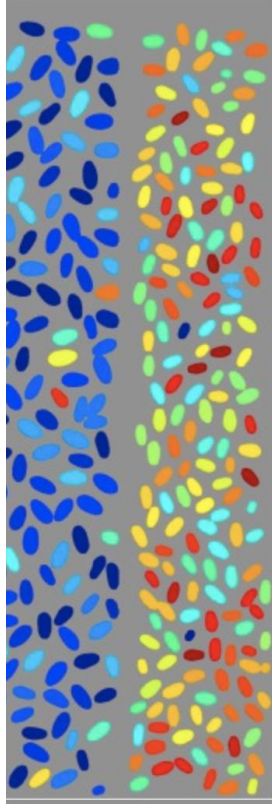
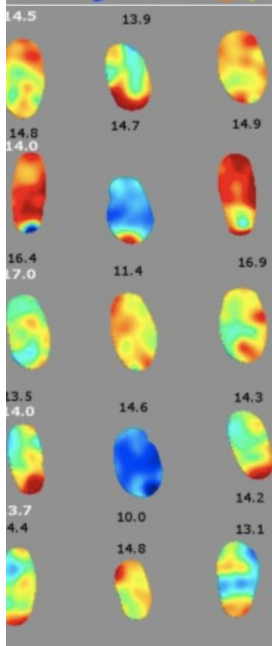
Future Grains: Evaluating impacts of elevated CO_2 and temperature on yield and grain quality in cereals

Rising atmospheric CO_2 concentration and temperature are two main components of global climate change. Future food production might benefit from increasing levels of atmospheric CO_2 if it can capitalize from the additional CO_2. Since phenology, physiological responses, biomass accumulation, yield and grain quality are dependent on genetic factors, environmental variations and their interactions, identifying C_{O2}-responsive traits would provide plant breeders with information to target traits to maximize the positive effects of elevated CO_2, such as yield increases, and to minimize the negative impacts.

This project focuses on exploring the genetic diversity in barley, rye and wheat in order to improve traits of interest in the context of a climate change. The main challenges or bottlenecks in the advanced breeding techniques currently used in cereals relate to concerns related to climate change, with breeding programs aiming to increase yield and good quality of grains to supply the industry. Targeting specific physiological pathways that increase grain quality would be highly desirable.

It will be an amazing opportunity to do some very novel science in a **multidisciplinary team** (Crop-Environmental-Food/Drink Science) with the support of **Diageo**.





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