



## Seeking Companies interested in the Commercialization of a Development of a Process to Modify Cheese Properties Post-Manufacture

The Center for Dairy Research (CDR) ([www.cdr.wisc.edu](http://www.cdr.wisc.edu)) is seeking a company interested in the further development of a process in which cheeses, already in their retail packaging, are subjected to high pressure processing. This process can offer benefits including accelerated ripening, improved texture, or extended shelf life. CDR has experience in selecting specific high pressure conditions to achieve these desired outcomes. There are commercial high pressure processing facilities available in Wisconsin that are already processing foods, such as deli meat in this fashion. Facilities also available in other parts of the U.S. that can process cheeses for manufacturers. This treatment is considered a non-thermal process.

If your company is interested in the development of customized high pressure processing procedures for your cheese products, please contact CDR for more information and assistance. We encourage you to find out more about how your company can benefit from working with CDR.

### Technology

- High pressure processing uses commercial facilities where pressures of up to 87,000 psi can be applied for periods of several minutes. Products are treated in the retail package so no post-process contamination will occur. The high pressure system inactivates bacteria and enzymes, depending on the conditions, and the process is becoming a widely used technique in the food and juice industries.

### Functional/Nutritional Benefits

- A major problem with reduced and low fat cheese is the difficulty manufacturers face in attaining a strong flavor that is typical of full-fat versions. High pressure processing can offer some solutions. Essentially, cheeses in their packaged form are subjected to selected pressures and time to achieve the targeted impact on softening texture, reducing starter culture numbers or extending shelf-life. CDR researchers have found that applying high pressure processing to young cheese greatly improves the textural and sensory characteristics of low fat cheese, including the occurrence of increased buttery flavor and sweetness early in ripening.

By customizing the high pressure processing conditions applied to cheese, it allows cheese manufacturers to limit unwanted microbial and enzymatic activity in reduced salt cheese thus preventing excessive acidity, improving product safety and increasing shelf life. It can also be applied to high pH fresh cheese, making the product safer for consumers.

Treatment parameters can also be selected to accelerate cheese ripening in order to achieve better flavor and texture in a shorter period of time.

### Economic Benefits

- Aging cheese is very expensive and CDR has applied specific high pressure parameters to accelerate this aging process thereby reducing related costs.

Alternatively, different parameters can be selected to treat cheese in a way that will extend its (quality) shelf life and offer new export options.

### Applications

- ✳ Improve sensory characteristics of low fat cheese
- ✳ Better quality low sodium cheese
- ✳ Extended shelf life cheese for export
- ✳ Accelerated cheese ripening
- ✳ Improve safety of high pH cheese
- ✳ Reduction or replacement of preservatives and additives



### How can CDR help me?

- CDR is an internationally known dairy research center and the largest within the United States. Access to world class food scientists/technologists, and a licensed, "operating" dairy plant along with CDR's client confidentiality commitment provides applied research results at a minimal costs. CDR is not interested in IP opportunities and simply charges a nominal fee for service resulting in potential beneficial outsourcing option.

Priority will be given to the first company accessing this technology with CDR.