

## OBJECTIVES

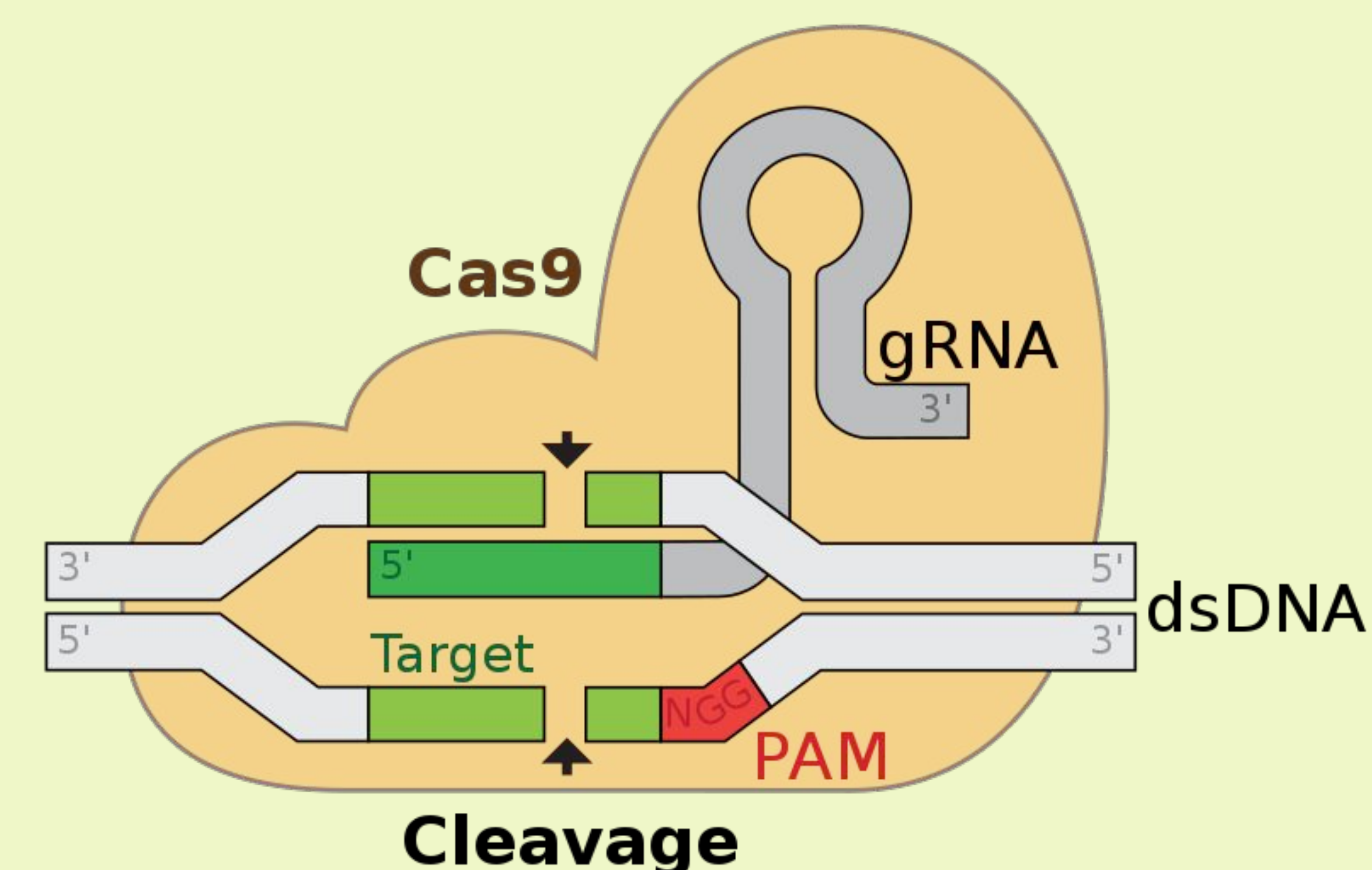
- ▶ Introducing CRISPR/Cas9
- ▶ Reviewing CRISPR rice crops
- ▶ Presenting CRISPR crops current legal status, trade and acceptance

### Most studied CRISPR crops

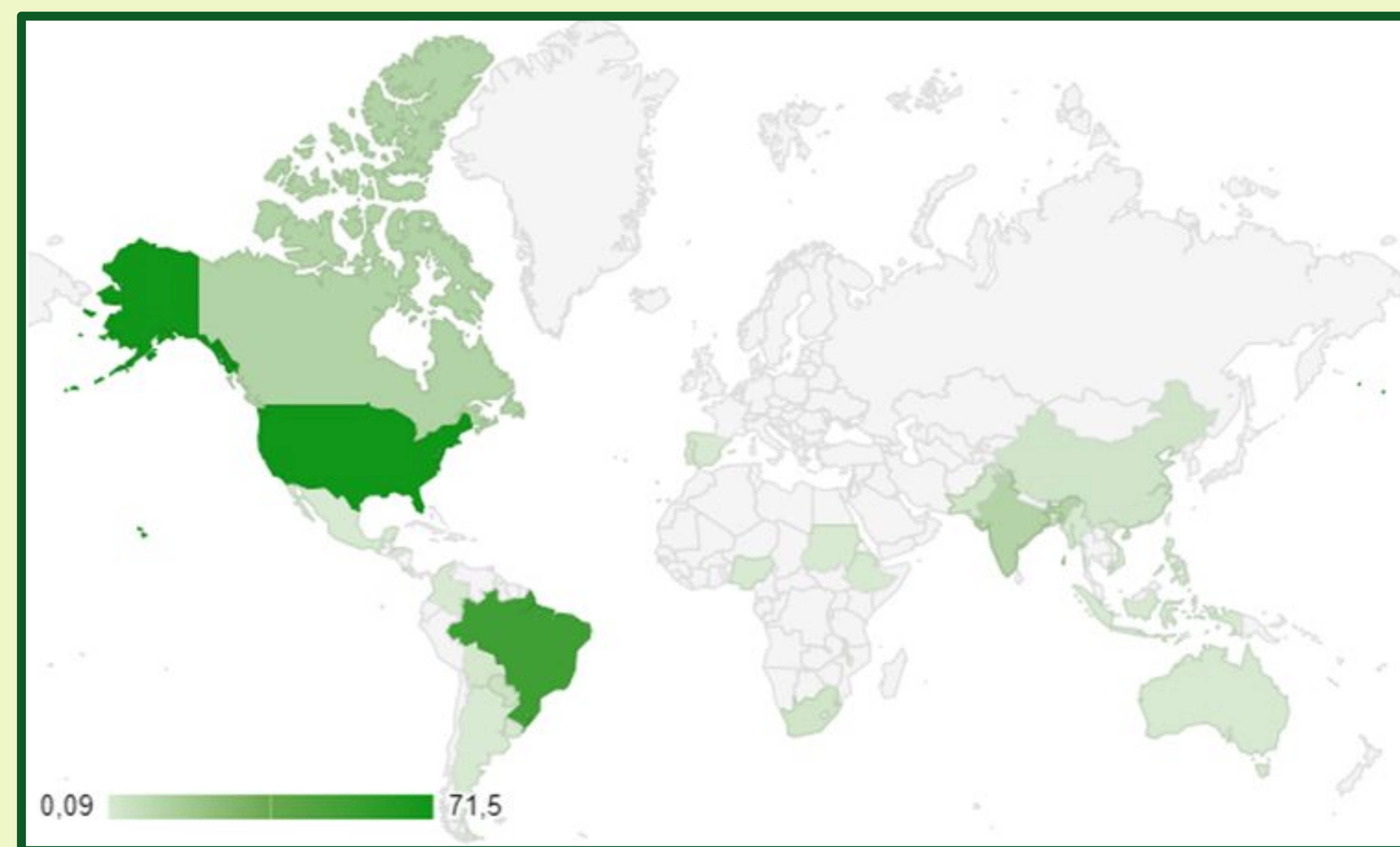
- ▶ Rice (*Oryza sativa*)
- ▶ Tomato (*Solanum lycopersicum*)
- ▶ Maize (*Zea mays*)
- ▶ Wheat (*Triticum spp.*)
- ▶ Soy (*Glycine max*)

### CRISPR rice crops traits

- ▶ Plant yield and growth
- ▶ Food / feed quality
- ▶ Abiotic stress tolerance
- ▶ Biotic stress tolerance
- ▶ Industrial utilization



“GRNA-Cas9”. From “Clustered Regularly Interspaced Short Palindromic Repeats” by Marius Walter (2017), *fr.Wikipedia.org*. Attribution-ShareAlike 4.0 International (CC BY-SA 4.0) license



World map with the GMO crops farming area (mHa) in 2019 from data of *Project K N° 16 of ISAAA (International Service for the Acquisition of Agri-biotech Applications)*

## CONCLUSIONS

- ▶ Rice seems to be the most studied CRISPR crop
- ▶ It is interesting to review the drought resistance in CRISPR rice crops
- ▶ People lack information about GMO, specially CRISPR, but they favour cisgenics compared to transgenics
- ▶ The process based legislation is a major obstacle for CRISPR crops