

Table 9.2. Wheat pests addressed, their damage mechanisms, and their effect in WHEATPEST

Wheat pest	Damage mechanism^a	Physiological effect	Effect in WHEATPEST
Powdery mildew (PM)	Light stealer	Reduces the intercepted radiation	Reduces the green LAI (lesion area + virtual lesion area)
Yellow rust (YR)	Light stealer Assimilate sapper	Reduces the intercepted radiation Removes soluble assimilates from host	Reduces the green LAI (lesion area + virtual lesion area) Outflows assimilates from the pool of assimilates
Brown rust (BR)	Light stealer Assimilate sapper	Reduces the intercepted radiation Removes soluble assimilates from host	Reduces the green LAI Outflows assimilates from the pool of assimilates
Septoria nodorum Blotch (SNB)	Light stealer Assimilate sapper	Reduces the intercepted radiation Removes soluble assimilates from host	Reduces the green LAI Outflows assimilates from the pool of assimilates
Septoria tritici Blotch (STB)	Light stealer Assimilate sapper	Reduces the intercepted radiation Removes soluble assimilates from host	Reduces the green LAI (lesion area + virtual lesion area) Outflows assimilates from the pool of assimilates
Take all (TAK)	Photosynthetic rate reducer	Disrupts nitrogen and water uptake	Reduces the RUE
Eyespot (EYS)	Photosynthetic rate reducer	Disrupts nitrogen and water uptake	Reduces the RUE
Sharp eyespot (SHY)	Photosynthetic rate reducer	Disrupts nitrogen and water uptake	Reduces the RUE
Fusarium stem rot (FST)	Photosynthetic rate reducer	Disrupts nitrogen and water uptake	Reduces the RUE
BYDV	Photosynthetic rate reducer	Disrupts phloem transport Reduces the rate of carbon uptake	Reduces the RUE
Fusarium Head Blight (FHB)	Tissue consumer ^b	Disrupts transport of carbohydrates towards ears.	Reduces the flow of assimilates towards ears
Weeds (WEED)	Photosynthetic rate reducer	Reduces water and nutrient supply	Reduces the RUE

		Light stealer Reduction of water, nutrient and radiation reduces RUE	
Aphids (APH)	Assimilate sapper Photosynthetic rate reducer	Removes soluble assimilates from host Reduces the RUE	Outflows assimilates from the pool of assimilates Reduces the RUE

^a Derived from Rabbinge & Vereyken (1980), Rabbinge & Rijdsijk (1981) and Boote et al. (1983).

^b Production of toxins not included.