

國立屏東科技大學 100 學年度 碩士班暨碩士在職專班 招生考試
食品科學系碩士班乙組 食品微生物試題

UNREGISTERED

Created by Unregistered Version

一、解釋名詞（每題 2 分：中文翻譯佔 0.5 分，簡要敘述特性佔 1.5 分）

1. GRAS
2. infant botulism
3. sauerkraut
4. indicator microorganism
5. food poisoning
6. fermentation
7. cold sterilization
8. PA3679
9. osmophilic
10. exotoxin

UNREGISTERED

Created by Unregistered Version

二、請選擇下列菌株填入適當菌群，並說明其特性（每題 3 分：菌種名佔 1 分，敘述特性佔 2 分）

- | | |
|--|------------------------------------|
| A. <i>Candida lipolytica</i> | B. <i>Pseudomonas aeruginosa</i> |
| C. <i>Bacillus cereus</i> | D. <i>Enterobacter aerogenes</i> |
| E. <i>Pichia membranaefaciens</i> | F. <i>Penicillium roqueforti</i> |
| G. <i>Torulopsis versatilis</i> | H. <i>Lactobacillus bulgaricus</i> |
| I. <i>Propionibacterium freudenreichii</i> | J. <i>Lactococcus lactis</i> |

UNREGISTERED

Created by Unregistered Version

1. Gram-negative aerobes:
2. Gram-positive cocci:
3. Gram-positive, nonsporeforming irregular rod:
4. Mold:
5. Gram-positive, endospore-forming rod:
6. Gram-positive, nonsporulating regular rod:

國立屏東科技大學 100 學年度 碩士班暨碩士在職專班 招生考試
食品科學系碩士班乙組 食品微生物試題

UNREGISTERED

三、試述電阻抗法(electrical impedance measurement)測定食品微生物數目之原理？（10 分）

四、試述米醋之製造流程、參與微生物英文學名及作用原理？（10 分）

五、就你所學食品微生物專業知識，請自環境中篩選分離出可研發成食品產業應用之

Bifidobacterium species 菌株？（含培養基、操作流程）（12 分）

六、大腸桿菌為食品中之衛生指標菌，請詳述其傳統檢驗方法？（含推定、確定、完全試驗、原理及結果判定）（20 分）

UNREGISTERED

Created by Unregistered Version

七、請說明下列摘要內容（翻譯）（10 分）

The aim of this study is to evaluate the antimicrobial activity of red yeast rice obtained from a *Monascus purpureus* mutant strain. There is at present a growing interest in evaluating red rice for use as a natural food dye and/or preservative. The fungus was grown over PDA in tubes at 30°C and the spores suspension was used to inoculate ground steamed rice to produce the red colorant. The antimicrobial effect of *Monascus* culture, due of monascidin A, confirmed by scientific investigations, was proved against some bacterial and fungal strains. The brut pigment obtained by growing the *Monascus* strain in surface culture had a antifungal action against some species of *Aspergillus*, *Mucor*, *Penicillium* and *Fusarium* genus. The yellow pigment isolated from red yeast rice also inhibits bacteria of the genera of *Bacillus*, *Pseudomonas* and *Escherichia*. The observation of bacteriostatic and antifungal effects has lead to the consideration that besides the tinctorial properties, the pigments of *Monascus purpureus* have a preservative value.

UNREGISTERED

Created by Unregistered Version