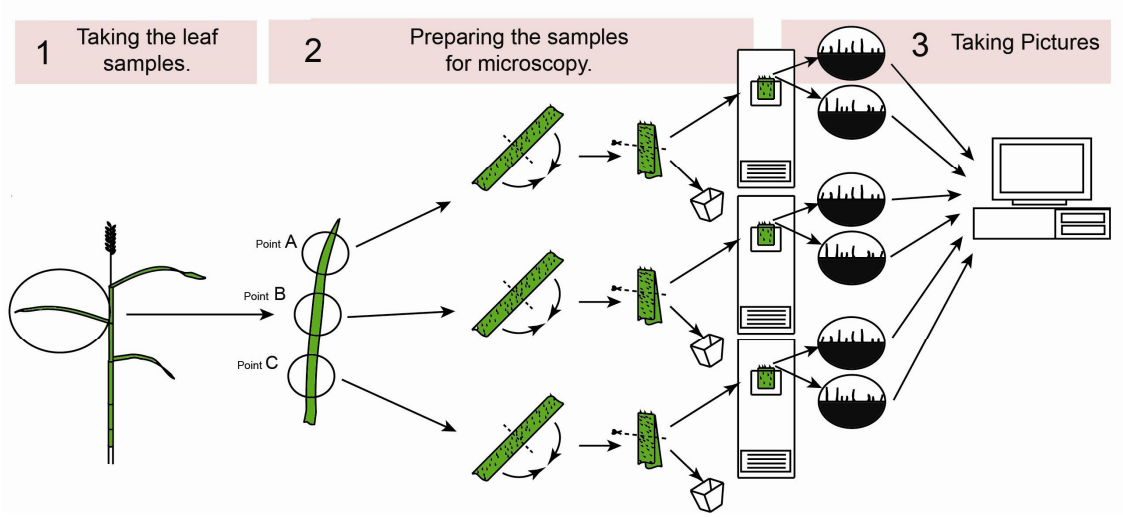
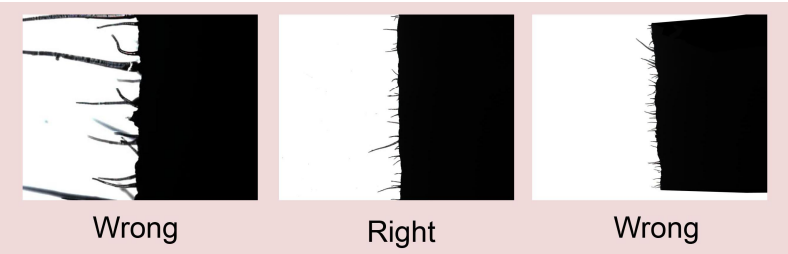
Wheat leaf sampling and imaging protocol for analysis of hairiness

Preparing of the samples for phenotyping takes a several steps.



1) Taking the leaf samples.
Usually for phenotyping we use boot leaf immediately after spike emergences.
Then it is needed to define the developmental stage for each shoot.
Then leaf is cut off from the shoot.
You can keep cut leaves in a high humidity conditions for a few hours.
2) Preparing the samples for microscopy.
Each leaf folds in one or several points. You may use only central point B.
But to make analysis more precise you must take all the points A B & C.
The adaxial surface of the leaf is folded.
Folded leaf cuts are placed on the object plate and are fixed by the sticky tape or covered with a cover glass.
3) Taking the Pictures
Use the microscope objectives with a low magnification, like 5x in a pair with tube magnification 1,4 1,6 or else & VGA or higher CCD camera. Magnification should allow to take 2 pictures per fold.



Leaf border should be located centrally. Leaf surface should be on a right side, and trichome ends should be directed to the left.

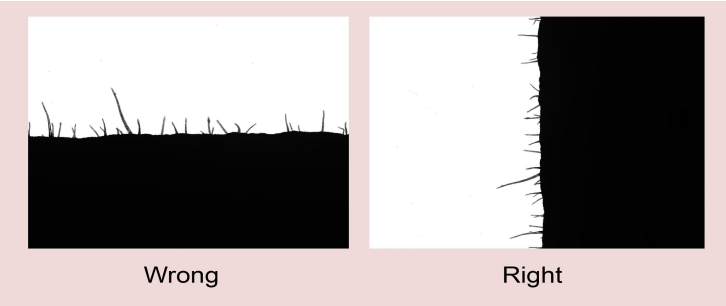
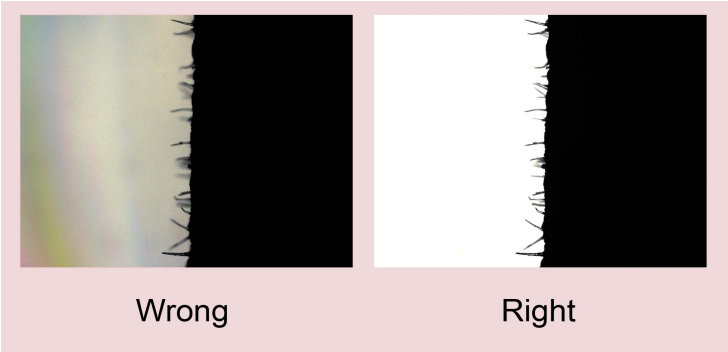


Image must be clear and contrast.



If possible use special type of condensor for small magnification or remove the frontal lens.