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Amino acid drinks breakthrough

Ajinomoto has announced an important breakthrough for the use of amino acids in beverages. Despite considerable interest in the nutritional benefits of amino acids, their bitter taste has sometimes been an obstacle in creating palatable beverage formulations. Now, research shows that, by using amino acids in combination with a sweetener, their bitter taste can be completely masked.

Researchers prepared solutions containing arginine and the branched-chain amino acids valine, leucine and isoleucine, mapping out the concentrations at which respondents judged the beverage to be too bitter. They found that as the pH value of the formulation increased, higher concentrations of amino acids could be

used without creating a bitter taste.

The results showed that at pH 4.5, amino acids can make up as much as 1% of the beverage. This means that good-tasting sports drinks with, for example, 3,500mg of branched chain amino acids per serving can be formulated without difficulty.

The researchers showed that the key to effectively masking the taste of amino acids is finding the correct balance between sweetness, which was provided by the low-calorie sweetener aspartame, and acidity. By using the correct formulations, manufacturers developing drinks with increased functionality can use relatively high levels of amino acids without compromising taste.

Arginine has a range of health benefits, including reducing blood pressure and improving both immune and wound healing responses.

Branched-chain amino acids have been shown to significantly improve athletic performance.

