Image processing with PixelWrench2, Agisoft and QGIS to monitor black grass patches within wheat fields

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**PixelWrench**

Raw data processing with PixelWrench2  10min)

Raw Imagery: 6 x 182 raw files (5 bands plus ILS)

Results: 182 5-band Multiband tiffs (Green, Red, Nir1, Nir2, Nir3)

**Agisoft Photoscan Pro**

Alignment of xxx 5-Band Images (12min)
Processing of a low detailed 3D-mesh (3 min)

Getting the UTM coordinates (+- 2m) from GoogleEarth (5 min)
Creating 3 Markers with the GoogleEarth UTM coordinates (3min) and placing markers on 3 pairs of images (5 min)

Creating a 3D mesh with high accuracy (10min + 3min)
Export of Digital Ortho-Photo (DOP) with 10cm Pixel resolution (5min)
QGIS
Loading DOP_10cm_gec_UTM32N.tif
RGB = NIR, RED, GREEN with zoom to take of area near the little bridge. Black grass patch visible in NIR, RED, GREEN composite.

Photo, showing the black grass patch near the bridge
Loading a boundary shape file

Clipping the DOP file with the boundary vector
Results of black grass classification

DOP without Vector Layer
DOP with overlayed vector layer

Total processing time in QGIS: 5min