

題號： 306

科目：植物營養學

節次： 6

國立臺灣大學 102 學年度碩士班招生考試試題

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1. Explanation of terms: (10 points)
(1) acidophiles. (2) homeostasis. (3) top dressing. (4) symbiotic nitrogen fixation.
(5) beneficial elements.
2. How do plants adapt to low phosphorus stress. (10 points)
3. How do plants adapt to low iron stress when growing in calcareous soil? (10 points)
4. Why potassium is crucial for plant growth? (10 points)
5. Please describe the criteria of essential element? (10 points)
6. High availability of aluminum (Al) in soil is toxic to the most of plants. What are the toxic effects of Al in plants? How plants achieve Al tolerance under high Al availability soils? (10 points)
7. Silicon (Si) is the second most abundant element in the lithosphere and is beneficial to plant growth. What are the beneficial effects of Si on plant growth? (10 points)
8. What are meant by the “biophysical pH stat” and “biochemical pH stat”? What roles do these pH stats play in plant nutrition? (10 points)
9. What is meant by “ NH_4^+ toxicity”? Discuss the various types of biochemical functions affected by “ NH_4^+ toxicity”. (10 points)
10. What is “acid growth”? Why is it of importance? (10 points)

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