# General description

* 224 test samples (156 lines) from the magic population
* Completely randomized design applied for the experiment.  
  For each sample, 3 replicates were split into different plates and so were processed in different days.
* Each test sample has a blank (without adding enzyme) sitting next to it.
* Each plate includes 2 controls:

positive control 🡪 Waxy

negative control 🡪 High amylose (~72.9% amylose)

# Column names

* **“Plate”, “Row”, “ColPair”, “Column”, “WellGroup”, “WellGroupType”, “Well”**

The position of each sample according to the design

* **“ID”** (the cav number) **and “Sample”**:

“ID” represents different lines of the magic population, some of them may have more than one plot in the field, each plot corresponds to one sample (the “Sample” column). That is, some samples came from the same line.

* **“Time”**

9 time points from 0-30h for each plate

* **“Mass\_sample”**

The mass of the test samples. The mass is between 9.5 and 10.5 mg.

* **“Mass\_blk”**

The mass of the test samples for blanks. The mass is between 9.5 and 10.5 mg.

* **“OD\_sample”**

The optical density of the test sample

* **OD\_blk**

The optical density of the blanks

* **Mean\_slope**

2 standard curves (maltose) were done per plate, the Mean\_slope is the average of these two slopes.

* **C\_sample**

Concentration of the reducing sugar for test samples

C\_sample = OD\_sample / Mean\_slope

* **C\_blk**

Concentration of the reducing sugars for blank

C\_blk = OD\_blk / Mean\_slope

* **C\_spl\_nor**

Normalized concentration for test sample. Normalizing to mass = 10 mg

C\_spl\_nor = 10 \* C\_sample / Mass\_sample,

* **C\_blk\_nor**

Normalized concentration for blank. Normalizing to mass = 10 mg

C\_blk\_nor = 10 \* C\_blk / Mass\_blk)

* **Mean\_blk**

The average of blanks per plate at each time points. Noted that these are trimmed means. (10% of the values were removed from each side)

* **C**

Final concentration of the reducing sugar.

C = C\_spl\_nor - Mean\_blk

* **“HE”**

Hydrolysis extent.

HE = C / (10 / 0.9) \* 100)