**Follow up on OWB phenotyping for Nud, Kap and Lks2**

*Nud*

The correct OWB Hb seed image link (for now) is <https://www.flickr.com/photos/68540132@N03/albums/72157716823332096>

Apologies for the poor resolution, which can hamper scoring the phenotypes. We will track down a better close-up imaging system.

Phenotyping is always a challenge – be it a seed, a plant, or a gel!

For starters, refer to the parents for the phenotype associated with each allele.

Then set yourself a standard for describing that phenotype.

This is relatively straightforward for doubled haploids – imagine an F2 population!

The Taketa et al. paper does an excellent job of describing and imaging the phenotype covered (adherence of lemma and palea to the caryopsis during threshing) and the phenotype naked (separation of lemma and palea from the caryopsis during threshing, exposing the seed).

*Kap and Lks2*

On to hood and awns, and later length of awns….

FLICKR can be a little tricky – as some images are sized larger than others in the default view. I suggest clicking on the first box, upper right (toggle slide show). That shows every complete image, full screen.

When you first try mapping Kap as hooded vs. awned, start with the parents. They are the last images in the FLICKR gallery.

The dominant parent is hooded; the recessive parent is awned.

Therefore, any OWB with hoods is Kap and every OWB with any kind of awn (long or short) is kap. OWB 2, OWB 3 are awned; OWB 4 is hooded, etc.

Now, once you’ve had a look at the recommended readings and appreciated the epistatic interaction of Kap and LKs2, you are ready to score long and short awns.

You may well ask “What is a long awn and what is a short awn?” This strikes at the heart of what’s a qualitative traits vs. a quantitative trait. If you score awns as short or long, you’ve scored awn length as a qualitative trait (but can still map it as a 1/0 QTL). If you score awn length in centimeters, you’ve scored awn length as a quantitative trait (an can map it as a QTL in cM). Personally, I’d say OWB 6 is short, and OWB 11 is long….

Either way, the QTL will map to (approximately) the same place…That’s enough of a hint for today…