1. How much money was Jennifer Doudna and Emmanuelle Charpentier awarded for their work on CRISPR?

2. In what field is CRISPR technology currently having its most profound effect?

3. State the practical application of CRISPR used by Chinese Scientists in 2014.

4. TALENs were developed 15 years before CRISPR. State two specific applications of TALENs.

5. Does the USDA consider the crops produced by TALENs to be GMO’s? Why is this encouraging to the industry?

6. Describe one application of gene editing tools, like TALENs, in animals.

7. Describe how Yinong Yang proposed to use CRISPR to reduce browning in mushrooms.

8. Describe the function of the Guide RNA in the CRISPR mechanism?
9. Describe the function of the Cas9 enzyme?

10. What does the acronym CRISPR stand for? Why is the acronym misleading?

11. Explain the mechanism by which CRISPR inactivates a targeted gene.

12. How long would it take a skilled molecular biologist to build a custom design editing tool for any gene in virtually any organism?

13. Briefly describe the fear of unintended consequences in performing genetic modification on crops?

14. What are “off-target cuts” and why are they an issue?

15. In your opinion, should crops produced using the CRISPR mechanism be considered to be GMO products or not? Justify your opinion.