

國立嘉義大學九十五學年度

農業生物技術研究所碩士班招生考試試題

科目：專業英文

1. 請將下列英文短文翻譯成中文（25分）

Plant biotechnology allows for the transfer of a greater variety of genetic information in a more precise and controlled manner. Unlike traditional plant breeding, which involves the crossing of hundreds or thousands of genes, plant biotechnology allows for the transfer of only one or a few desirable genes. This more precise science allows plant breeders to develop crops with specific beneficial traits and without undesirable traits. Many of these beneficial traits in new plant varieties fight plant pests, insects, disease and weeds that can be devastating to crops. Others provide quality improvements, such as tastier fruits and vegetables; processing advantages, such as tomatoes with higher solids contents; and nutrition enhancements, such as oil seeds that produce oils with lower saturated fat content. Crop improvements like these can help provide an abundant, healthful food supply and protect our environment for future generations.

2. 請將下列英文短文翻譯成中文（25分）

Recombinant DNA is an artificial DNA sequence resulting from the combining of two other DNA sequences in a plasmid. Plasmids are extranuclear fragments of DNA present in some bacteria. Plasmids can transfer genetic material to other bacteria, allowing them to express the transmitted genes. Restriction enzymes which cut sequences of DNA at certain spots are used to splice into a plasmid. The plasmid is then inserted into a bacterium in order to express the gene and produce the protein coded by the gene. Large amounts of the protein can be produced in the genetically engineered bacteria. Recombinant DNA is used for genetic transformation to produce genetically modified organisms. Some examples of recombinant DNA products are peptide hormone including insulin and growth hormone. Vaccines can also be produced using recombinant processes.

3. 請將下列英文短文翻譯成中文（25分）

A major hurdle to the successful clinical use of some viral vectors relates to the innate, adaptive, and memory immune responses that limit the efficiency and duration of transgene expression. Some of these drawbacks may be circumvented by using vectors derived from nonhuman viruses.

4. 請將下列中文短文翻譯成英文（25分）

秤取 4 克洋菜膠，加入 40 毫升的 10 倍 TBE 緩衝液，以蒸餾水將總體積調到 400 毫升，再置於微波爐內加熱，直到洋菜膠完全溶解。