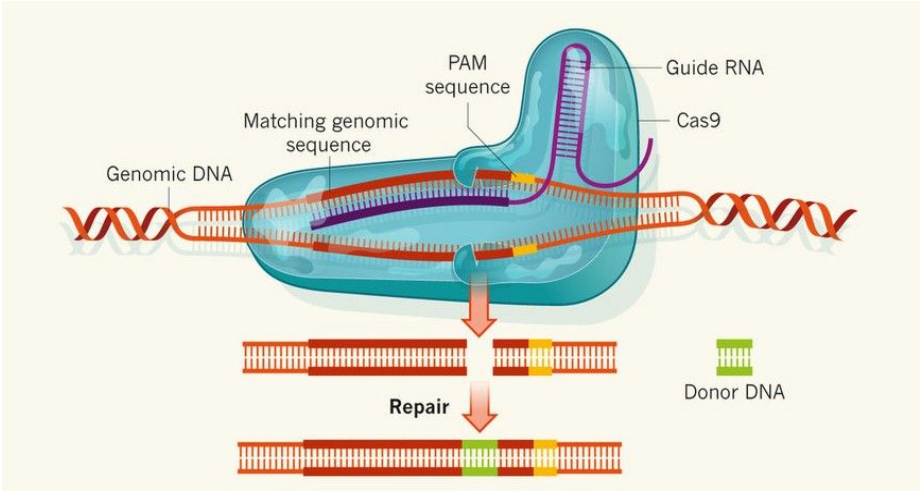
Erasmus+

**2020-2021**

Red group - **“How can we use Crispr-Cas to produce more sustainable food?”**

# What is CRISPR-cas and how does it work?

- **gene editing technology**
- allows researchers to easily alter DNA sequences and **modify gene function**
- correcting **genetic defects**, treating and preventing the **spread of diseases** and improving **crops**
- modify genes in any **plant** or **animal**
- plant genetic manipulation of crop species → more **sustainable food**
- CRISPR/Cas could radically **change global agriculture**



# Does Crispr-Cas change the biology a lot?

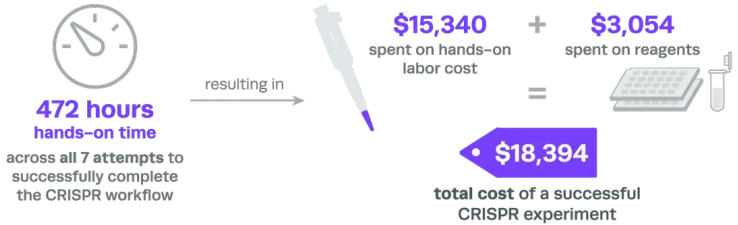
- opened an unpredictable long way
- many successes around the world
- research makes rapid progress
- can use it in many ways :
  protect from diseases (virus infections)
  improve crops
  Animals, plants (just also with people)
- big discussion started
  If it is genetic manipulation or not

Advantages of Crispr-Cas

- easier/simple
- more accurate
- time saving

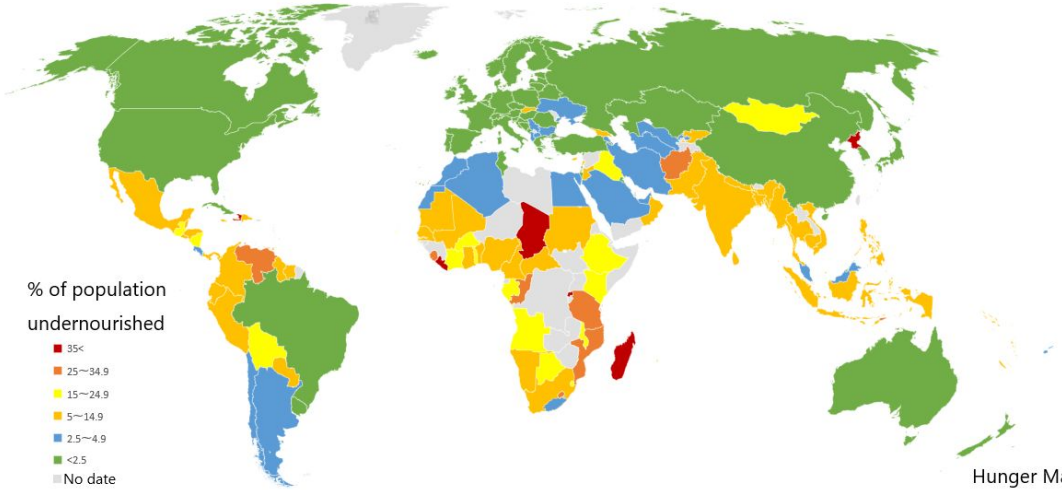
# The costs of Crispr-Cas

- Costs one experiment: $18,000
- There aren’t many scientists using this method
- 2 million dollars can be asked to cure a disease using Crispr-Cas
- Only the richer people can pay, it is not accessible for everyone.



# Crispr-Cas and world hunger

- 690 million people go to bed hungry (8.9% out of the population)
- Population growth
- Could Crispr-Cas help us?
- Pros and cons using Crispr-Cas




Hunger Map2020

# Conclusion

- Crispr-Cas is a revolutionary discovery
- A lot of disadvantages
- Rules or laws should be made to control scientists