

KEY**VMD 413. Veterinary Food Safety — Spring, 2007
Final Examination (100 total points)**

1. Which organization in the US has the greatest role in recording **incidence of foodborne disease**? (2 pts)
CDC, Centers for Disease Control and Prevention
2. What US program is used to compare bacterial “**fingerprints**” and detect outbreaks? (2 pts)
PulseNet
3. Name a condition or cause of **immune impairment** that enhances sensitivity to foodborne disease. (2 pts)
organ transplant, cancer therapy, AIDS
4. In the US, what is the approximate **ratio** of numbers of food producers to food consumers? (2 pts)
3:100
5. What function do distributors perform **in addition to moving foods from place to place**? (2 pts)
storage
6. Name a food that is **intrinsically toxic**. (2 pts)
cassava, etc.
7. A cluster of cases of vomiting and diarrhea occurs **~24 hr after a common meal**. What is your first-guess diagnosis? (3 pts)
norovirus
8. Name an **idiopathic** foodborne illness. (2 pts)
“Chinese restaurant syndrome,” cancer, heart disease, etc.
9. What are the two **most common human illnesses** caused by *Clostridium botulinum*? (4 pts)
infant botulism, food botulism
10. Name a zoonotic pathogen most often associated with **chicken**. (2 pts)
Salmonella (enterica), Campylobacter (jejuni)
11. What is the greatest **threat to human health** from carriage of *Taenia solium*? (2 pts)
neurocysticercosis

12. What are the **predominant symptoms** of staph enterotoxin food poisoning? (2 pts)
diarrhea & vomiting
13. Name a round worm that is **macroscopically visible** in food. (2 pts)
anisakids, *Anisakis (simplex)*, *Pseudoterranova (decipiens)*
14. What is the **original source** of most toxins that occur in shellfish? (2 pts)
dinoflagellates, marine algae
15. Which foodborne pathogen has cats as its **definitive host**? (2 pts)
Toxoplasma (gondii)
16. What is the only type of foodborne disease in which an outbreak may include **secondary cases**? (3 pts)
infection
17. Which part of cattle is **tested for BSE**? (2 pts)
brainstem
18. What is the principal prion disease affecting **feral animals** in North America? (2 pts)
chronic wasting disease
19. In what form do bacterial pathogens of humans tend to persist **in soil**? (2 pts)
spores
20. Name a zoonotic agent, other than *E. coli* O157:H7, that has apparently been transmitted to human foods **via manure**. (2 pts)
Campylobacter spp.*, *Cryptosporidium parvum*, *Salmonella (enterica)*, *Yersinia (enterocolitica)
21. What principle, applied by Nurmi to chickens, is supposed to be involved in the action of **probiotics** in humans? (3 pts)
competitive exclusion
22. What zoonosis, occurring **on-farm here in California**, led to culling ~3,000 cattle in 2002? (2 pts)
bovine tuberculosis, *Mycobacterium bovis*
23. What was the **alleged vehicle** in the perceived epidemic of *Salmonella* Enteritidis Phage type 4 in southern California in the mid-1990s? (2 pts)
eggs
24. Name two groups of foodborne pathogens that **cannot multiply** in food. (4 pts)
parasites (protozoa, helminths), viruses, prions
25. Name a physical or chemical parameter, other than pH, which has a primary role in governing **bacterial growth** in food. (2 pts)

temperature, water activity (a_w), redox potential (Eh)

26. Which is the only one of our foods that is **naturally alkaline**? (2 pts)
egg white
27. Which group of microbes will grow under the **most acid** conditions in foods? (2 pts)
molds
28. How does USDA classify *E. coli* O157:H7 found in **raw ground beef**? (2 pts)
Illegal Adulterant
29. What is the **clinical term** for kidney failure caused by *E. coli* O157:H7? (2 pts)
HUS, hemolytic uremic syndrome
30. What term is applied to **human waste** used as fertilizer? (2 pts)
nightsoil
31. Name a heat treatment for food that typically takes place **below the boiling point of water**. (2 pts)
blanching, pasteurization
32. Which product of **yeast fermentation** is of greatest significance in baking bread? (2 pts)
CO₂
33. Name an item of information that should or must appear on a **food label**. (2 pts)
product identity, quantity, instructions for preparation, ingredients, nutrition facts
34. What is one thing that can be accomplished at a legitimate **Critical Control Point**? (3 pts)
prevent, eliminate, or reduce hazard to an acceptable level
35. What is accomplished by **irradiating tropical fruits** in Hawaii? (2 pts)
spaying, neutering, infertilization
36. In HACCP, what must be done if a **Critical Limit is violated**? (2 pts)
corrective action
37. Which federal agency has regulatory oversight of **animal feeds**? (2 pts)
FDA, Food and Drug Administration
38. What is the principal Critical Control Point used in preventing **trichinosis** in US swine? (2 pts)
cooking garbage
39. Which agency does almost all **meat inspection** in California? (2 pts)

USDA (FSIS)

40. Which organization carries the most responsibility for **international standards** for food safety? (2 pts)
Codex Alimentarius
41. Name a **chemical hazard** that may be associated with cow's milk. (2 pts)
protein (allergy), lactose (intolerance), antibiotics, aflatoxin
42. In Risk Analysis, what term is applied to **dealing with identified risks**? (2 pts)
Risk Management
43. What is the default Critical Control Point in preparing safe food for the **astronauts**? (2 pts)
irradiation
44. What pathogen was involved in the recent **Peter Pan peanut butter** outbreak? (2 pts)
Salmonella (enterica Tennessee)
45. Which federal agency regulates **sanitizers** as pesticides? (2 pts)
EPA, Environmental Protection Agency
46. What was the source of *Listeria monocytogenes* in the historic outbreak involving cole slaw? (2 pts)
sheep manure