

科目：專業英文

系所組：食品科學系

I. Food additives are 26 that are added to food to improve its shelf-life, appearance and flavour. There are hundreds of additives. Examples include ascorbic acid, which is used to prevent food 27 going off, 28 to help mix oil and water together, and active packaging that improves the quality or safety of food. The possible health risks of food additives are the subject of fierce controversy. However, food additives allowed by law in the UK are generally considered safe.

But there are some chemicals used in food that certain people should look out for. One particular one is phenylalanine. Phenylalanine is a naturally occurring 29 found in all protein (including mother's milk). It's also used in the manufacture of various foods and is a constituent of the artificial 30 aspartame. However one in 8-12,000 babies is born without the ability to 31 phenylalanine from any dietary source. This condition is called phenylketonuria. If phenylalanine isn't metabolized, toxic levels build up in the blood and can result in brain 32. All children in the UK are 33 phenylketonuria shortly after birth and those with the condition must follow a strict diet to 34 phenylalanine intake especially while their brains are developing, until adulthood. So people with this condition need to 35 the use of phenylalanine as a food additive.

26. (A) chemicals (B) parts (C) mixtures (D) drugs

27. (A) to (B) from (C) in (D) at

28. (A) emulsifiers (B) conjugates (C) treated (D) heats

29. (A) amino acid (B) isolate (C) vitamin (D) carbohydrate

30. (A) protein (B) glucose (C) vitamin (D) sweetener

31. (A) synthesize (B) delete (C) metabolize (D) remove

32. (A) damage (B) component (C) insensitive (D) excitation

33. (A) under control (B) overcome with (C) screened for (D) looked at

34. (A) increase (B) protect (C) harm (D) limit

35. (A) take off (B) be aware of (C) keep on (D) increase

II. People around the world drink millions of cups of coffee every day, generating about 20 million tons of used grounds annually. Although some spent coffee grounds find commercial use as farm 36, most end up in trash destined for landfills. Coffee itself is a rich source of 37 antioxidants. De Peña's team wondered about the amount of antioxidants that 38 in used coffee grounds from different coffee-making methods. They found that filter, plunger and espresso-type coffeemakers left more antioxidants in coffee grounds, 39 mocha

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coffeemakers left the least. Because filter and espresso coffeemakers are more 40 in homes and commercial kitchens, the authors report that most grounds are likely to be good 41 of antioxidants and other useful 42. They note that after these compounds are 43, the grounds can still be used for fertilizer.

36. (A) foods (B) chemicals (C) fertilizers (D) products
37. (A) healthful (B) harmful (C) additional (D) private
38. (A) wanted (B) raised (C) helped (D) remained
39. (A) what (B) while (C) when (D) how
40. (A) common (B) wonderful (C) rich (D) abundant
41. (A) constitutes (B) tools (C) sources (D) methods
42. (A) substrates (B) materials (C) wastes (D) substances
43. (A) extracted (B) flowed (C) neutralized (D) excluded

III. Commercial puffed rice is made by steam extrusion. An extruder squeezes rice flour mixed with water through a narrow opening at high temperature and pressure. On exiting the nozzle, the rice puffs up as steam expands and escapes. The process, however, can destroy heat-sensitive nutrients. The scientists looked for a way to avoid that loss and enrich rice with protein and other nutrients during the puffing process. They turned to a process that uses supercritical carbon dioxide, which has been used for making decaffeinated coffee and in other applications.

The scientists describe using the process to make puffed rice with three times more protein and eight times more dietary fiber than commercial puffed rice. It also contains calcium, iron, zinc and other nutrients that conventional puffed rice lacks. Their puffed rice was crispier than commercial products, giving it a better taste and crunch. The new rice is "ideally suited for consumption as breakfast cereals, snack food and as part of nutrition bars for school lunch programs," the report states. "The balanced nutritional profile and use of staple crop byproducts such as broken rice makes these expanded crisps unique to the marketplace."

44. The puffing process of steam extrusion doesn't need
(A) water (B) high temperature (C) nutrients (D) rice flour
45. Carbon dioxide is a
(A) machine (B) solid (C) particle (D) gas
46. The advantage of puffed rice made by supercritical carbon dioxide doesn't include
(A) crispier (B) retain trace elements (C) destroy proteins (D) crunch
47. Which of the following words is close in meaning to squeeze:
(A) expand (B) press (C) hydrate (D) puff

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48. Which of the following statements is NOT true?

- (A) Rice is a kind of grains.
- (B) Broken rice is a crop byproduct.
- (C) Decaffeinated coffee can be made by either steam extrusion or supercritical carbon dioxide.
- (D) Lower proteins and dietary fibers are found in conventional puffed rice that is made by steam extrusion.

49. The puffed rice made by supercritical carbon dioxide is ideally suited for children in school because...

- (A) it is very cheap.
- (B) it keeps more nutrients in it.
- (C) it is decaffeinated.
- (D) it diminishes crisps in it.

50. The best title for this passage is?

- (A) A New, Super-Nutritious Puffed Rice for Breakfast Cereals and Snacks
- (B) Puffed Rice: Fact and Fiction.
- (C) The Complex Manufacture of Puffed Rice
- (D) Nutritional Evaluation of Puffed Rice

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