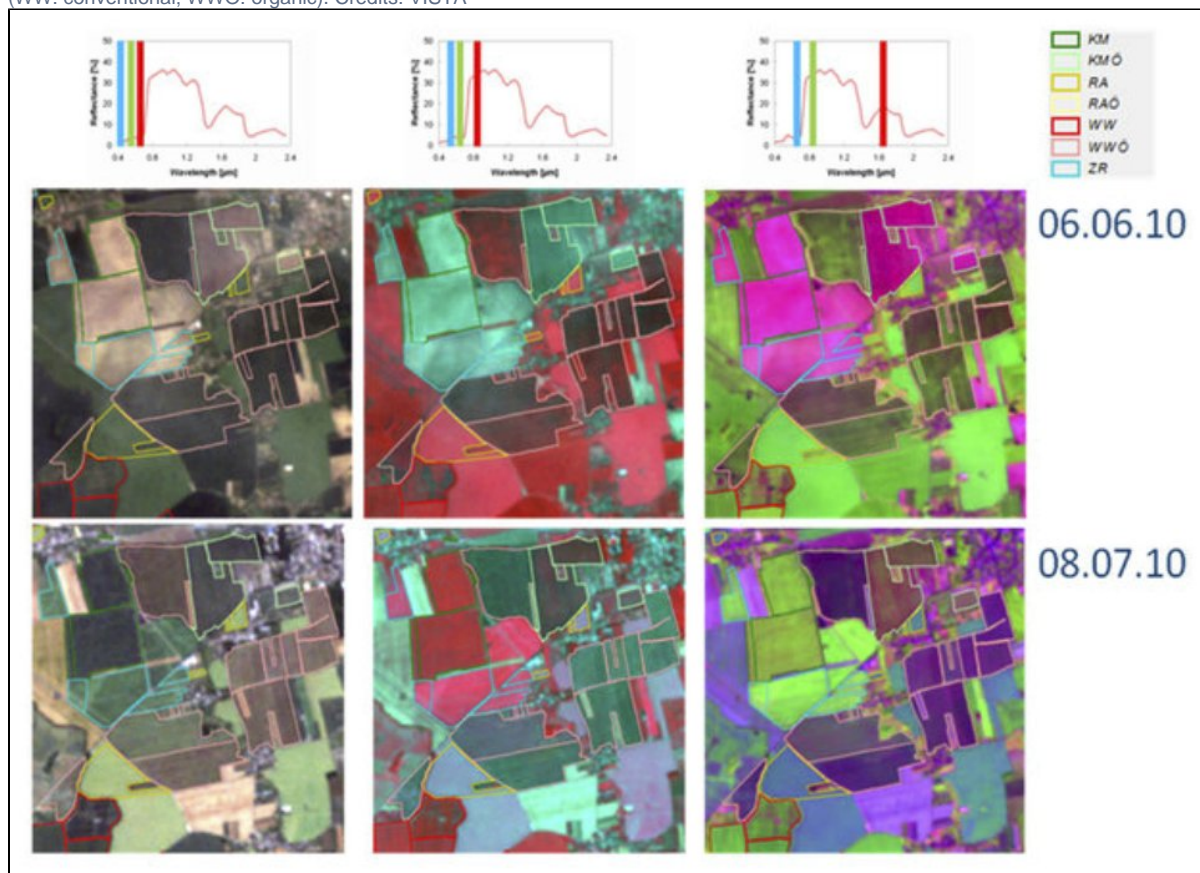# Monitor specific crop types

Applications
Organic crops characterisation

Use of high to very high resolution multispectral, hyperspectral EO data has proven helpful in identifying a set of indicators characterising organic versus traditional crops: nitrogen content, yield, spatial heterogeneity, early ripening, presence of catch crops, crop rotation and detection and characterization of tractor traces in fields.

Monitoring organic crops along their development stages might be particularly relevant for certification purposes in countries where certain amounts of yield are certified for export before harvest and organic farmers might be tempted to 'fill up' any gaps in their own production due, for instance, to hail damage, with conventional crops.

Real-time yield estimation via EO can serve as a flag for these yield-influencing events by calculating a range for the possible yield, thus raising awareness to areas, where estimated and previously certified yield do not match the actual output.

Corn and winter wheat fields. Several band combinations of a Landsat TM5 image of the target fields in Germany. The upper row presents the band combinations of a TM5 image taken in June 2010. The lower row presents the same band combinations of a TM5 image taken in July 2010. It can be seen that corn (KM: conventional; KMO: organic) grows (and is sown) later in the season than winter wheat (WW: conventional; WWO: organic). Credits: VISTA

References:

ESA 2013, Earth Observation for Green Growth: An overview of European and Canadian Industrial Capability