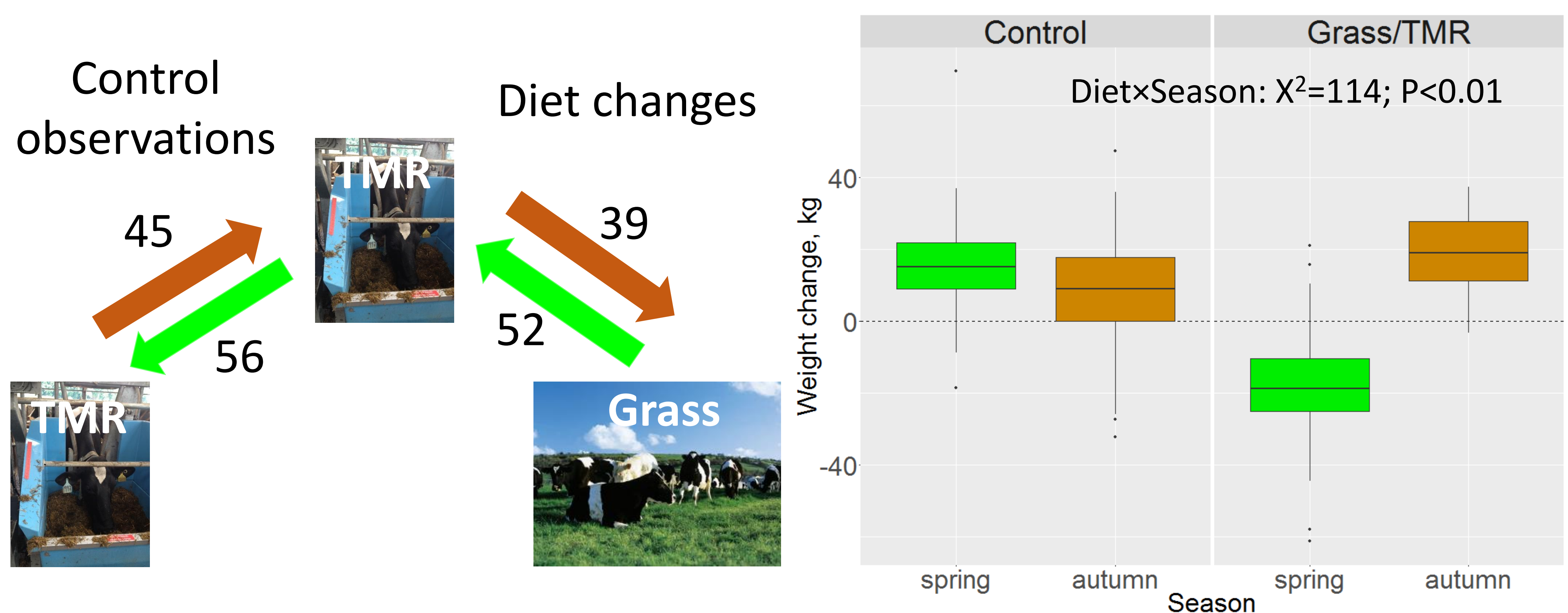


Changes in Dairy Cow Body Weight due to Diet Change

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Summary: The changes in BW of cows changing diet from TMR to grass or from grass to TMR were compared to a control group always fed TMR. Cows changing from TMR to grass in **spring** lost 17.2 kg, cows changing from grass to TMR in the **autumn** gained 19.1 kg. Interestingly, cows on a constant diet gained weight regardless the season. Cows in late lactation gained over 6 kg more than mid lactation cows which gained 3.3 kg ($X^2=2.30$; $P=0.04$). Overall diet effect was almost 24 kg, despite BW being adjusted for meal-related gutfill.



Materials and Methods: Data from 2009 and 2010 were obtained from 157 lactations by 140 cows at SRUC. Cows were either of 5% top or average UK genetic merit. Cows were milked and weighed 3 times daily. Diet was either Grass/TMR or TMR, and diet changes were gradual. 30 days on each side of 101 diet changes and 91 control observations were smoothed and adjusted for gutfill. BW change across a diet change were compared using this model: $Y = \text{Diet} + \text{Season} + \text{Parity} + \text{Stage of Lactation} + \text{Merit} + \text{Diet} \times \text{Season} \times \text{Stage of Lactation} \times \text{Merit}$, with cow as random effect.

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