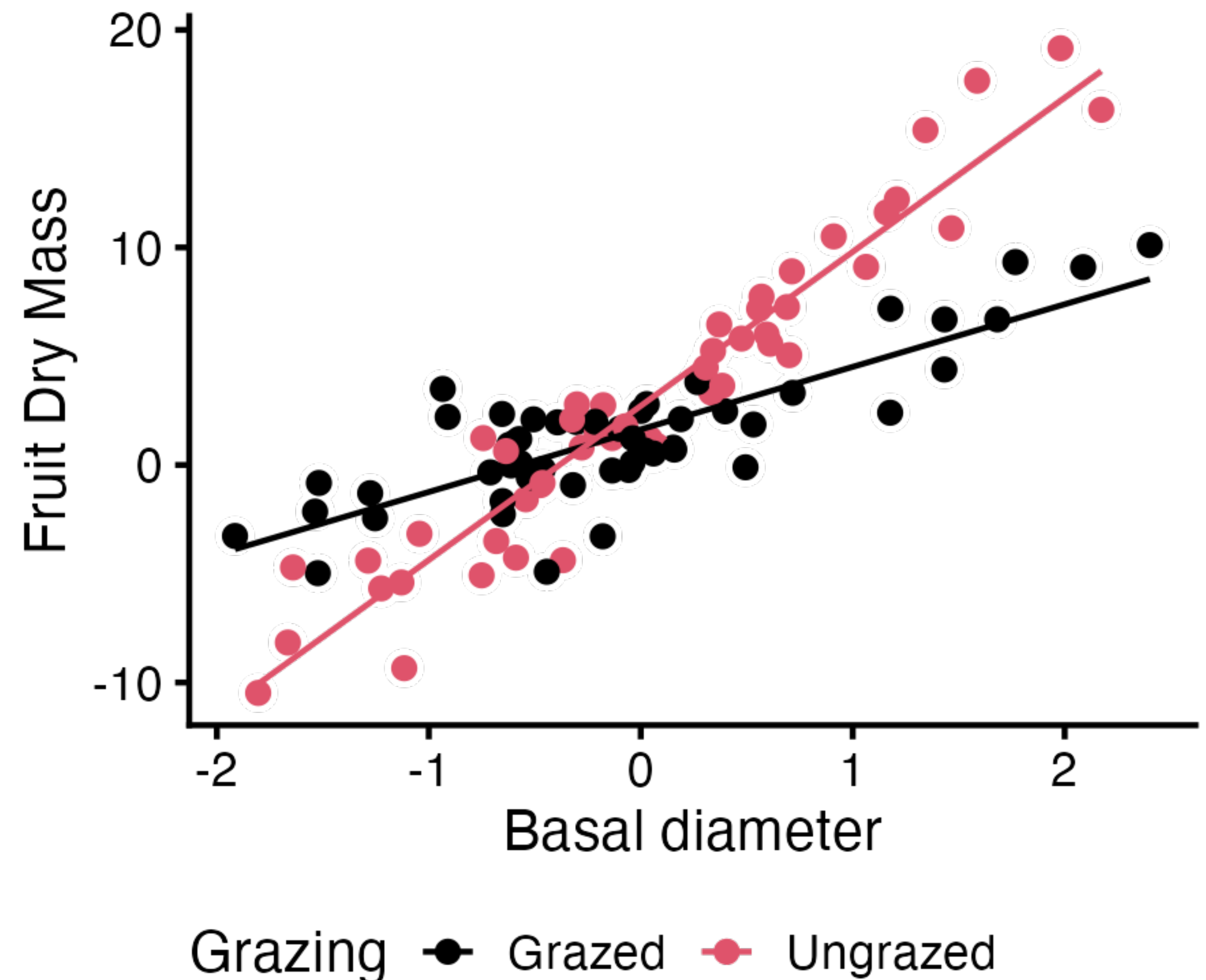# Interactions

Allowing coefficients to change according to other variables

- What if the relation between a predictor and an outcome changes depending on another predictor?

- We can account for this by adding product terms in the model

  - With two predictors, x and z:

$$\mu = \alpha + \beta_1 x + \beta_2 z + \beta_3 xz$$

Interactions

Allowing coefficients to change according to other variables

- What if the relation between a predictor and an outcome changes depending on another predictor?

- We can account for this by adding product terms in the model

  - With two predictors, x and z:

$$\mu = \alpha + \beta_1 x + \beta_2 z + \boxed{\beta_3 xz}$$

Interaction term!