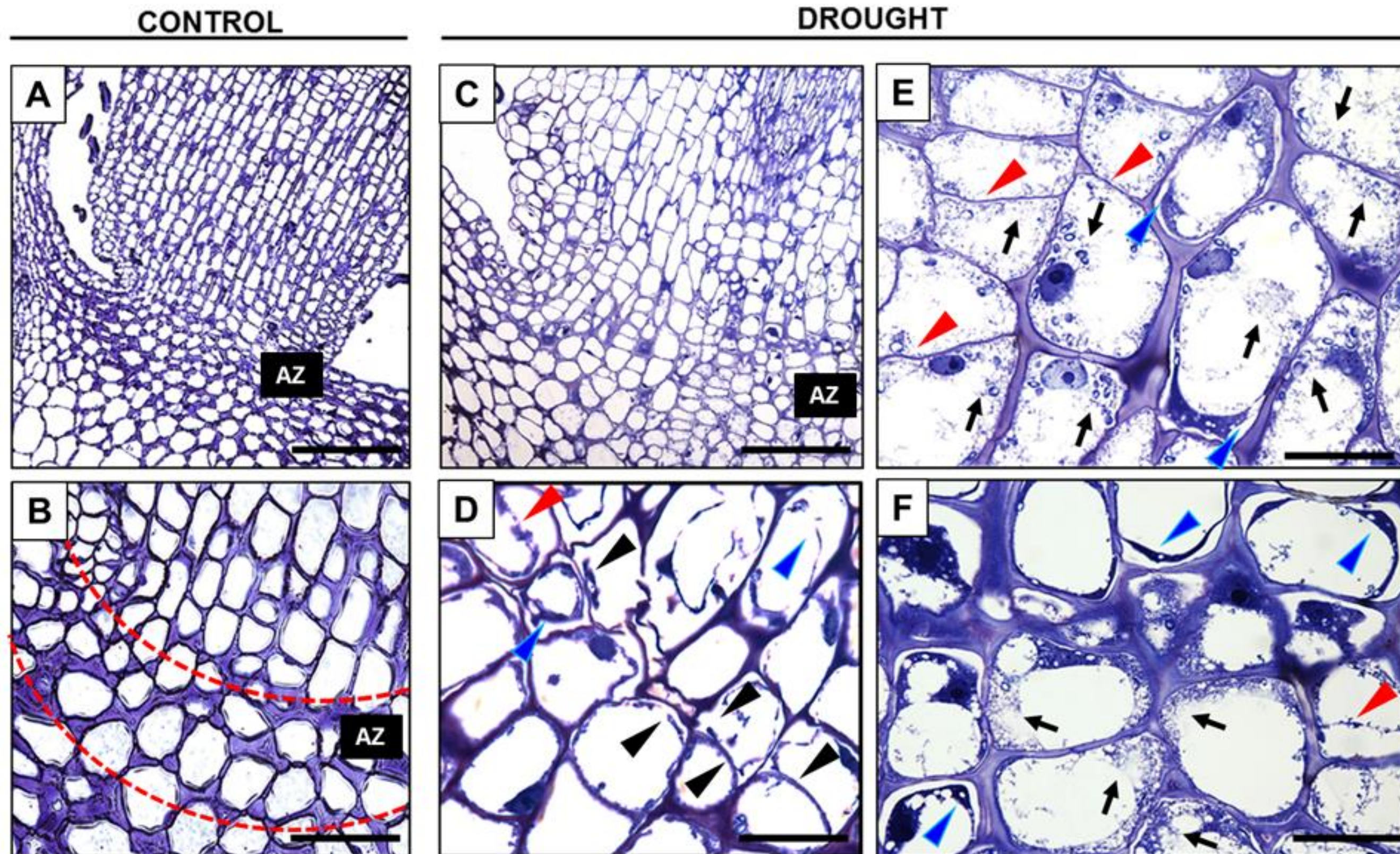
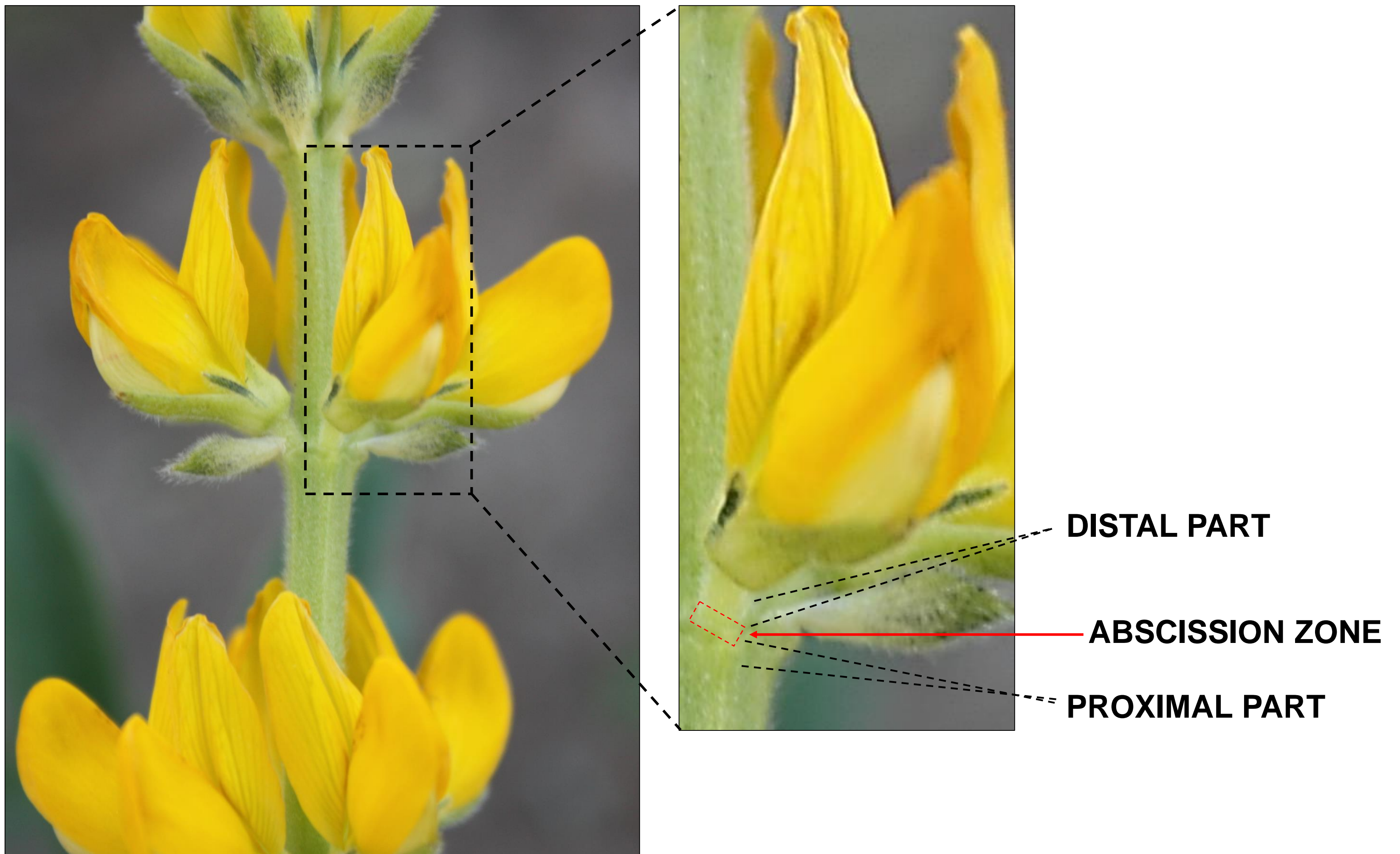


Acronyms used in the text

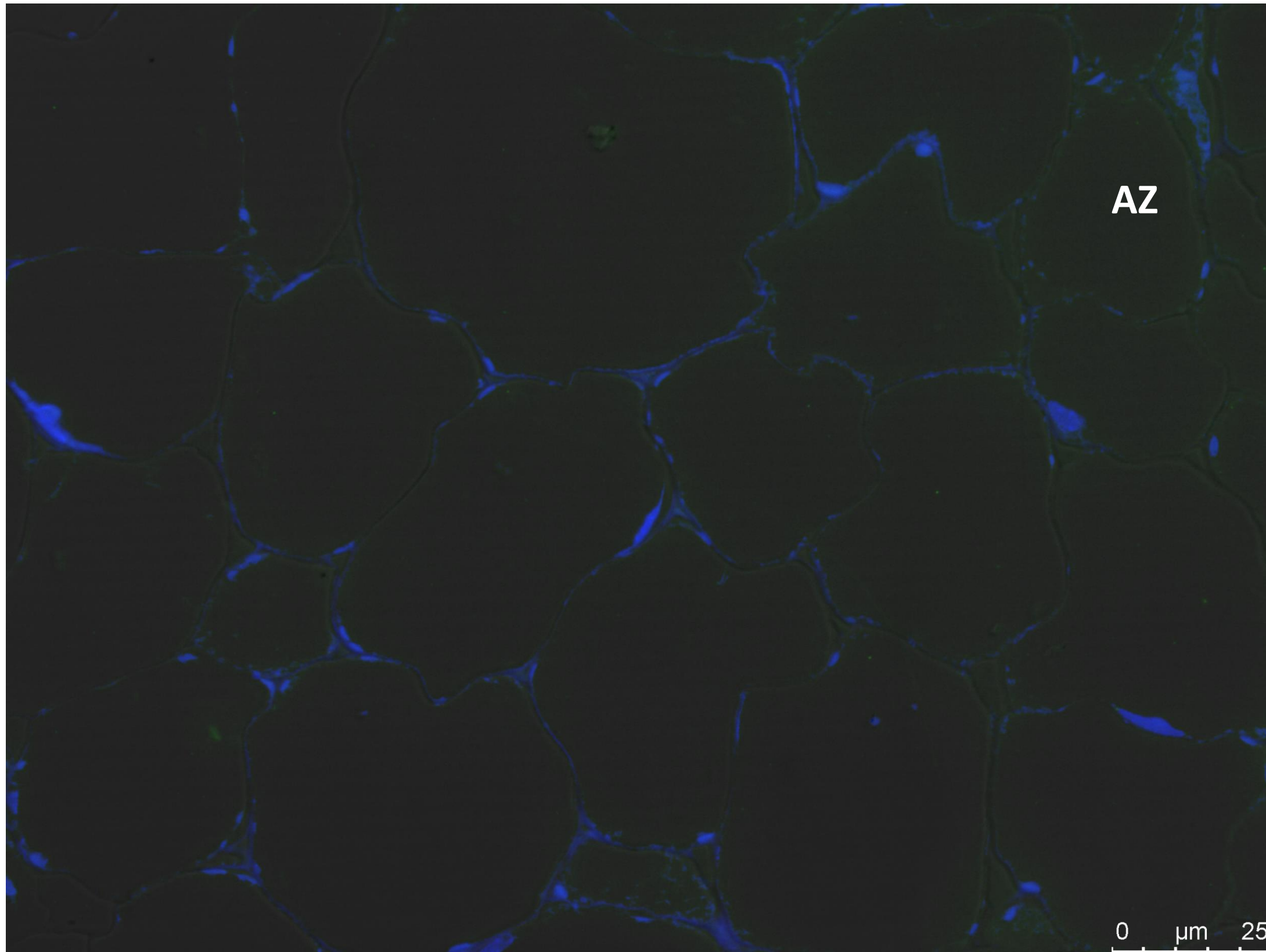
ABBREVIATIONS in alphabetical order	DEFINITION
ABA	abscisic acid
AZ	abscission zone
DIST	flower pedicel fragments above the az
ET	ethylene
HG	homogalacturonans
IAA	indole-3-acetic acid
PG	polygalacturonase
PME	pectin methylesterase
PROX	stem fragments below the AZ
VB	vascular bundles
WHC	water holding capacity



Supplementary Figure S1. Drought stress evokes specific cellular changes in the floral AZ of *Lupinus luteus*. For histological observations, sections of abscission zone (AZ) were collected on the 48th day of cultivation from control plants growing in the soil of optimal moisture (75% WHC) (A,B) and drought-treated ones (25% WHC) (C,E,F). Fixed material was stained with toluidine blue. Picture B presents a magnified region of AZ from A, while D, E, F corresponds to different, magnified areas of AZ from the C. AZ area is marked by red dotted lines (B). Blue arrowheads indicate shrunken protoplast (D,E,F), red arrowheads mark the place of newly formed cell walls after divisions (D,E,F), black arrows show the presence of aggregates and small vesicles in the cytoplasm (E,F), whereas the black arrowheads indicate a place of the middle lamella hydrolysis (D). Bars – 200 μm (A,C), 50 μm (B), 20 μm (D,E,F).



Supplementary Figure S2. Flower of *Lupinus luteus* L. Tissue fragments (indicated by red boxes) containing abscission zone (AZ) dissected 1 mm above (distal part) and below AZ (proximal part) were collected for analyses.



Supplementary Figure 3. The results of a control reaction performed with omitting primary antibodies anti-IAA, anti-JIM5, anti-JIM7, anti-PME, and anti-PG. Control reaction produced negative results compared with those of standard reactions. Nuclei were stained with DAPI. Abbreviation: AZ – abscission zone.