

New Way to Cut Losses

Here's how to salvage damaged product in bakeries—a quick-payback idea

Quality has been the hallmark and common element of two companies that are celebrating anniversaries this year. The founder of each company was a true pioneer, leading the way to new product innovations and developments that have ultimately touched the lives of millions of people. From their modest beginnings in England and the United States, each company has become a leading manufacturer in its respective field at home and overseas.

Burton's Gold Medal Biscuits, headquartered in Slough, England is a leading manufacturer of quality and specialty biscuits. The company started life over a half century ago as bakers of family biscuits in Blackpool, England. The company achieved prominence when owner Joseph Burton developed the first economy biscuit as a low-cost family filler. Today, Burton's Gold Medal Biscuits is the third largest biscuit baker in the United Kingdom, producing over 60 different quality and specialty biscuits for sale to grocery chains, co-operatives societies, wholesalers and independent stores for both domestic and export markets. A part of Associated British Foods, Burton's Gold Medal Biscuits has been an active exporter of bakery products to international markets for over a decade.

Urschel Laboratories, Inc., headquartered in Valparaiso, Indiana, in the U.S., manufactures precision size-



Burton's biscuits are pneumatically conveyed to Urschel's Comitrol Processor that cuts them into a predetermined size and shape. In turn, the milling produces these free-flowing granules (below).



reduction equipment for the food, meat, chemical and pharmaceutical industries. It began in 1910, when founder William Urschel developed a method to mechanically remove the stems from gooseberries, an internationally popular fruit at the time.

That first machine, a mechanical triumph that signaled the start of a small company that would become a world's leader in machines that slice, dice, strip cut, mill, granulate, disperse and comminute. In America, an individual cannot go through a day without eating some food product processed on an Urschel machine, say company spokesmen. Urschel has sales offices located across the world, and currently exports its machines to more than 90 countries.

Today, the tradition of each company has continued and, through research and development, the two companies have met in a unique processing application, which is a credit to both organizations and their commitment to new product development and innovation.

With annual production of more than 70,000 tons of biscuits per year, Burton's is constantly searching for ways to improve processing technology and efficiency at each of its three manufacturing plants. The Blackpool factory produces over 20 different varieties of biscuit products, as well as a line of confectionery products. The

Die während und nach dem Backen durch Beschädigung der Produkte entstehenden Verluste können sich unter ungünstigen Bedingungen zu erheblichen Beträgen summieren. Eine Neuentwicklung der amerikanischen Firma Urschel Laboratories Inc. macht es möglich, zerbrochene oder auf sonstige Weise beschädigte Kekse oder Gebäckteile geeignet aufzubereiten und wiederzuverwenden. Die erste derartige Anlage von Urschel wurde in Großbritannien bei Gold Medal Biscuit installiert. Unser Artikel beschreibt, auf welche dieser bisherige Ausschuss wieder in die Produktion zurückgeführt wird.

F En boulangerie, les pertes dues à l'endommagement des produits en cours de traitement peuvent s'élever à un chiffre élevé. A l'heure actuelle, Urschel Laboratories Inc. (USA) a développé un équipement qui permet de récupérer en vue d'un retraitement les gâteaux secs et biscuits émiettés ainsi que, peut-être, d'autres produits de boulangerie susceptibles de ce type d'endommagement. La première installation de Urschel a été faite au Royaume-Uni, à l'usine de Gold Medal Biscuit. Dorénavant, les produits précédemment perdus sont récupérés, comme vous le verrez expliqué dans cet article.

E Las pérdidas de las panaderías y confiterías debidas al producto dañado durante el procesado pueden ser elevadas. Ahora, Urschel Laboratories Inc (U.S.) ha desarrollado un equipo que puede aprovechar para volver a procesarlos galletas rotas y estropeadas, bizcochos y, quizás, otros productos de panadería sujetos a daños de este tipo. La primera instalación de Urschel está en Gran Bretaña, en la planta de Gold Medal Biscuit. Como explica est artículo, ahora se puede salvar producto que antes se desperdiciaba.

Blackpool plant is responsible for the many of Burton's specialty biscuits including Fig Rolls, Teacakes, Cookies, Snowballs and Wagon Wheels. Mr. Men, a brand of sugar crisp biscuits for children, are manufactured at Blackpool, using a special printing technique which recreates characters in caramel on the biscuit's surface.

Rigid specifications and strict quality control dictate that the biscuits not be underweight, overweight, charred, or broken when shipped to the customer. These requirements naturally produce quantities of scrap bakery products that are re-introduced into biscuit formulations as rework. One of the specialty biscuits, "chocolate fruit & nut cookies" is a delicious combination of chocolate chips, peanuts and currants. The nine-ton, five-roll mill that Burtons was using to reduce the biscuits was not producing the free-flowing, powder consistency that was required in their rework operation. Also, the roll mill could not uniformly reduce the currant skins in the cookies. Frequent adjustments of the rolls and the undesirable sheets that were produced caused Burtons to investigate other milling equipment suitable to meeting its requirements. The search led Burtons to Urschel International, Ltd., a wholly owned subsidiary of Urschel Laboratories, Inc., located in Leicester, England.

Initial tests were run using a milling machine that operates on a totally different principle than mills currently available. The *Comitrol Processor* manufactured by Urschel uses a stationary cutting head featuring a continuous ring of cutting surfaces. Scrap biscuits are propelled across these edges by a high-speed impeller that uniformly reduces the biscuits to free-flowing granules. The Comitrol unit not only met Burton's end-product specifications, but also expanded its processing capabilities by milling wet or dry bakery products. The operation is now accomplished with less horsepower and no operator adjustments. Here's a rundown of Burton's bakery reclamation operation:

- Scrap bakery rework such as chocolate chip biscuits and fruit biscuits are brought in aluminum or plastic, 25 pound (11 kilogram) stackable trays



Scrap biscuit products are taken to the bakery reprocessing area where they will be milled into free-flowing granules.

from inspection and packaging lines to the biscuit-reprocessing area.

- Biscuits of a particular type are unloaded by an operator onto an Avery Scale vibratory conveyor for visual inspection and metal detection.
- The biscuits are conveyed to a Cal-low rotary-feeder blowing system and pneumatically conveyed to the second level into a custom-made cyclone collector.
- The feed rate of the biscuits into the Comitrol Model 1700 is monitored by a rotary seal attached to the cyclone collector. At this point, the biscuits are reduced into free-flowing granules.
- The powder exits the Comitrol unit through a stainless steel funnel to mixing room tubs on the first flow reprocessing area.
- Depending on batch formulations, the granules are added along with spices, sugar and vegetable oils to ingredient mixes at the tub weighing point.

The Blackpool plant is also considering the purchase of another Comitrol unit for a specialized bakery-rework application. The adaptability of the Comitrol unit to a wet-milling application led to another application at Burton's Edinburgh plant. The company recently purchased a Comitrol unit to effectively reduce two specialty

items, Jaffa Cakes and Toffee Pops. The recovery value of these two items alone paid for the machine in a short amortization time.

A silver anniversary and diamond jubilee are landmarks in the history and development of any company still in business today. Both companies, Burton's Gold Medal Biscuits and Urschel Laboratories, Inc., are specialists in their fields, having the foresight to expand into new markets, develop innovative processing techniques and equipment, and plan for the future. At Burton's Gold Medal Biscuits, Managing Director Peter Macielinski believes that "Our manufacturing flexibility and experience and determination coupled with our understanding of overseas trends will lead Burton's to become a major force in international markets over the next few years."

Urschel Laboratories' Chairman Joe Urschel believes that "In the future, other food companies will discover that the Comitrol Processor is a unique kind of machine that uses a size-reduction method that is different than any other type of machine, and consequently produces results that cannot be duplicated with any other type of equipment. Also, Urschel Laboratories is constantly developing new and novel parts for the Comitrol Processor that will make it even more useful and productive." □

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