

### Protein Maps 2013 to 2016

A common belief among farmers is that their fields change from year to year in terms of the quantity and quality of the crops produced. Yield has been the only in field parameter measured off a combine and Yield maps do show year to year variation. Soil Moisture is the variable that affects Yield and the field maps reflect the effect of Soil Moisture on crop Yield.

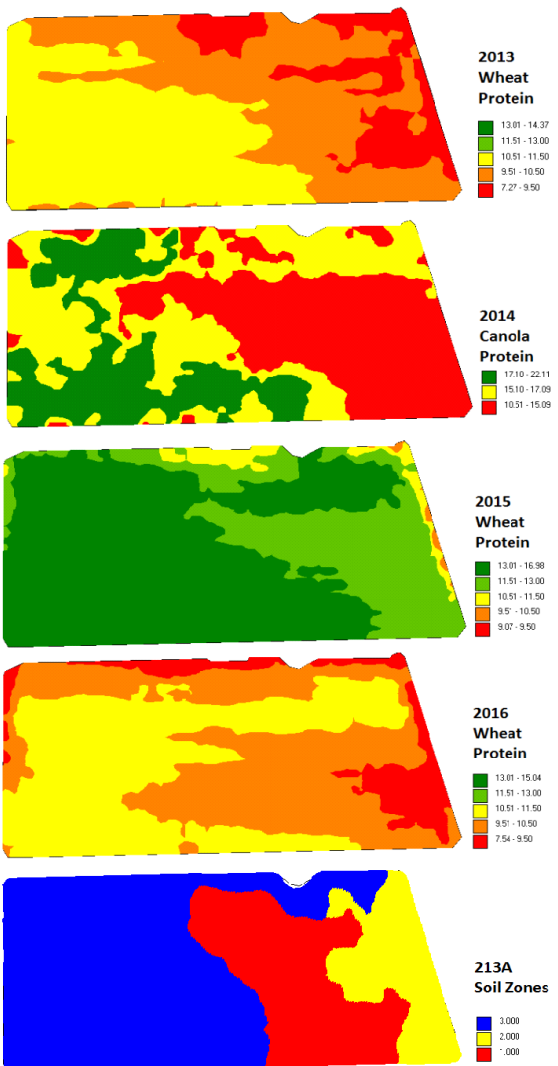
With the introduction of the CropScan 3300H On Combine Analyser in 2013, field maps for Protein are now available and have been collected over several years. This Case Study looks at a field from a farm on the York Peninsula, SA, where Protein and Yield maps have been collected from 2013 to 2016.

The Protein maps show a consistent pattern. Along the left hand side of the field, the Protein levels are consistently higher than the middle and right hand side. Note that even for a canola crop in 2014, the left hand side of the field produced higher protein seeds.

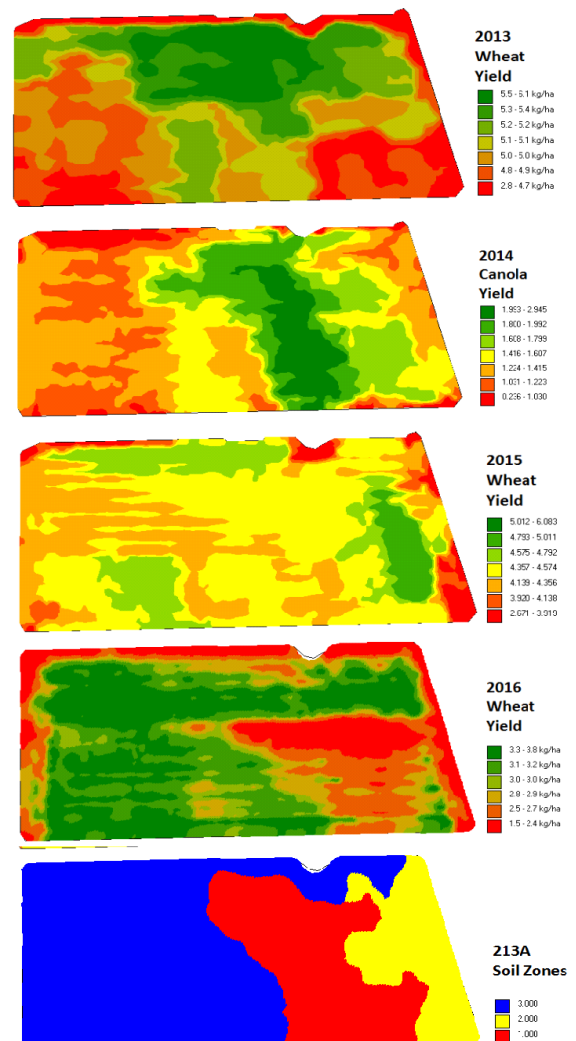
The last map is an EM38 Soil map. The blue zone in the EM38 Soil map is roughly aligned with the high Protein zones in the Protein maps.

**Comment:**

When these consecutive maps were first placed together, the consistent zones where the Protein was higher than the rest of the field, was considered a coincidence. However when the EM38 Soil maps is also added, the high Protein zones make sense. The soil type reflects how water and nutrients are retained in the soil and therefore how they are available to the plant during the growth cycle. Where as the Yield maps change from year to year.



Protein Maps, 2013 to 2016



Yield Maps, 2013 to 2016