

Comments in accordance with the sequence of questions listed in the federal Register/Vol. 69, No. 179/Tuesday, September 16, 2004, are listed as in following:

1. What categories/classes of compounds should be considered as bioactive food components? To this question, I personally believe a compound should be considered as a bioactive food component only if it is naturally exist in naturally produced agricultural materials, and its original form directly shows significantly physiological activity after being consumed in the forms of typical foods. Those compounds show only indirect activity or only derivatives after human digestion show physiological activity should not be considered as “bioactive food components”. The later should be considered as “prebioactive food components” or “Bioactogens”. For instance, immunoglobulins, transfer growth factors-beta 2, in milk, vitamins in fruit and vegetable, minerals and such should be considered as “bioactive food components” thanks to their food origin and significant direct physiological activity. However, dietary fiber may not be considered as “bioactive food components” though it provides health benefits to consumers due primarily to the speeding-up of bowl movement.
2. What categories/classes of compounds should not be considered as bioactive food components? How should the definition be modified to reflect exclusion of these compounds? In my personal opinion, the compounds that do not naturally exist in natural food material origins or artificial or introduced by genetic modification or controlled fermentation should not be considered as “bioactive food components”. Instead, they should be defined as “bioactive food additives” to identify the difference between their natural evolution and man-forced changes. However, bioactive compounds generated during regular food preparation, such as washing, cutting, cooking, and storage should be considered as “bioactive food components”.
3. Should essential nutrients be included as bioactive food components? I believe the essential nutrients should be considered as “bioactive food components” due to their significance for human health and their food origins.
4. Should synthetically derived compounds used in fortified foods and dietary supplements be considered under this definition? No. No synthetically compound should be considered as bioactive food components. A bioactive synthetic compound exists in a food product or dietary supplement should be considered as drug/medicinal compound or medicinal additive.

Beyond the questions soliciting comments as listed above, I would like to take this opportunity to address the significance to identify the difference between “bioactive food components” and “bioactive components in natural agricultural materials but not for food purposes”. In my personal opinion, “bioactive food components” should be typically from food material origin at appropriate intake level. Those bioactive components isolated from other agricultural materials, such as Chinese herbs, and then enriched in a food product may be considered as “bioactive food components”. For instance, flavonoids isolated from kingo leaves and cooperated in a beverage may provide consumers with health benefits due to their strong antioxidant activity and may be considered as bioactive food components.

A little bit more comment: “appropriate level” or “appropriate dosage” should also be taken in account. The bioactive components may serve as adjusting factors in human body due to their physiological activity. Over dosage of a bioactive component, which can cause over adjustment in health status or physiological responses, may result in adversary impact on consumer health, in extreme case, even death. For example, over dosage of caffeine from green tea may cause similar symptoms with alcohol drunk and dysfunction of nerve systems.