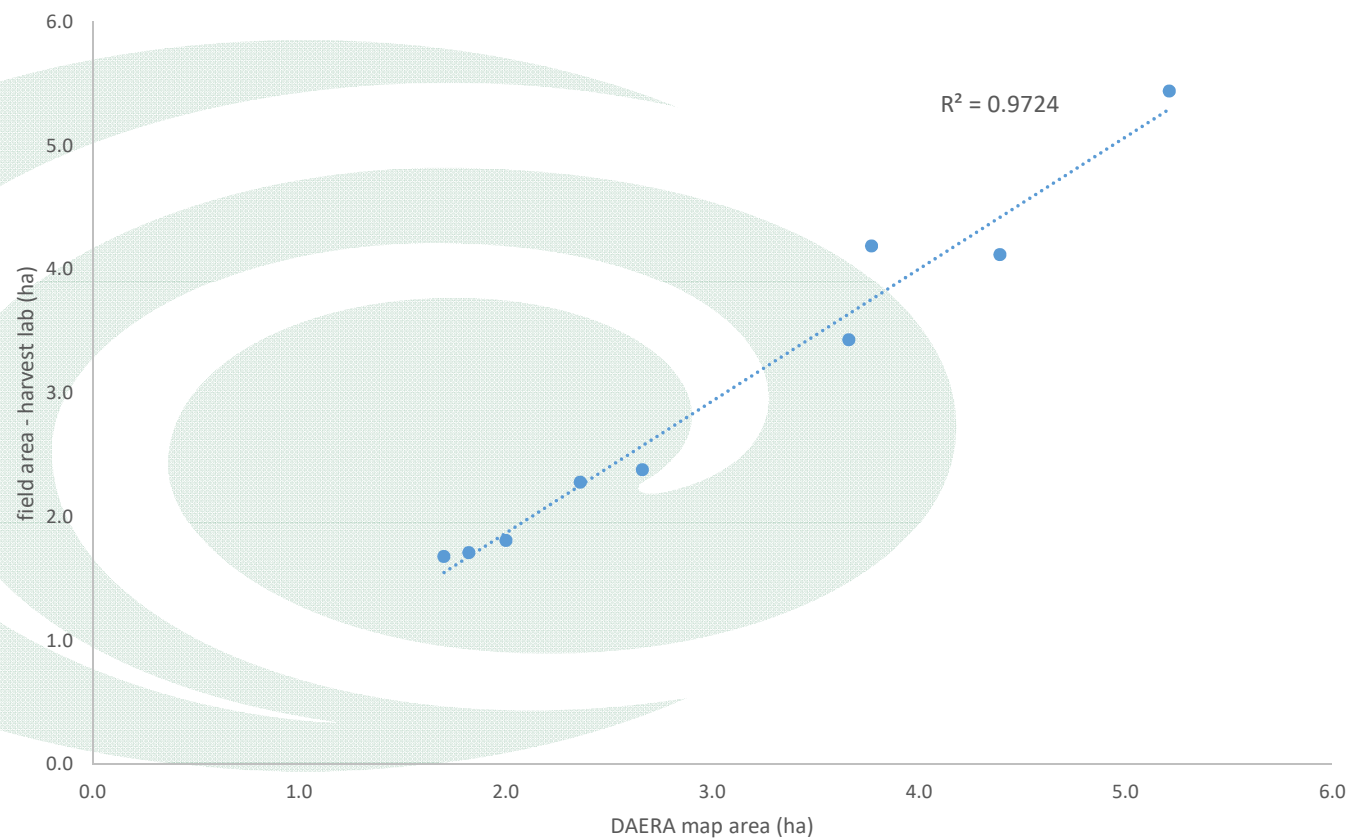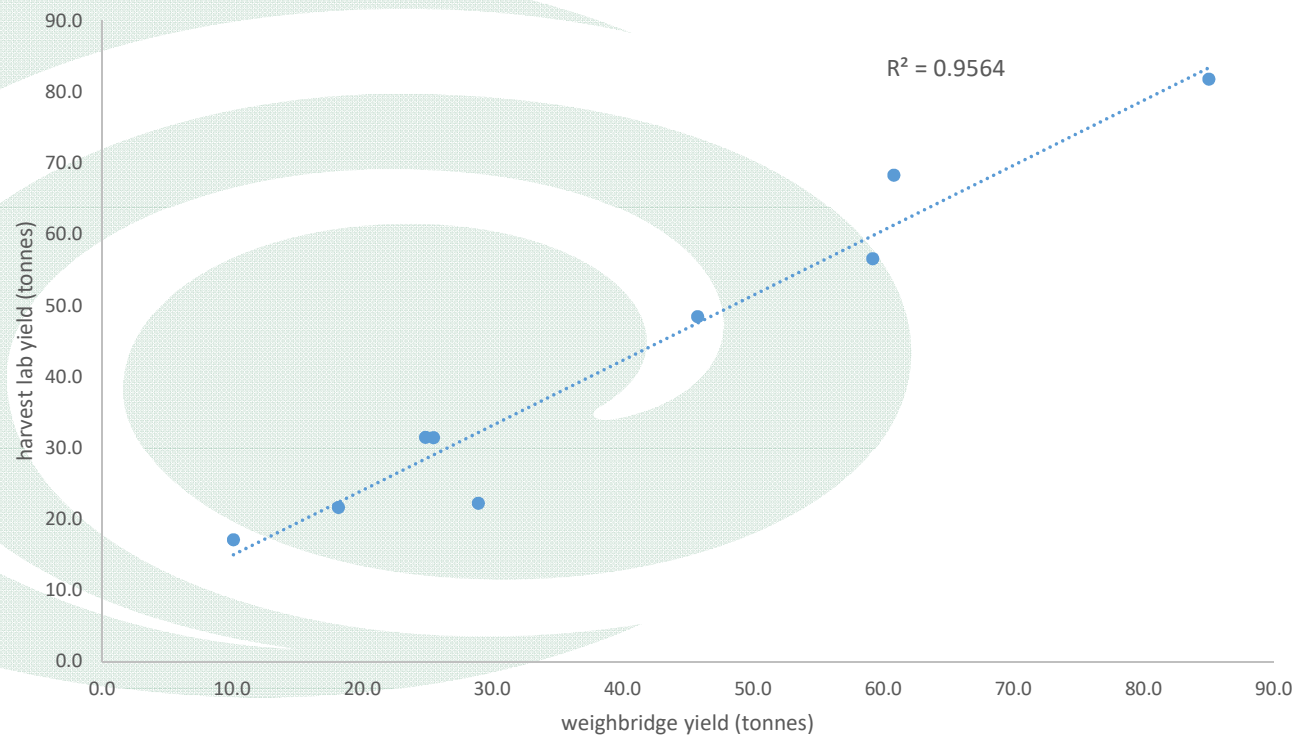# John Deere
Harvest Lab
CAFRE Data Analysis
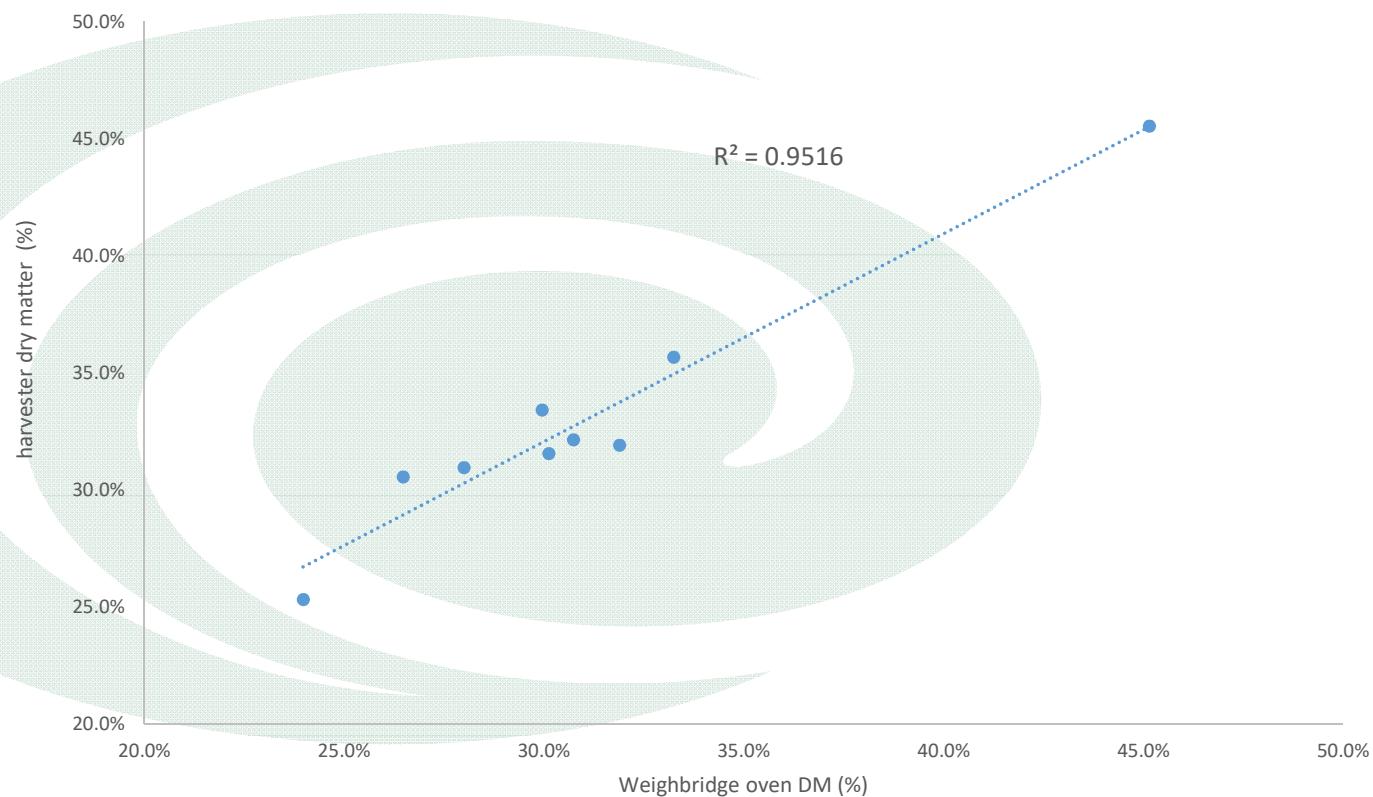# Third Cut 2018

Field Area

$R^2 = 0.9724$

- Very good agreement (R^2 of 0.97) between Harvest Lab mapped field area using GPS technology and the DAERA mapped area.

Fresh Yield per Field

R² = 0.9564

- Very good agreement (R² of 0.96) between the Harvest Lab field fresh grass yield and the weight of grass in trailers weighed on the CAFRE weighbridge.

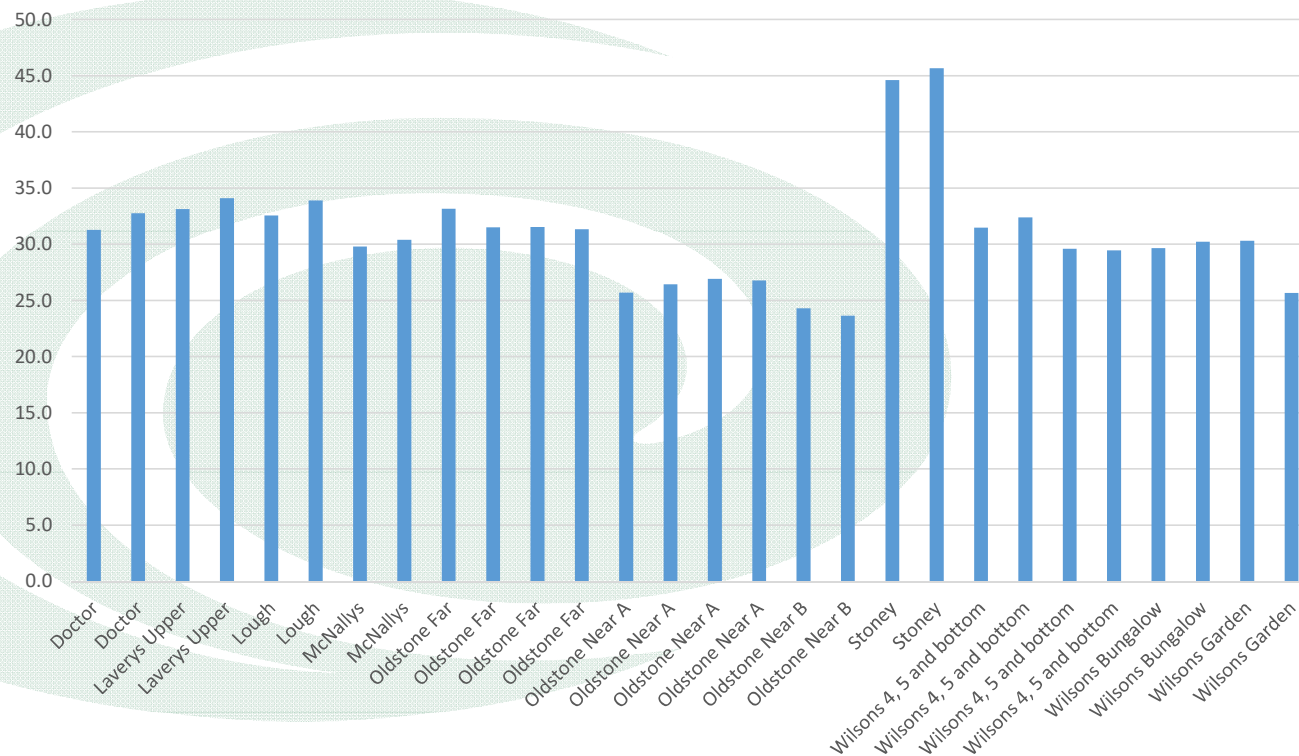# Grass Dry Matter

- Very good agreement (R^2 of 0.95) between the Harvest Lab grass dry matter NIRS measurement and the oven dry matter of grass samples taken from each trailer and dried in the CAFRE laboratory oven.
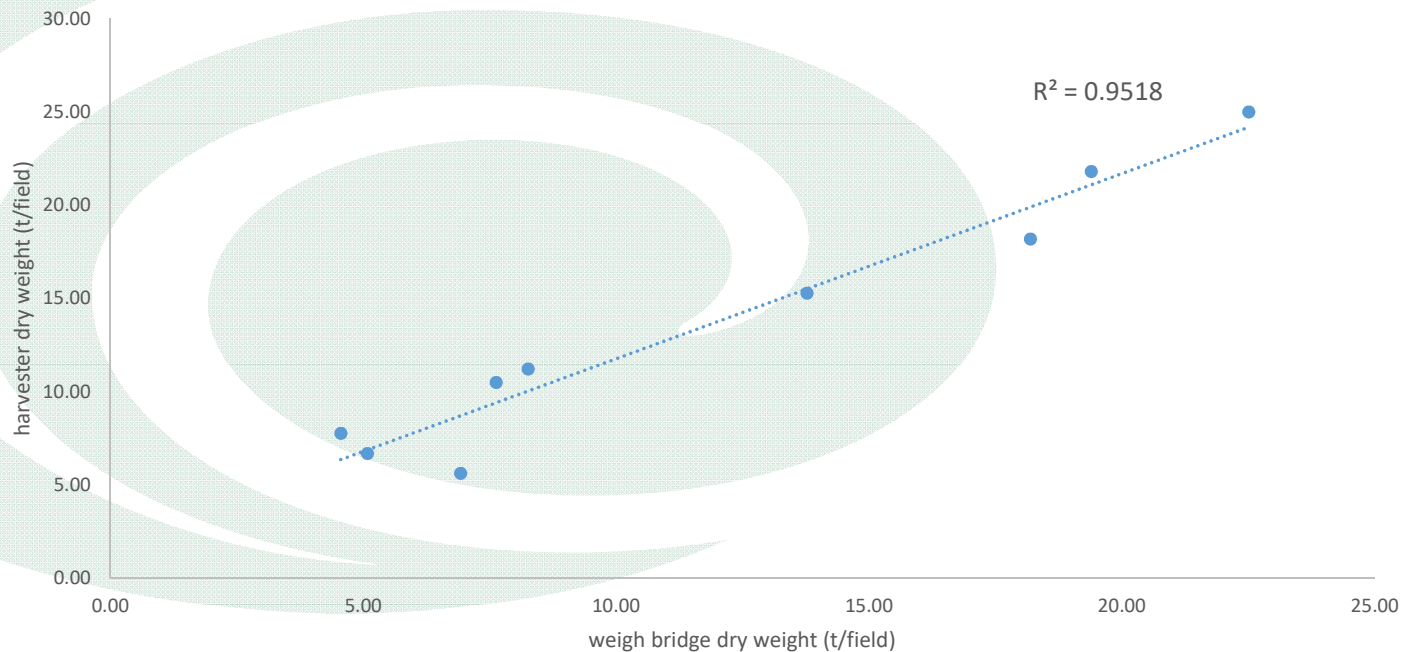
Grass Dry Matter 3rd Cut 2018

Trailer grass sample oven DM (%) 3rd cut 2018

- Range in grass dry matter of the grass samples taken from each trailer at the silage pit during the harvesting operation.

Dry Matter Yield per Field

- Very good agreement (R^2 of 0.95) between the Harvest Lab grass dry matter yield measurement and the dry matter yield calculated from weighbridge trailer weighs and grass sample oven dry matters.

- This measurement combines data from two sets of sensors: the Harvest Lab NIRS sensors and the Harvester feed roller sensors.

Dry Matter Yield per Field Area
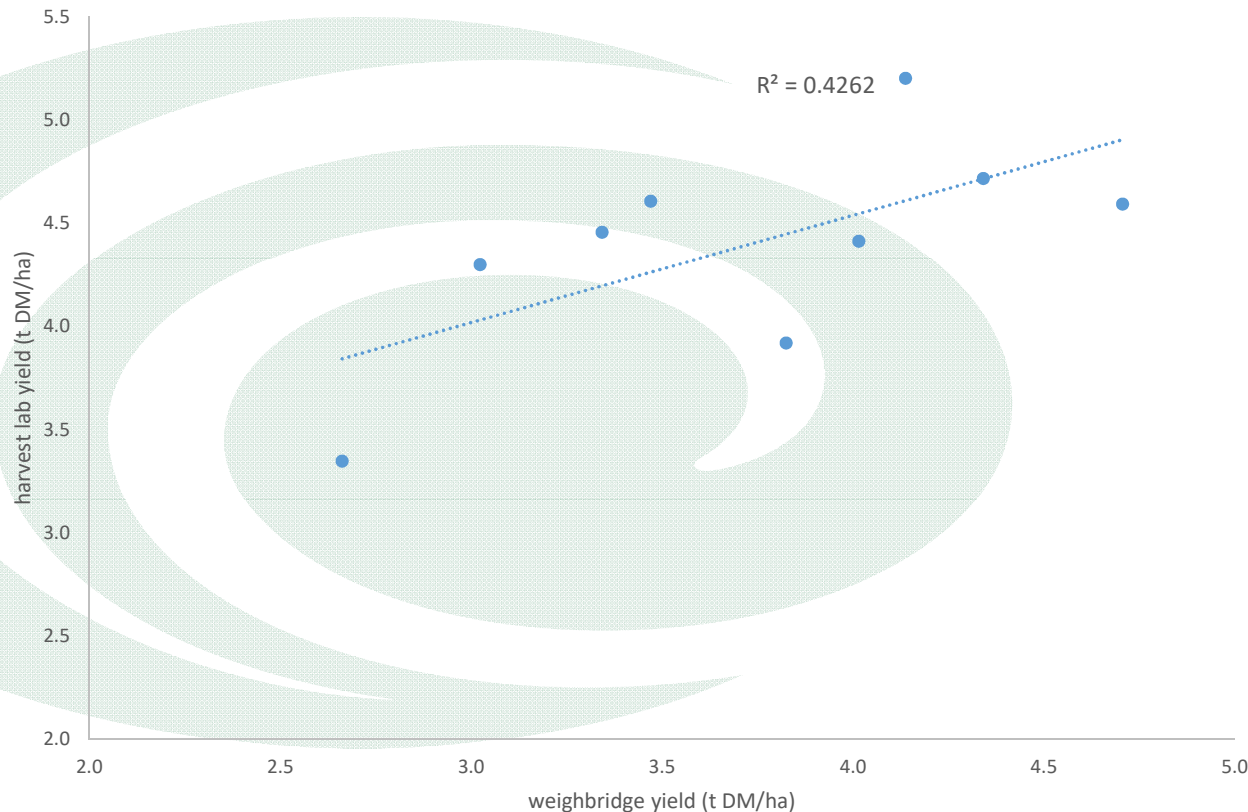
- Reasonable agreement (R^2 of 0.43) between the Harvest Lab grass dry matter yield measurement per hectare and the dry matter yield calculated from weighbridge trailer weighs, grass sample oven dry matters and the field area.

- This measurement combines data from three sets of sensors: the Harvest Lab NIRS sensors and the Harvester feed roller sensors and the GPS sensors.

Field ranking order dry matter yield per hectare

3rd Cut 2018 Field	Weighbridge Ranking (low to high)	Harvester Ranking (low to high)
Stoney	1	1
Oldstone Near B	5	2
Wilsons Garden	2	3
McNallys	6	4
Wilsons Bungalow	3	5
Oldstone Far	9	6
Lough	4	7
Wilsons 4, 5 and bottom	8	8
Oldstone Near A	7	9

Harvested forage yield data can be put to a number of uses on commercial farms including:

- Assessment of the quantity of forage harvested against requirements.

- Comparing the productivity of different grass variety mixtures.

- Making reseeding priority decisions.

- Invoicing where forage is harvested for sale.

- The field ranking order by tonnes of dry matter per hectare indicates a degree of re-ranking.