

# EVERYBODY LOVES MUNG BEANS

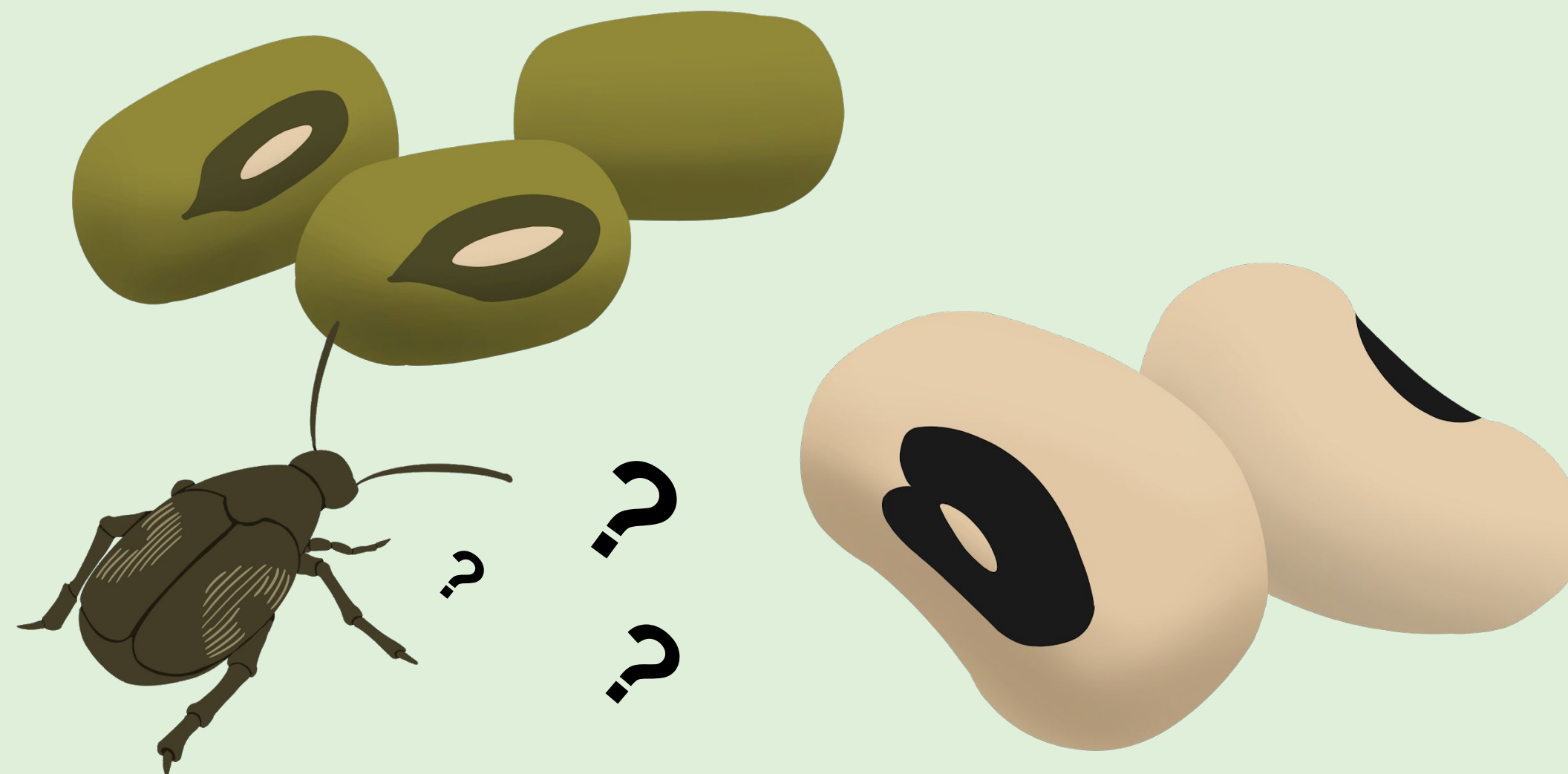
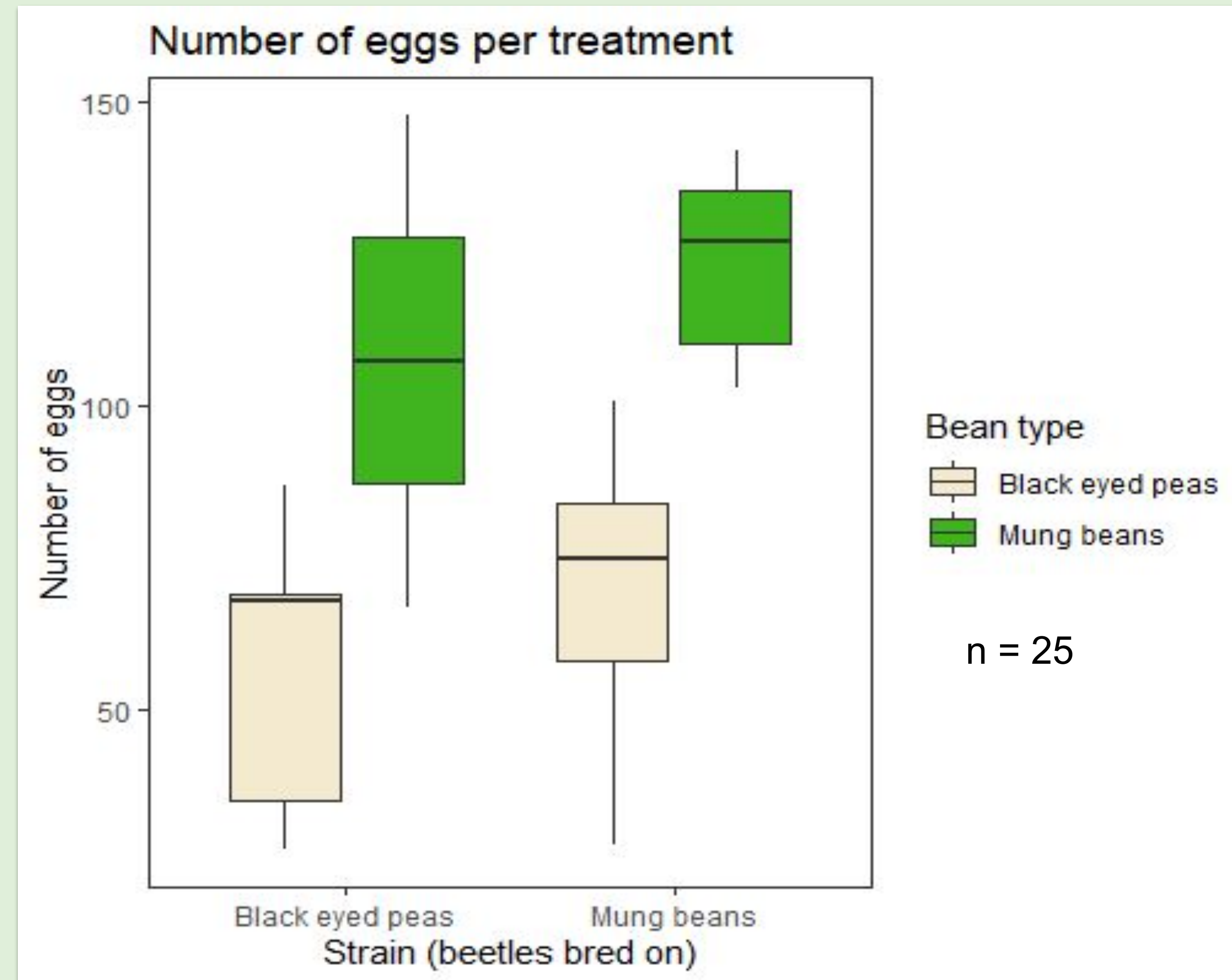
- Do bean beetles prefer to breed on their natal-bean? -

## Background Information

- Bean beetles (*Callosobruchus maculatus*) are found in subtropical and tropical regions.
- Life cycle consists of egg, larvae, pupa, and adult beetle.
- Bean beetles lay eggs on beans and the egg turns into a larvae that burrows and feeds off the bean.
- After pupation, the adult eats its way out of the egg and continues to mate.

## Set up of experiment

- In this experiment we investigated if female bean choice for laying eggs depends on natality.
- 10 dishes containing the same amount of mung beans and black eyed peas, and 5 female and 2 male bean beetles each.
- 5 of the dishes contained beetles bred on black eyed peas, and 5 dishes contained beetles bred on mung beans.



## Data analysis

- Data was analysed using R.
- Since the response variable is counts, a poisson distribution is assumed and a log linear model is used.
- The anova test shows that there is an **effect of the type of bean ( $p < 0.05$ )**, but **not an effect of natality.**

## Results and conclusion

- Beetles bred on mung beans preferred laying their eggs on mung beans. However, beetles bred on black eyed peas laid their eggs on mung beans as well.
- **The natality of beetles does not affect what bean type they choose to breed on!**

## References

Beck, C. W. and Blumer, L. S. (2014) *A Handbook on Bean Beetles, Callosobruchus maculatus*. [PDF] Available at [http://beanbeetles.org/new\\_website/wp-content/images/handbook.pdf](http://beanbeetles.org/new_website/wp-content/images/handbook.pdf) [Accessed 14 April 2020]

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