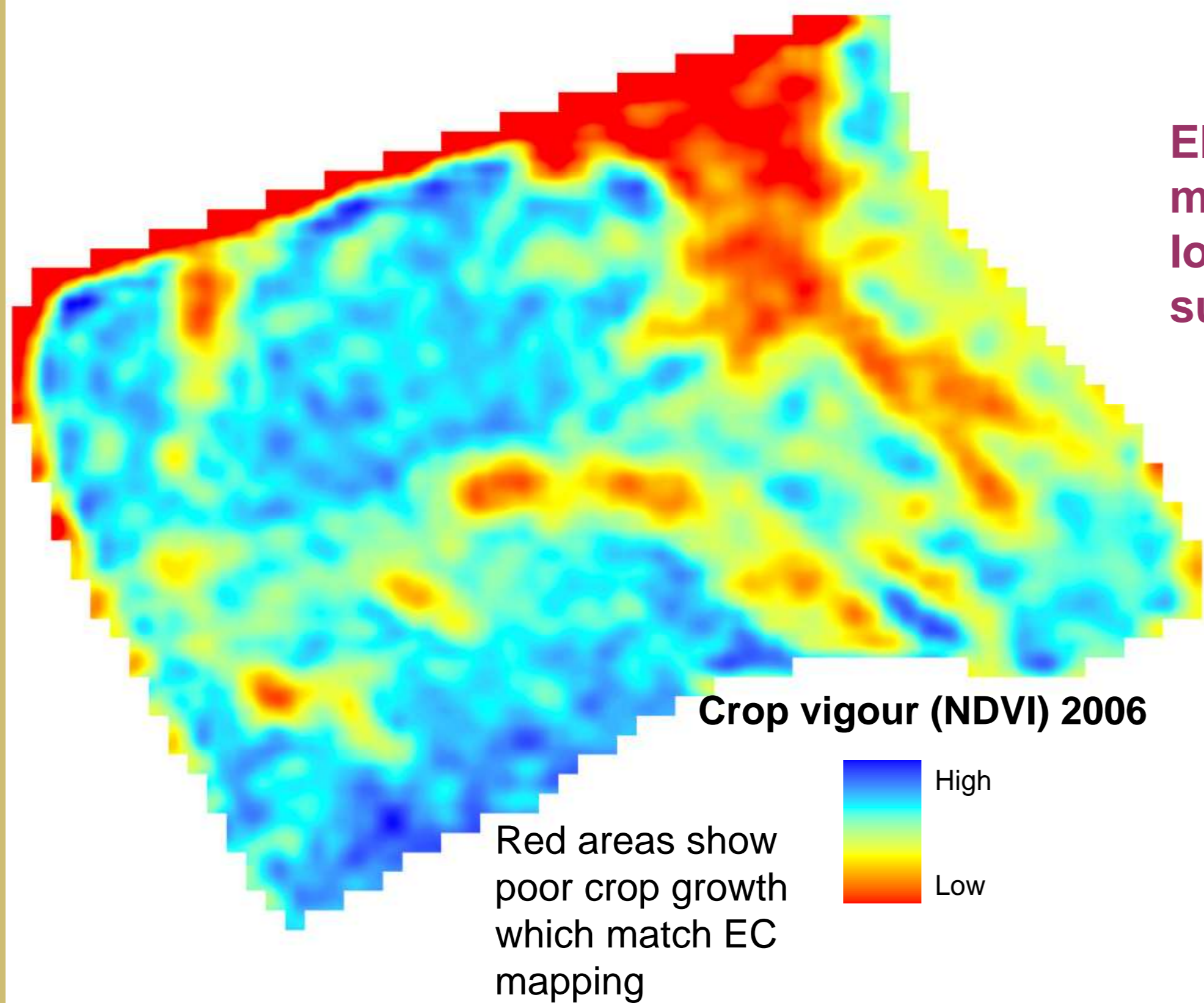




Mapping Paddock Variability

Electrical conductivity (EC) mapping used together with soil surveys and satellite imagery can be used to map soil variation. This information is useful to identify crop soil constraints, irrigation design and scheduling, variable rate applications, for planning an appropriate farm layout and for determining an optimum soil sampling strategy to establish a suitable fertiliser application rate.

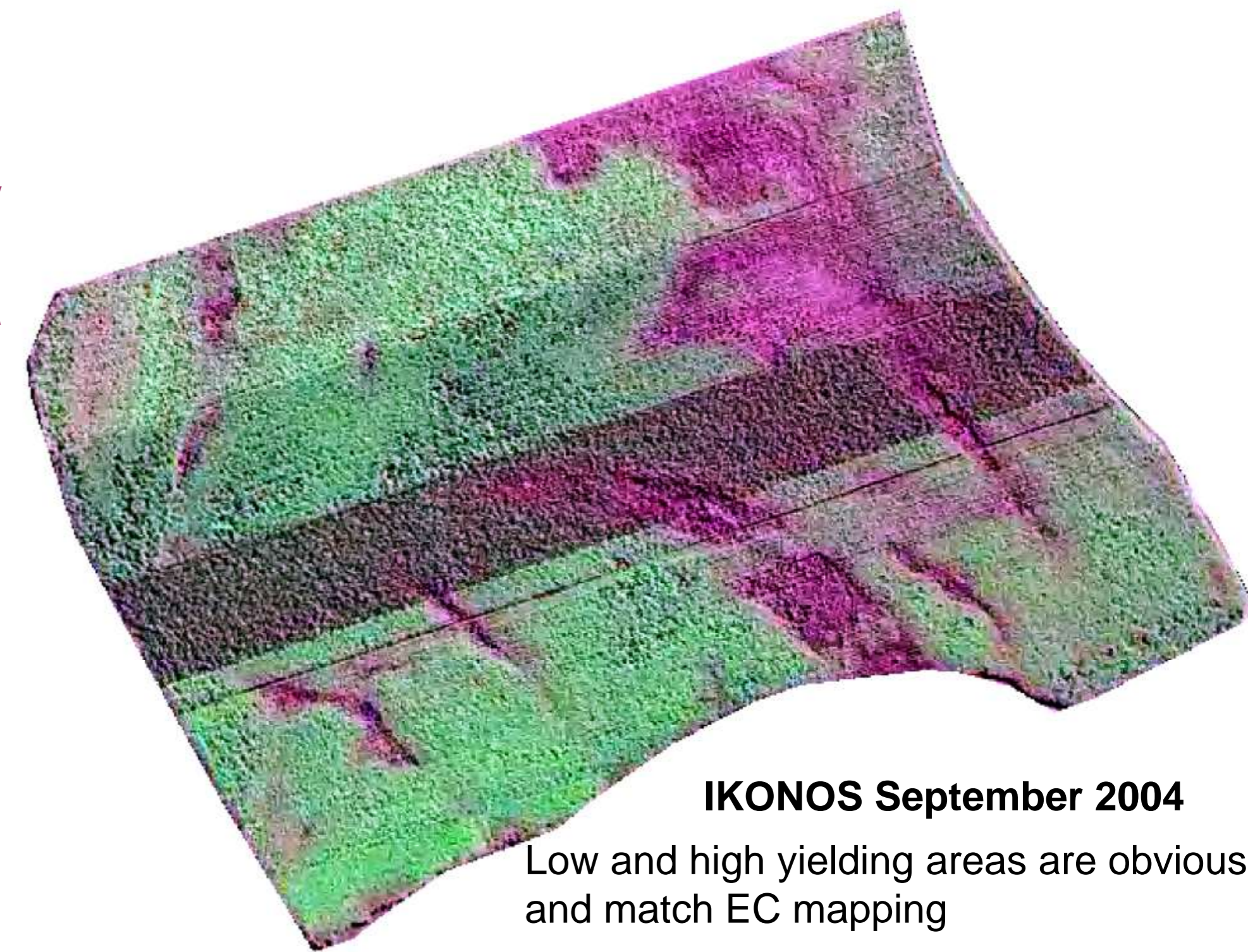
In the example below, on a 16 ha sugar cane block in the Barron Delta near Cairns North Queensland, we used an EM38 to map soil electrical conductivity. The EC strongly matched high and low yielding areas, aerial photography and satellite imagery. A subsequent soil survey found a hard pan at 50 cm inhibiting root and water penetration, and soil with low water holding capacity as the major yield constraints in this paddock. The grower is now investigating ways to remedy these soil constraints.



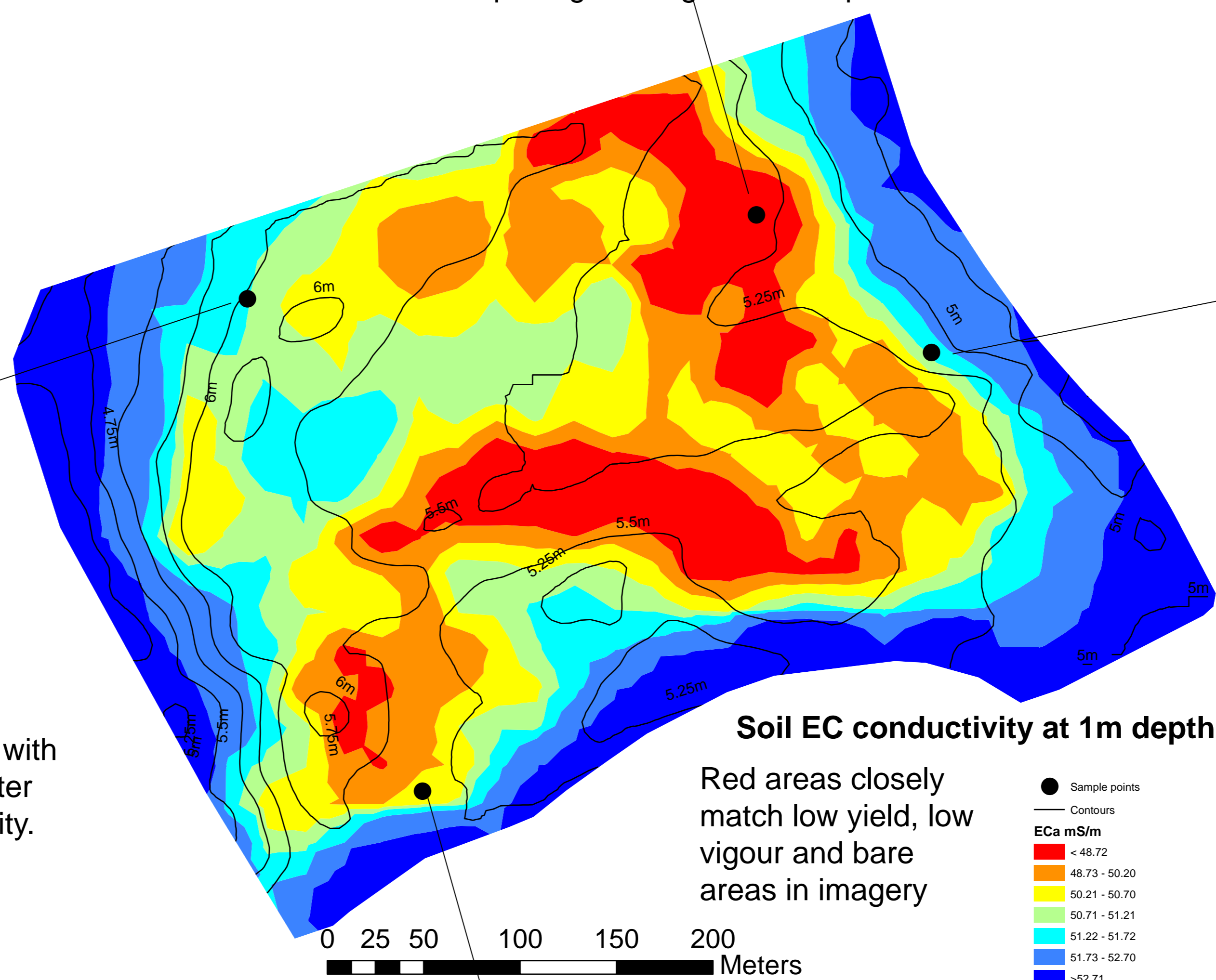
Electrical conductivity mapping identified high and low yielding areas within a sugar cane paddock



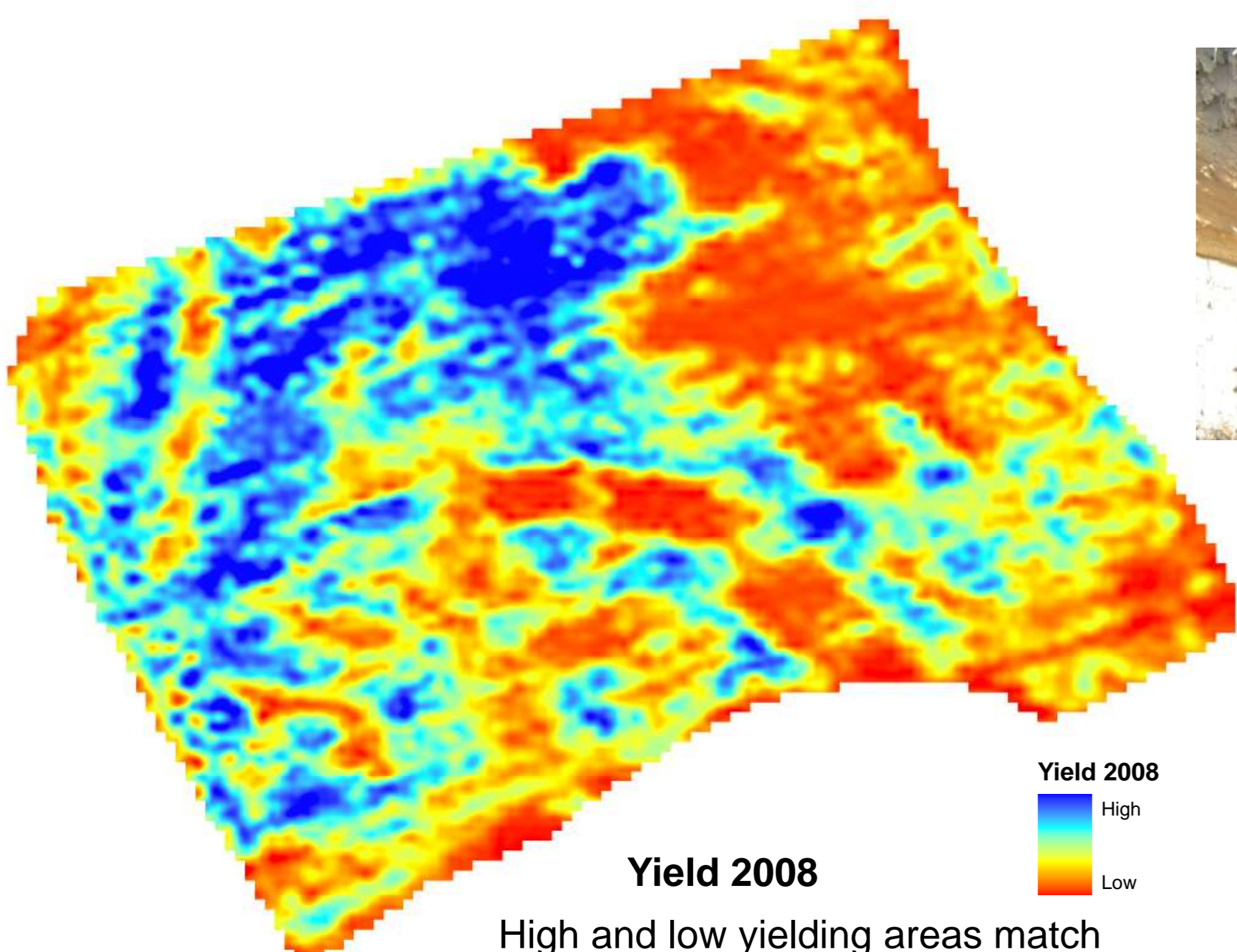
Low yielding soil due to hard pan at 50cm which is impeding drainage and root penetration



High yielding deep silty clay loam soil with thick topsoil allowing deep root and water penetration. Good water holding capacity.



Low yielding coarse sandy loam has poor water holding capacity



Good yielding deep loamy sand with good root and water penetration

