Seeking Companies interested in the Commercialization of a Modified Milk Protein Concentrate (MPC) or Caseinate Alternative to be Produced Using Microfiltration

The Center for Dairy Research (CDR) (www.cdr.wisc.edu) is seeking companies interested in the development of a less costly, domestically produced, caseinate alternative (water soluble casein). If your company is producing products that contain this ingredient or you are considering the development of products in this category, please contact CDR for more information. We encourage you to find out more about how your company can benefit from working with CDR.

Technology

Researchers at CDR have developed a method to produce a modified MPC that can act as a caseinate alternative. The MPC is modified to contain more soluble caseins and have a lower mineral content. Essentially, the technology uses a gentle acidification process to acidify the milk, which is then washed (diafiltered) before microfiltration is used to reduce unwanted minerals/lactose. Finally, the soluble casein product is concentrated and spray dried. Successful pilot trials have already been performed at CDR.

Functional/Nutritional Benefits

The modified MPC produces a much clearer product than a traditional caseinate, allowing this modified MPC to be used in clear beverages and other applications requiring a good clarity product. This product has excellent heat stability, emulsification and whipping properties. Caseinates often have off-flavors from the acids and alkalis used in their manufacture; in contrast CDR’s modified MPC has a bland flavor due to the gentle methods used during production.

Economic Benefits

The method outlined above has been shown to remove nearly all of the whey proteins, lactose and other such materials in a more cost effective and efficient way than traditional methods used for caseinate. Since the outlined method uses filtration rather than proprietary caseinate equipment, the capital cost of manufacturing a modified MPC is significantly reduced.

In 2012, more than 187 million pounds of caseinate/caseins were imported into the U.S. Now, domestic manufacturers have a chance to compete and produce a more functional caseinate alternative here in the U.S. by using the method outlined above. Additionally, this alternative would not carry with it the negative connotations that often come with a traditional caseinate (often viewed as an industrial chemical).

Applications:

- Retorted nutritional beverages
- Coffee whitener
- Processed (or analog) cheese
- Processed meats
- Milk shakes or whipped toppings
- Bakery mixes

For further information, please contact Vic Grassman, Manager - Technology Commercialization at 608-512-6661 | vgrassman@cdr.wisc.edu