Consideration of Amino Acids

Submission to the National Organic Program and the National Organic Standards Board

Adrienne Samuels, Ph.D. 850 DeWitt Place, Chicago, IL 60611 312/642-9333

It is only since 1909 that glutamic acid has been fabricated and served to humans as a food additive, drug, or dietary supplement. Prior to that time, glutamic acid was found in protein, tied in chains, so to speak, with other amino acids. Little, if any, glutamic acid would have been found in its free form, i.e., free of other amino acids, except that which had been freed from protein during digestion, or that which had been transaminated from other amino acids.

Methods for fabricating glutamic acid in its free form were first patented in Japan in 1908-1909. Today, most processed free glutamic acid is fabricated using one of three basic methods: hydrolysis (sometimes referred to as autolysis), enzymolysis, and fermentation (often bacterial fermentation wherein glutamic acid is excreted thru the cell walls of specially engineered bacteria). In addition, glutamic acid can be produced when "reaction flavors" are fabricated.

Processed free glutamic acid is inappropriate for organic certification:

Glutamic acid in the mammalian body, in its free form, causes brain lesions, and when ingested as such in the young causes endocrine disorders that manifest themselves as mammals approach maturity. Moreover, free glutamic acid is implicated in a variety of seemingly diverse disease processes of the central nervous system including addiction, stroke, epilepsy, degenerative disorders (Alzheimer's disease, ALS, and Parkinson's disease, for example) brain trauma, neuropathic pain, schizophrenia, anxiety and depression.

Following ingestion, glutamic acid freed from protein prior to ingestion can pass through the blood brain barrier and enter the brain at any stage of life. It enters the brain most readily in the very young, the very old, and when the brain has been subjected to trauma caused by events such as ingestion of processed free glutamic acid (MSG), a blow to the head, high fever, or the normal process of aging.

Glutamic acid freed from protein prior to ingestion and eaten in its free form causes adverse reactions in more than 25% of the population.

In addition, glutamic acid freed from protein or otherwise fabricated by:

--Acid hydrolysis inevitably produces monochloro propanols and dichloro propanols, which are carcinogenic.

--Production of reactions flavors can produce heterocyclic amines which are carcinogenic

--Bacterial fermentation such as that used by Ajinomoto in production of glutamic acid sold

for pharmaceutical use, used in the flavor enhancer called monosodium glutamate, and used in the plant "growth enhancer" called AuxiGro is made with mutated bacteria that secrete glutamic acid from their cell walls. Bacteria used for such bacterial fermentation have been subject to a variety of processes including irradiation and genetic engineering.

There are other amino acids fabricated using methods similar to those used to fabricate glutamic acid. Some are neurotoxic just as glutamic acid is neurotoxic. Aspartic acid and L-cysteine are two amino acids fabricated and used in processed food. I do not know whether or not they are fabricated using genetic engineering, although I have heard that the makers of aspartame, that uses aspartic acid, admit that some or their aspartame is bioengineered. Neither do I know whether carcinogens are produced when any of the amino acids besides glutamic acid are fabricated. But certainly, if consideration is given to approving individual amino acids for organic use, each one must be considered separately. And clearly, glutamic acid must be denied approval for use with organic products.

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