

## **Effect of canopy structural parameters on Vertical Photosynthetically Active Radiation (PAR) Distribution**

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Internal light environment in winter wheat plays a crucial role in formation of yield and grain quality. Leaf angle distribution and leaf area index (LAI) are the two key parameters to characterize canopy structure. In the paper, the differences of LAD are generalized as three plant types: erectophile, middle and planophile type. The study site was at the National Experimental Station for Precision Agriculture, located in the Changping district of Beijing. The rule of photosynthetically active radiation (PAR) transferred in the canopy was investigated with ground measuring PAR at various levels in winter wheat filling stage with three plant types using SUNSCAN, the absorbed photosynthetically active radiation (APAR) was calculated based on light interception theory in the canopy. Modified Beer-Lambert law is testified to be suit to describe the rule of light extinction in winter wheat canopy, especially for erectophile type cultivars. The plant types influence the fraction of sunlit foliage, but bottom light environment in erectophile type was better than that of planophile type cultivars when LAI changed little. As for a certain plant type, leaf area index (LAI) was the primary factor that affects the magnitude of APAR in different canopy layers.

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