HI-COOK Café

NEWS LETTER FROM ASAHI SOSETSU co.,ltd. | vol. 003

Greetings for the New Year

Last year, COVID-19 prevailed all over the world, and the world' s business environment underwent extensive changes. Especially, the spread of online tools was breathtaking: the number of companies which introduced telework and online meeting systems increased rapidly. While the tools improved "safety" and "job efficiency," it resulted in less accompanying face-to-face communication, with which people had been able to share such feeling as eagerness and enthusiasm. I think it could spoil working relationship and creativity and, therefore, could be a major problem.
By the way, this is a year of the Ox, when, it is said that, you must be "patient" and "prepare for growth." I hope that, rather than going back just normal even after the pandemic, you adapt to the changes and use both online and offline techniques effectively to enjoy further success. I wish you another prosperous year.

We look forward to your continued patronage in 2021.

Kota Yamamoto
President
January 2021

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Most people cook foods within higher-than-adequate temperature range being careful about hygiene too much. More and more food service companies, on the other hand, cook foods at an ingredient-friendly (lower) temperature to bring out the very best of the ingredients.

Tonkatsu (Fried Pork Cutlet) Fried at the Ingredient-Friendly (Lower) Temperature

Before the pandemic, I went to several tonkatsu restaurants and became a big fan of one of them. I always ordered loin and fillet tonkatsus there and ate up both. They serve paler-than-normal tonkatsus. Taking a bite, you feel comfortable-light-texture of breadcrumbs and, straight after that, meat tenderness. You can enjoy their umami taste when you bite them. They are just adequately tender because, I guess, they are processed nicely. They are so tasty that I always eat them up without sauce or salt. Though the color can tell that they are slowly low-temperature fried, they are not oily unexpectedly. I think that the meat of course, the batter, and breadcrumbs are all prepared just right to be cooked that way.

Tempura Fried at the Ingredient-Friendly (Lower) Temperature

Many think that tempura must be deep-fried in 180°C oil. While some restaurants fry tempura, only of some ingredients however, in two steps (lower-temperature frying and higher-temperature frying), some others offer low-temperature fried tempura and receive special attention in recent years. Basically, you must not heat cooking oil to the level you can keep it hot just because you want to solidify batter; frying foods in such hot oil destroys ingredients' umami taste and flavor completely. That means I should say that popular restaurants use ingredient-friendly temperature oil instead of low-temperature oil. It is also said that they use the batter from which excessive water evaporates quickly even in low temperature oil, and that they cook tempura at the temperature which does not spoil ingredients and enhance its umami taste and flavor. Accordingly, the ideal tempura has countless small holes in its batter unlike ordinary tempura. Water evaporates rapidly from the holes. It must be called truly unprecedented

Low-Temperature Cooking

Let us focus on so-called "low-temperature cooking," here. People have used this cooking method for an unexpectedly long time: Georges Pralus, a French chef, introduced this method in the 1970s. Simply put, you put ingredients in a bag, seal it, immerse it in a container of temperature-controlled liquid (usually water) and warm the water up slowly. Recently, equivalent household cooking appliances are widespread and are accessible to many households, by the way. The greatest merit is that the whole food is evenly heated to the liquid temperature. With the conventional cooking method, the food surface ecomes the hottest and it gets colder toward its center: you cannot control the food denaturation process fully.
With the lower-temperature cooking, on the other hand, the surface and the center of the food both reach the same temperature: you can control the denaturation process taking food substances into consideration. After being cooked, the food is very soft, not watery, and retains much of its nutrients. It is like steaming or even better than steaming: you can control the temperature at will and cook various foods without difficulty.
For example, meat is composed of various types of protein such as myofibrillary protein (myosin and actin), sarcoplasmic protein (myoglobin, hemoglobin) and connective tissue protein (collagen, elastin), and the control mainly of myofibrillary and connective tissue protein denaturation is very important.
Myosin initiates its denaturation process at 50°C to contract to change meat's texture from resilient as it is when raw to crisp. Collagen, then, starts denaturing at 56°C to become gelatinous over time. Sarcoplasmic protein starts denaturing at 60°C to change meat's color. Finally, actin initiates its denaturation process at 66°C to contract to release water (meat juice), hardening and drying the meat, accordingly. It means that you can keep the meat soft if you cook it at a temperature between 50°C and 66°C: you can prevent actin's denaturation, getting only myosin denatured. You can low-temperature cook vegetables as well by controlling cooking temperature to make use of denaturation of such substances as amylose, amylopectin (starch), pectin and hemicellulose, which get denatured each within a specific temperature range.
You can, accordingly, learn each ingredient's appropriate cooking temperature through the low-temperature-cooking. I think you could find the best way to "grill," "fry," "steam" and "boil" each food based on the knowledge.

Hygiene Issue

Cooking foods within the ingredient-friendly-temperature range could, I must say, endanger food hygiene and is very difficult to be controlled mechanically. However, you can cook foods nearly within the ideal temperature range and secure food hygiene at the same time if you use moist heat machines such as steamers or lower-temperature superheated steam. Furthermore, you can add color and flavor to foods, the products of Maillard-reaction, not affecting foods' internal temperature, if you use a griddle oven or a grilling machine before/after the moist heat system.
Though we have been employing such cooking process as a matter of course, we, I think, should also use the substance-optimal temperature range as a benchmark and seek better cooking techniques so we derive more ingredient's umami taste out of the foods. We, rather than paying too much attention to work efficiency, should further acquire a temperature control technique which realizes both ingredient-friendly cooking and food hygiene. We, then, would like to manufacture the products which help customers make more delicious foods by employing that technique.

※Maillard-Reaction

The chemical reaction which produces brown products when in-food reducing sugars are combined with in-food amino compounds by, for example, heating. The foods generate savory flavor and brown when the reaction takes place. The reaction is sped up notably by heating them at 154°C or higher temperature.

Visiting HI-COOK Customer

Made-in-Kanazawa Kaga Renkon Chips

Based in Kahokugata, which is located at the north end of Kanazawa city and is well-known for its lotus roots (renkon), Hasudayori Inc. engages in organic agriculture and supplies safe and secure agricultural products. They grow lotus roots on their own farm, and slice and fry them at their own processing plant. Recently, their lotus root chips, called “Kaga Renkon Chips,” have been attracting attention from all over Japan, being popular among celebrities, too, who come all the way to the plant to buy them. Hasudayori uses HI-COOK fryers in their plant.

Quitting an Office Job and Becoming Self-Employed

The local agricultural cooperate, Hasudayori was adventurously found by a representative, then-28-year-old Mr. Kawabata, with his strong desire to “do something challenging and I love.” With his deep love of lotus roots, he tried to employ a very unique cultivation method: he refused conventions and tried to grow organic produce. Though once isolated, the corporate tried to get into the outside-the-prefecture restaurant market. The products spread among chefs by word of mouth: the chefs said “The lotus roots are absolutely delicious.” Finally, the products successfully went into Tokyo/Kansai market.

Lotus Root Chips into the Market

As the corporate became famous, Mr. Kawabata started thinking more strongly “Lotus roots must not be wasted.” Some products, so-called, irregular, were not sold on the market. Neither non-standard-size products nor broken (during harvest) products were sold. He then got the idea of lotus root chips, which had been commonly eaten by farmers for snack, and of selling them. He gave away the chips to people close to him, and they liked the chips very much. The popularity encouraged him. The product, “Kaga Renkon Chips”, was first made completely manually: lotus roots were sliced, put into a simple one-tank fryer for frying and taken out to be dried all by hand. Though the chips in those days were very oily, they sold well. In fiscal 2012, 200 bags of chips were sold. Mr. Kawabata gained confidence from the market popularity and introduced an industrial fryer. The corporate has been growing rapidly, achieving the sales of 20,000 bags a year since the beginning of Reiwa era. They are so successful that they even have to reject deals from overseas.

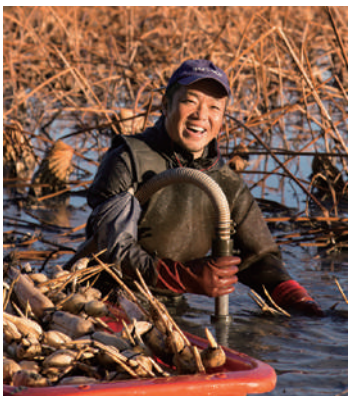
Concentrated Lotus Roots Flavor

The fryer which has been being used to cook “Kaga Renkon Chips” is HI-COOK’ s. We have known each other since Mr. Kawabata found us on the internet and made an inquiry. He expressed his uncompromised desire to make real special chips, we understood it and proposed a fryer which met his specific requests. The HI-COOK fryer improved the quality of the chips successfully, making them crisp and preventing them from being greasy. The fryer also upgraded production efficiency: you no longer have to take out each and every batch of chips manually. Chips still have a hand-made feel as he wanted: being sliced by hand, some chips are thick and some thin, and have varied texture accordingly.

The lotus root chips have concentrated flavor because frying them necessarily draws out their moisture. There is a distinctive taste difference, hence, from produce grown in one place to another: lotus roots from Ibaragi make slightly sweet chips, for example. Being persistently crisp, the chips are good not only for eating but for cooking: you can sprinkle them over salad, for example. Even broken chips unfortunately produced in their cooking process enjoy popularity as on-rice topping on the market.

Hasudayori not only grows but processes and sells lotus roots. We asked Mr. Kawabata why they did all that. He gave us an immediate reply, “We have strong genuine affection for lotus roots.”

Mr. Kawabata not only puts self-produced lotus roots energetically on the market but launches new products developed in collaboration with restaurant chefs. Hasudayori further maintains a good relationship with us. We have designed a new perfect fryer for their products, which smoothly conveys sliced products from infeed to discharge and uniformly fries them. They are now promoting the utilization of the fryer internally, which is believed to enhance productivity and work efficiency furthermore.



Fryer

HI-COOK Fryers Optimal for Rice Biscuits and Snack Foods Production

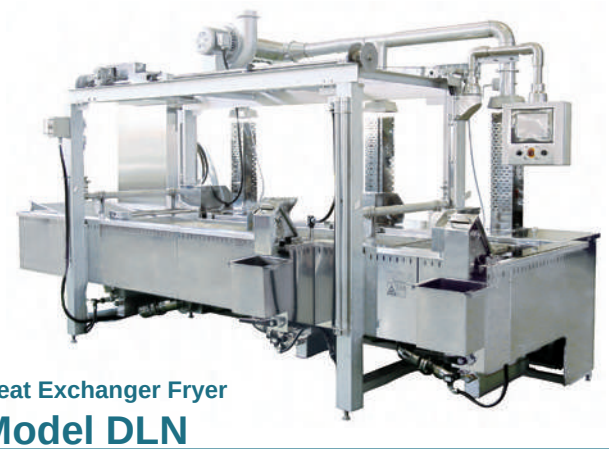
HI-COOK Fryer

Choose one suitable to your facility's heat source and needs.

Gas Fryer

Model DC-FS (To Be Displayed at MOBAC SHOW 2021)

- Good for varieties of products, for example, daily dishes and snack foods. Capable of frying them until crisp.
- The special heating system offers higher heat-transfer and energy efficiency than a conventional direct heat system.
- Ideal temperature control by gathered burners in the infeed/discharge areas.
- Both upper and lower sides of the products cooked evenly owning to the hold-down and transport conveyors.
- Tailored optimal transport systems available to suit your products.



High Efficiency Fryer

Model DOBC-B (* To Be Upgraded in Year 2021)

- Improved heating process efficiency owing to the heat exchanger's heat recovery and reuse.
- Improved work environment due to drastically reduced radiation heat: exhaust temperature is lowered to below 100°C.
- Less temperature drop in the infeed area leading to stable oil temperature across the length and breadth.
- Capable of evenly frying even rice biscuits until crisp, which need to be cooked at high temperature.
- No oil piping: easy to operate and clean.

Heat Exchanger Fryer

Model DLN

- Compact and powerful. Suitable to mass production, too.
- Heating in the infeed area successfully prevents temperature drop and secures stable oil temperature.
- Best suited to pre-frying and to snack foods, which need to be cooked quickly at a high temperature.
- Gas and steam heat exchangers available. Choose whichever suits your facility's heat source.
- Keeps cooking oil clean: the circulation filter system removes even fine sediment in the oil during cooking.

MOBAC SHOW 2021

2021 MOBAC SHOW

(The 27th MACHINERY, MATERIALS, MARKETING OF BAKERY AND CONFECTIONERY SHOW)

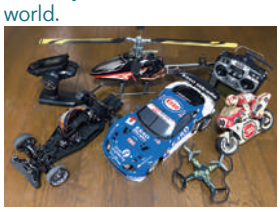
We are participating at the show, where you can find various machinery, facilities, equipment, materials, etc. for bakery /confectionery industries. We are going to display the fryer and oven which suit your products, for example, rice biscuits and snack foods, and your needs. Come stop by our booth!

■Date:	9th (Tue.)– 12th (Fri.) Mar. 2021
■Opening time:	10:00-17:00
■Venue:	Intex Osaka (1-5-102, Nanko-Kita, Suminoe-ku, Osaka)
■Booth:	#329 (3rd Hall)

The Man with Enthusiasm Vol. 3

Quality Assurance Director Toshiaki Sakano

During his 32 years of service, Mr. Sakano built his carrier in Manufacturing, Development and Engineering departments and now directs Quality Assurance department. He also has been playing an essential role in developing Asahi's manufacturing technique and broadening its technical know-how. He has been enthusiastic about radio-controlled cars (Electric R/C car) since he was a teenager, by the way. Supercars became very popular in the 70s: Porsches and Lamborghinis then hit the streets. He became fascinated with them all. His intense inquisitiveness kept him thinking about how he could control the cars just as he wanted. He had such great curiosity that he even made car parts by himself, because the number of then-available parts were otherwise limited, and fit them to the cars to meet his needs. He, who still spends his spare time for radio-controlled cars, said "Early radio control technology contributed to the development of various state-of-the-art technologies. Of course, it has applied to my mechanical engineering career."He, with such inquisitive nature, has been successfully demonstrating his proven ability not only in Asahi but in the world.



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