected by both nitrogen and water stress. The other parameters of growth, that is, leaf area, biomass per plant and its constituent's parts were influenced by differential nitrogen and water supply levels but in fact it was an intrinsic tiller effect. The effect of water supply levels was greater than the effect of nitrogen on growth/tillering. The development rate of a spring wheat plant was not impacted either by nitrogen or water stress.

Key Words: Wheat, Nitrogen, Water, Growth, Development, Tillering