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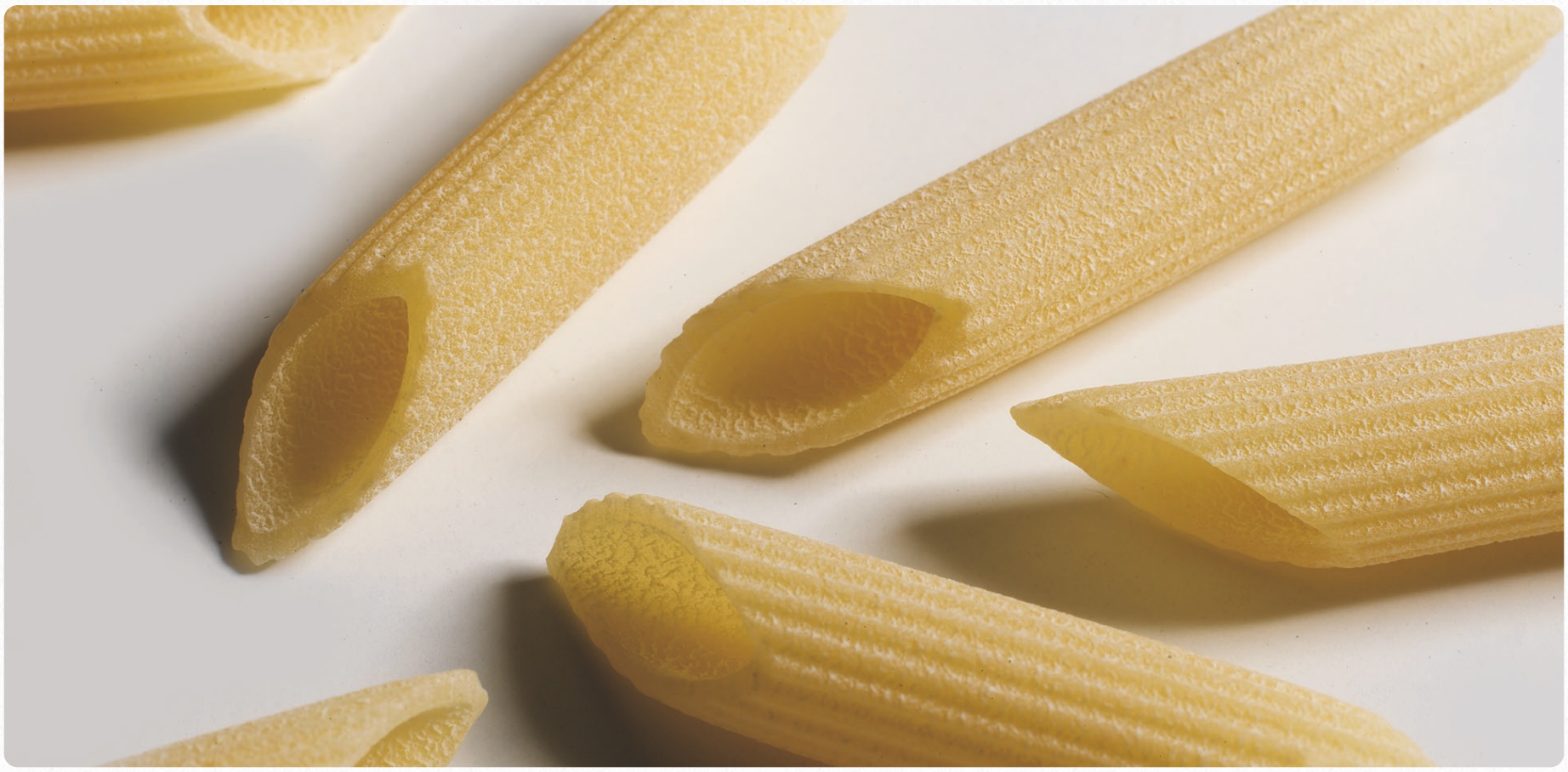

PUBLISHER
Kinski Editori S.r.l.
registered office
Via Possioncella 1/1 • 42016 Guastalla
operational headquarters
Via Dall'Aglio 21/2 • 43122 Parma (Italy)
tel. +39 (0)521 1564934
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Email redazione@pastaria.it
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EDITOR-IN-CHIEF
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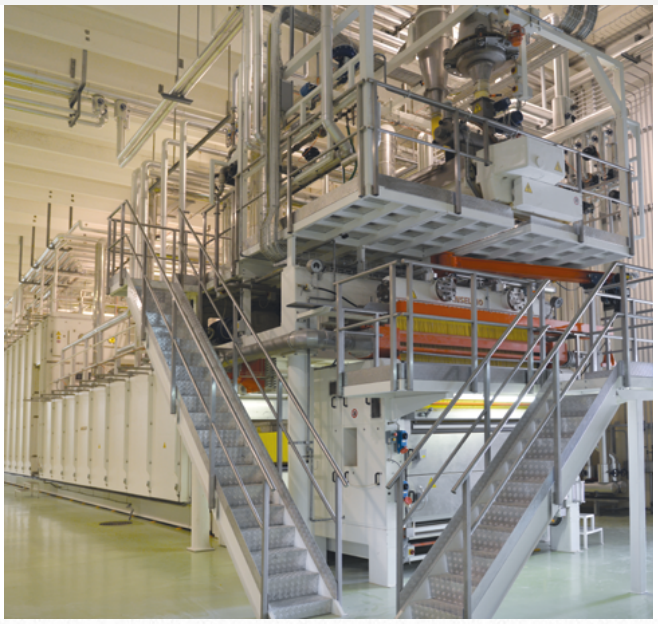









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Annual Meeting Agenda

March 15 - 17, 2020

Sunday, March 15

5:30 pm - 6:00 pm

First-Time Attendee Reception *Invitation Only

6:00 pm - 9:00 pm

Welcome Reception & Dinner

Monday, March 16

7:15 am - 8:00 am

Continental Breakfast

8:00 - 10:30 am

General Session

8:00 - 8:30 am

Welcome and State of the Industry Report
Carl Zuanelli, NPA Board of Directors Chair

8:30 am - 9:00 am

NPA Technical Affairs Committee (TAC) Report
Alexis Freier-Johnson, NPA TAC Cahir

9:00 - 10:00 am

A Never-Ending TRANSFORMATION: Pasta and the Magic of Cooking
Chef Rosario Del Nero, Culinary R&D Specialist

10:00 am - 10:30 am

Networking Break & Committee Fair

10:30 am - 10:45 am

NPA Manufacturing and Milling Members Meeting

10:45 am - 11:45 am

General Session

10:45 am - 11:15 am

Legislative & Regulatory Update
Gary Kushner, Partner
Hogan Lovells US LLP, NPA Legal Counsel

11:15 am - 11:45 am

NPA Communications & Research Update
Alexandra Smith-Ozerkis, NPA Communications Director, Kellen Communications

12:00 – 2:00 pm

Technical Affairs Committee Meeting

1:00 – 5:00 pm

Golf Tournament

5:15 – 6:00 pm

19th Hole Event

Tuesday, March 17

7:30 am - 9:30 am

Breakfast & Executive One-on-Ones

10:00 am - 12:00 pm

General Session

10:00 – 10:45 am

Transportation Update and Forecast
Max Fisher, Vice President of Economics and Government Relations, National Grain and Feed Association

10:45 am 11:15 am

U.S. Durum Outlook
Jim Peterson, Policy & Marketing Director

11:15 am - 12:00 pm

Disruption in the Food Industry: An Opportunity for the Pasta Sector
Dr. Kantha Shelke, Author, Pasta and Noodles

1:15 am - 5:15 pm

Bocce Tournament

6:30 – 7:30 pm

Closing Reception

7:30 – 9:30 pm

Closing Dinner

Registration Available

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1

Ipack-Ima focuses on sustainable materials and packaging with Ipack-Mat

Press release



At Ipack-Ima 2021 ideas become solutions with the return of the Ipack-Mat project devoted to innovative materials for eco-efficient packaging.

Following its successful debut in 2018, the Ipack-Mat project devoted entirely to innovative solutions in the field of high value-added materials will be back at the 25th Ipack-Ima to be held in the Fiera Milano exhibition centre from 4 to 7 May 2021, further expanding the show's scope and contents.

In a major new development in 2021, the *Ipack-Mat – Packaging Materials for Product Development* project will be expanded and elevated from a special area to a full-scale brand capable of enhancing the identity of all packaging materials suppliers present at Ipack-Ima and Meat-Tech. This broad-based concept will provide marketing teams in the manufacturing industry with fresh ideas and inspiration for the development of new product lines.

Another highlight will be the Ipack-Mat thematic area in Hall 14, a privileged showcase of innovative materials and eco-friendly packaging solutions linked by the common threads of the green economy, smart packaging and design. This area will host new-generation materials that cater for the needs of ever greater sustainability and rationalisation of the production process, as well as hi-tech packaging capable of extending shelf life and preserving the integrity of products.

These will include outstanding solutions for optimising production processes, such as tough and flexible corrugated cardboard for packaging special goods, ideal for e-commerce applications, monomaterial barrier films, high temperature-resistant cellulose containers and the labels of the future.

Ipack-Mat is reaffirming its partnership with CONAI, one of Europe's largest consortia with more than 800,000 member companies that produce or use packaging. In its exhibition space, the consortium will be organizing initiatives aimed at encouraging the industry to invest in production processes inspired by the principles of the circular economy.

The 2021 show will also feature *Ipack-Ima Lab – Solutions for Product Testing & Certification*, a new Ipack-Mat exhibition section organised in collaboration with the Italian Institute of Packaging. This new section will host laboratories and certification and research institutes specialising in quality and conformity checks for FCM regulations on materials and objects intended for food contact.

Ipack-Ima is intensifying its collaboration with the Italian Institute of Packaging with the aim of promoting innovation in the packaging industry and will be the main partner of the Best Packaging Awards 2020 and 2021, with the celebration of the 2021 winners during the show itself.

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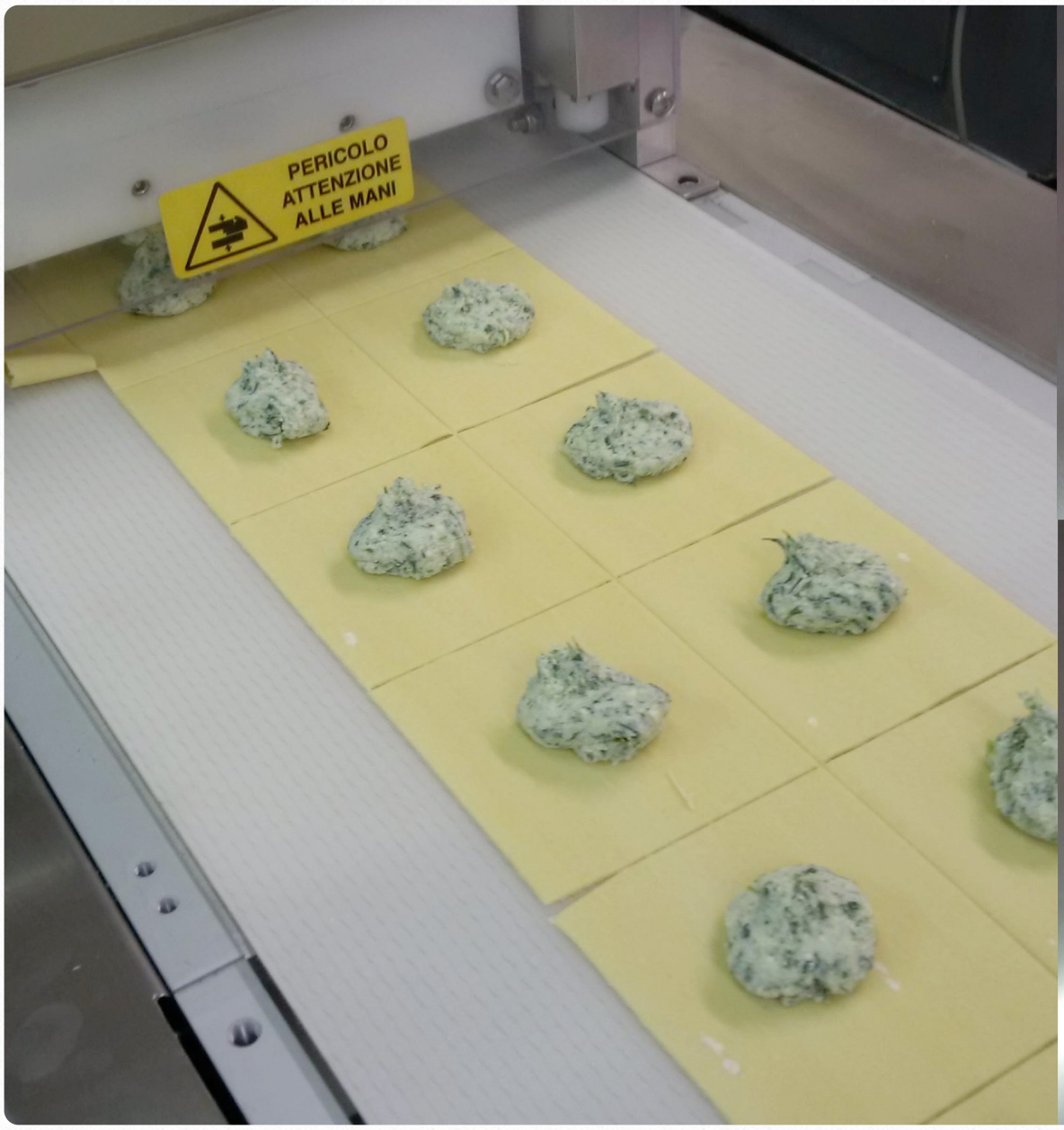
2

RAV ravioli making machines by Italgi



Italgi’s RAV forming machines have been present and operational all over the world since 2014, allowing anyone anywhere to produce the best pasta in the simplest way.







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Tradition and innovation: a dichotomy that increasingly defines the world of fresh pasta.
In recent years, market offerings have expanded considerably, giving rise to new products; pasta types with innovative, rich and surprising fillings, to meet the demands of a gourmet clientele which loves to experiment and is on the look out for premium goods that combine innovation, taste and quality.
Italgi, with its RAV forming machines, meets the new needs of fresh pasta manufacturers: by overcoming the limitations of traditional ravioli making machines, it offers pasta makers the opportunity to invent and use innovative types of filling.
The models in the RAV series can in fact inject the filling alternately, achieving greater filling of the ravioli while simultaneously minimizing the size of the outer edges. At the same time they can operate with fillings of different consistency and parti-















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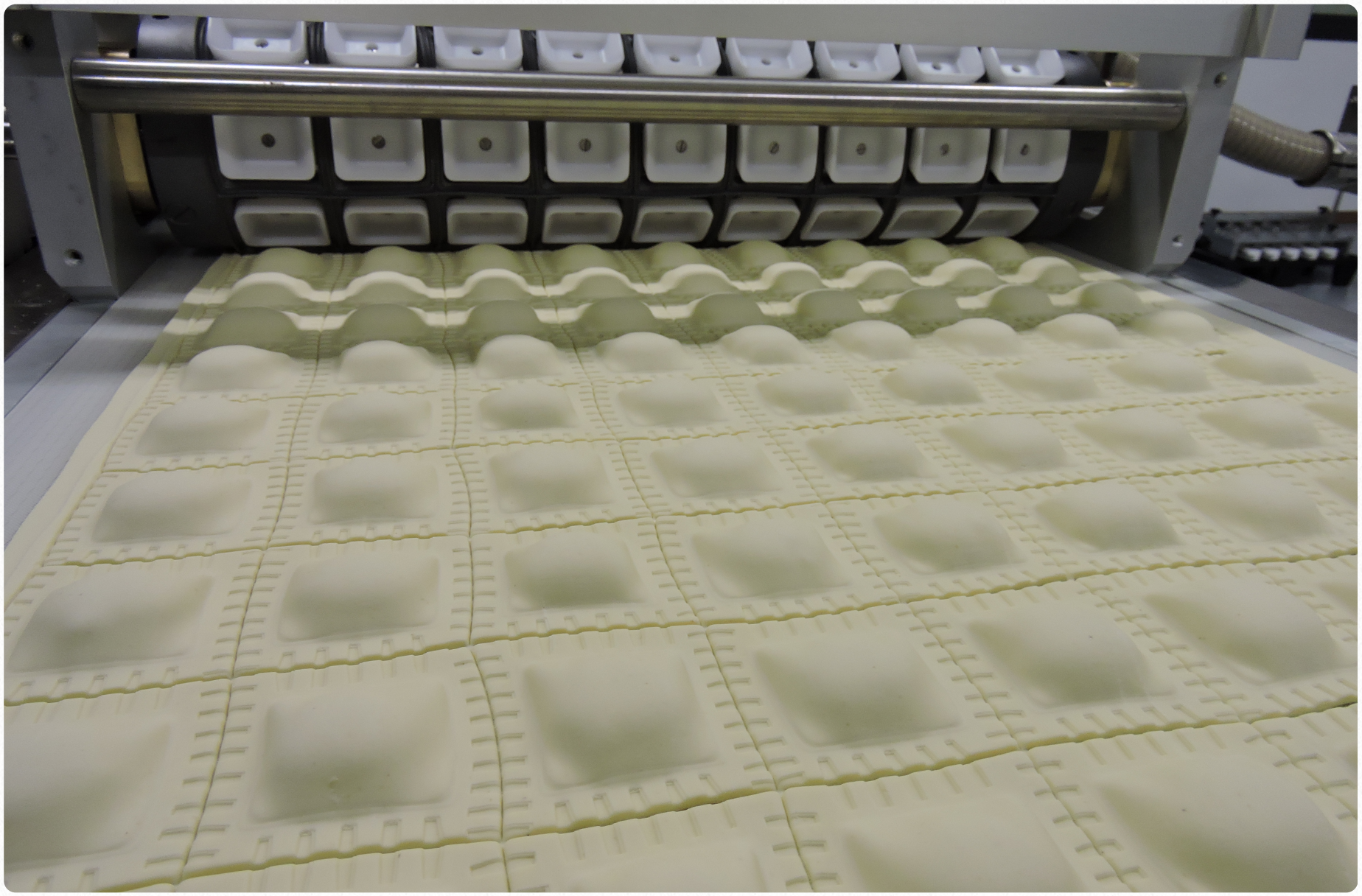
Table 1 RAV FORMING MACHINES: TECHNICAL DATA

Model	RAV160MS	RAV160DS	RAV250MS	RAV250DS	RAV540MS	RAV540DS
Max. production (kg/h)	100	160	150	250	325	540
Pasta sheet width (mm)	1 X 160	2 X 160	1 X 250	2 X 250	1 X 540	2 X 540
Forming belt dimensions (cm)	32 x 250	32 x 250	32 x 250	32 x 250	61 x 260	61 x 260
Dimensions (cm)	80x315x140h	80x315x165h	80x315x140h	80x315x165h	130x350x155h	130x350x185h
Weight (kg)	285	360	300	375	500	650
Maximum absorbed power (kw)	2	2.7	2	2.7	4	5.8

cle size and work with sheets of any thickness to obtain a product identical to traditional handmade ravioli.
By changing the forming and cutting moulds and integrating the machine with suitable accessories, it is possible to create various formats of ravioli, both double sheet and single sheet, cannelloni, products with turned over pasta sheet like "*del plin*" ravioli, typical traditional Italian formats such as colurgiones, seadas, pardule or formats belonging to other ethnic cuisines such as pierogi, empanadas, samosa, for which it is particularly important for the filling to contain larger sized pieces than could be handled by a traditional machine.
The recently designed kit for making plin ravioli is an Italgi patent.



The RAV machines are also designed for use with a kit of accessories suitable for the semi-automatic production of all those products with a very complex shape for which totally automatic manufacturing would be impossible or too expensive. When properly configured, they can prepare a cut piece of dough on which the



right amount of filling is automatically placed ready for quick manual closing to complete the operation. The filling is injected into the ravioli by an external twin screw pump interfaced with the ravioli making machine's control panel so that quantities can easily be adjusted.
Every single detail in the RAV forming machines has been designed and built with cutting-edge technology with the aim of offering a machine that is easy to use to ensure a simple and accessible user experience.
All functions are managed by a PLC with touchscreen for setting production parameters, to optimize end results, and safety parameters for monitoring critical operating situations, such as the incorrect insertion of interchangeable components.
The RAV forming machines, available in various models and versions, are one of Italgi's top ranges and have been present and operational all over the world since 2014, allowing anyone anywhere to produce the best pasta in the simplest way.

RAV forming machines by Italgi are featured on Pastaria Hub

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3

Proceedings of the Pastaria Festival 2019. Using the glycaemic index to assess the nutritional quality of carbohydrates: focus on pasta and the factors that affect bioavailability

Giuseppe Di Pede*, Rossella Dodi, Francesca Scazzina***
*Department of Food and Drug Sciences, University of Parma
**Department of Medical and Veterinary Sciences, University of Parma



We publish a summary of Giuseppe Di Pede's contribution at the conference entitled *Pasta: ingredients, health and nuntrition*, that was held as part of Pastaria Festival 2019 (Parma, 27 September 2019).

Introduction

According to the data contained in the most recent report by the International Pasta Organization (IPO) in 2012 [1], the total quantity of dried pasta produced across the world is approximately 13 million tonnes (Mt). Italy ranks in first place, with annual production of 3.33 Mt, followed by the United States (2.00 Mt), Brazil (1.19 Mt), Russia (1.08 Mt) and Turkey (1.00 Mt). As well as being the world's leading producer of pasta, Italy is also its greatest consumer (annual per capita consumption of 26 kg), followed by Venezuela (13.2 kg), Tunisia (11.1 kg) and Greece (10.6 kg) [1]. Pasta is one of the key components of the 'Mediterranean Diet', a food frequency model based on the consumption of cereals and their derivatives, pulses, and fresh, seasonal fruit and vegetables. Many studies have confirmed a potentially positive link between this diet and the prevention of chronic diseases [2,3]. Diet quality and the frequency of consuming various foods have been shown to play a significant role in the development of obesity and degenerative illnesses [4,5]. The Italian recommendations set out in the *Livelli di Assunzione di Riferimento di Nutrienti ed Energia* (Reference Nutrient and Energy Intake Levels) (LARN) document [6], concerning daily macronutrient ratios for adults, highlight the role of carbohydrates as a primary source of energy for the body. Indeed, that document states that 45-60 % of a person's daily energy requirements should be met through consumption of carbohydrates, while approximately 10 % should come from protein and 20-35 % from fats. Population-based studies suggest that it is the quality, rather than the quantity, of the carbohydrates consumed that affects the metabolism and plays a key role in terms of onset of chronic diseases [7,8]. Consumption of simple and complex sources of carbohydrates result, respectively, in greater or lesser blood sugar level increases, thus affecting the metabolism differently. Postprandial glycaemic response is associated with the onset of chronic degenerative diseases such as type-2 diabetes [9,10], cardiovascular diseases [11] and increased oxidative stress [12]. The aforementioned Italian recommendations suggest that 3/4 of a per-

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son's total daily intake of carbohydrates should be made up of complex sources (in the form of starch) and 1/4 of simple sources (e.g. table sugar or honey), while priority should be given to consumption of naturally "low" glycaemic index (GI) carbohydrates. Studying the digestibility of carbohydrate sources is an excellent way of predicting certain metabolic responses to their consumption and, therefore, investigating their potential effects on health. To that end, *in vitro* [13,14] and *in vivo* [15,16] techniques have been developed over the years to assess the digestibility of certain carbohydrate-rich foods and their potential effects on health. The former method involves simulating all of the physiological conditions that arise during nutrient digestion and absorption in a laboratory, and serves as a preliminary screening tool to establish the nutritional quality of the food. *In vivo* techniques, meanwhile, including GI calculations, assess the potential impact of the food on the carbohydrate metabolism. Assessing the digestibility of carbohydrates using both approaches gives an overall idea of the nutritional quality of the food, given the firm correlation that has been established between the quantity of starch digested in vitro in a food, and the postprandial glycaemic response to its consumption [17–19].

In vivo assessment of nutritional quality: focus on the Glycaemic Index

The concept of GI was developed in 1981 by a group of Canadian researchers, for the purposes of classifying different sources of carbohydrate in the diet based on their effect on postprandial glycaemia [15]. GI offers a means of "ranking" foods based on their immediate effect on blood glucose levels, with carbohydrates being classified according to how rapidly or slowly they are digested. The GI of a food is defined as the incremental area under the blood glucose response curve, or "Incremental Area Under the Curve" (IAUC), calculated following consumption of the food in question, expressed as a percentage of the IAUC of a reference food (usually glucose or white bread), both containing 25 or 50 g of available carbohydrates. Values are measured in the two hours following consumption for healthy subjects, or three hours for diabetic subjects [20,21] (Figure 1). A 1997 report by the Food and Agriculture Organization of the United Nations (FAO), in collaboration with the World Health Organization (WHO), set out specific methods for meas-

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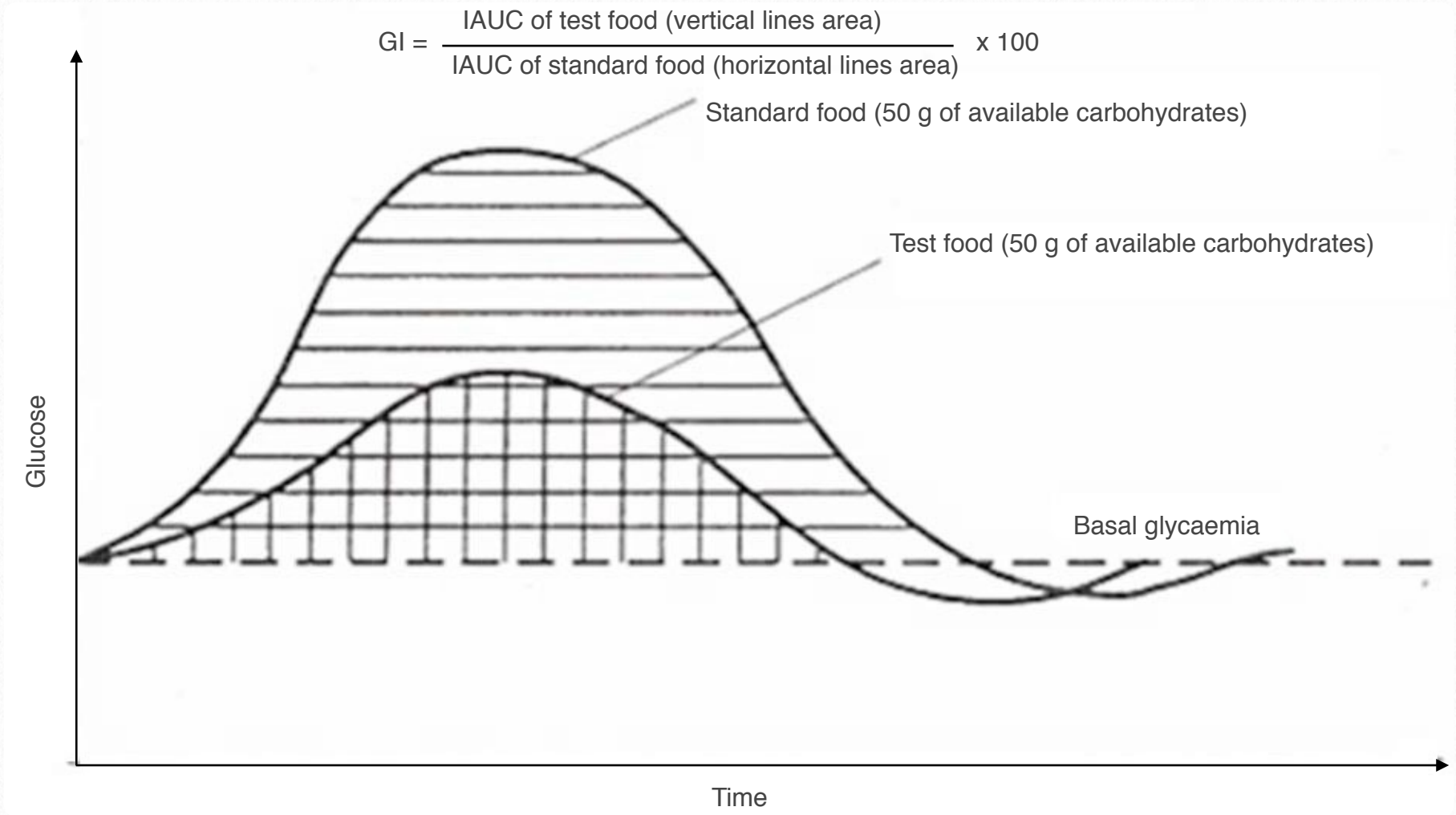
Figure 1 CALCULATION OF THE GLYCAEMIC INDEX [76]



Modified by: Costantiti et al. Fondamenti di nutrizione umana (1999)

uring GI [22], given the impact of the methodology used on the results obtained. The method was revised and updated in 2005 [23] and finally, in 2010, the International Organization for Standardization (ISO) published a definitive version, which is now recognised by the scientific community as the official method [24]. The trial protocol for GI calculation must be approved by the relevant Ethics Committee, to ensure protection of the rights, safety and wellbeing of trial participants, as well as with a view to preparing articles on the study. The protocol requires participation by at least 10 adult volunteers, in good health, who must consume the food in question on the morning of the test, having fasted for at least 10-14 hours. Given the potential for the meal consumed the evening before the test to influence the glycaemic response to the following meal, a phenomenon known as the '*second meal effect*' [25], it is better to avoid fibre-rich foods (such as whole cereals, fresh fruit and vegetables) and to stick, where possible, to the same type of foods consumed at dinner-time. The postprandial glycaemic curve calculation of the meal in



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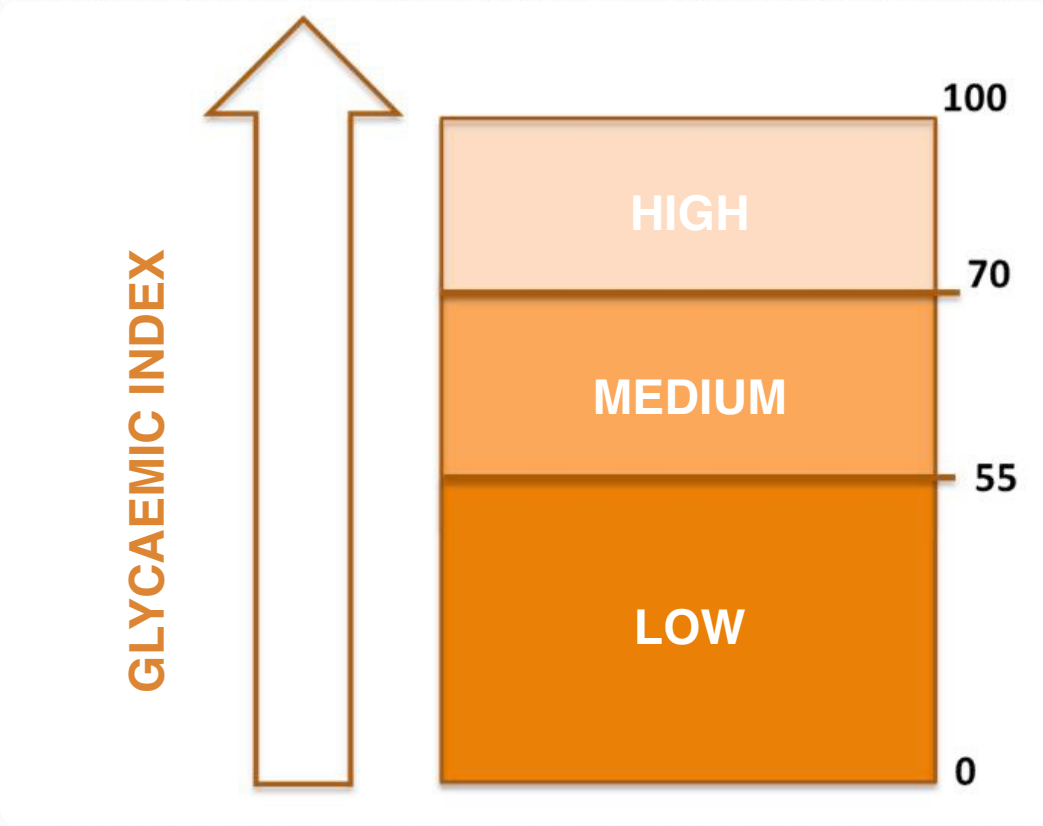
Figure 2 **DIAGRAM OF THE GLYCAEMIC INDEX [26]**



question, and of the reference food, occurs by measuring the glucose in healthy subjects' blood samples (capillary, venous or arterial), taken during fasting and in the two hours after consumption of each meal, at specific time intervals (after 15, 30, 45, 60, 90 and 120 minutes). Foods are classified based on their GI using a scale from 0 to 100, with glucose used as a reference value (the IAUC value of glucose is assumed to be 100). Based on their GI value, foods are classified as '*low GI*' (GI between 0 and 55), '*medium GI*' (GI between 55 and 70) and '*high GI*' (GI between 70 and 100) (Figure 2) [26].

Relationship between glycaemic index and state of health

Numerous scientific studies have considered the relationship between the GI of a food and a person's state of health. Epidemiological and intervention studies on healthy subjects or those with type-2 diabetes have indicated a strong link between diets high in low-GI foods and fibre and a reduction in the incidence of type-2 diabetes [27]. For diabetic subjects or those with reduced glucose tolerance, following a low-GI diet slows the development and progress of the disease, improving the circulating concentrations of certain parameters such as glycated haemo-

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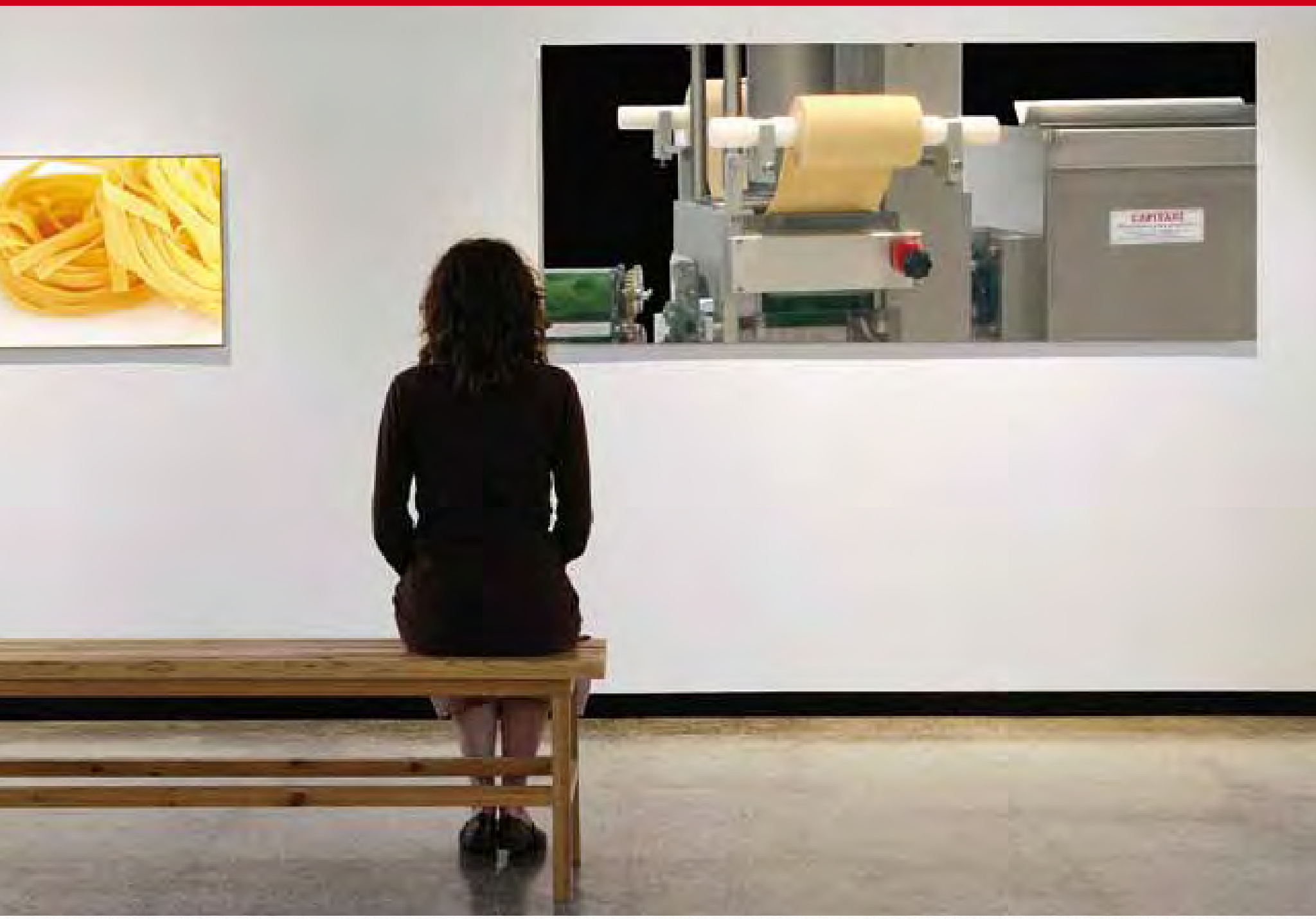



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globin (HbAc1) as well as fasting glycaemia, lipid profile and body mass index (BMI) [28]. It seems that consuming 2-3 portions a day of pulses and wholegrain cereals could reduce the risk of type-2 diabetes by 20-30%, compared to consuming less than 3 portions a week [29,30]. Although further research is required to clarify the association between GI and cardiovascular risk, it has been shown that low-GI foods may improve not only the glycaemic profile, but also the lipid and lipoprotein profiles in healthy and diabetic subjects [30–33]. A recent literature review would seem to suggest that for men, unlike for women, there is no clear link between GI and any cardio-coronary mortality factors [34,35]. Various guidelines (*Diabetes Canada*", the *National Institute for Health and Care Excellence*" – *NICE* and the *International Diabetes Federation – IDF*) recommend replacing high-GI products with low-GI foods, including wholegrain cereals and pulses, in order to prevent the onset of gestational diabetes and monitor weight gain in pregnant women [36–39]. As regards metabolic syndrome – a dangerous condition that doubles the risk of cardiovascular disorders and increases the risk of diabetes by five times [40–42] – epidemiological studies have shown a link between high-GI diets and the development of this condition, following an increase in the circulating concentration of triglycerides and a decrease in "High Density Lipoprotein" (HDL) levels[43]. The main causes are attributable to both genetic factors and poor lifestyle, which includes sedentarism and poor food choices [44]. Nevertheless, a recent meta-analysis aimed at investigating the possible relationship between GI and the development of certain forms of cancer indicated that a high-GI diet has a slight negative influence on the onset of colorectal, bladder and kidney cancers [45].

Factors that influence the glycaemic index of a food

Depending on the type of food, the main factors that influence GI are:

- intrinsic: these concern its nutritional characteristics (e.g. macronutrient content such as simple or complex sugars, and fibre), product categories (pulses tend to have a lower GI compared to ultra-processed foods such as breakfast cereals or bread substitutes such as crackers and breadsticks) [46,47] or the botanical features of the starch granules in the raw ingredient (e.g. the high GI value of the common variety of white rice is mainly attributable to a higher content of amylopectin and a lower con-

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The Kronos project. It originated from a collaboration with Albert Carlton, an American breeder, father of Desert Durum from Arizona, the durum wheat of high quality, imported from the best Italian pasta factories to produce premium pasta. Molino Grassi since 1992 has managed to have the exclusive copyright to reproduce the seeds and cultivate them in Italy, adopting and improving farming techniques adapted to the Mediterranean climate, thus keeping the organoleptic features intact. Kronos is a durum wheat with an unique protein content, resistance to cooking, taste and color, ideal for tasty and always al dente pasta.

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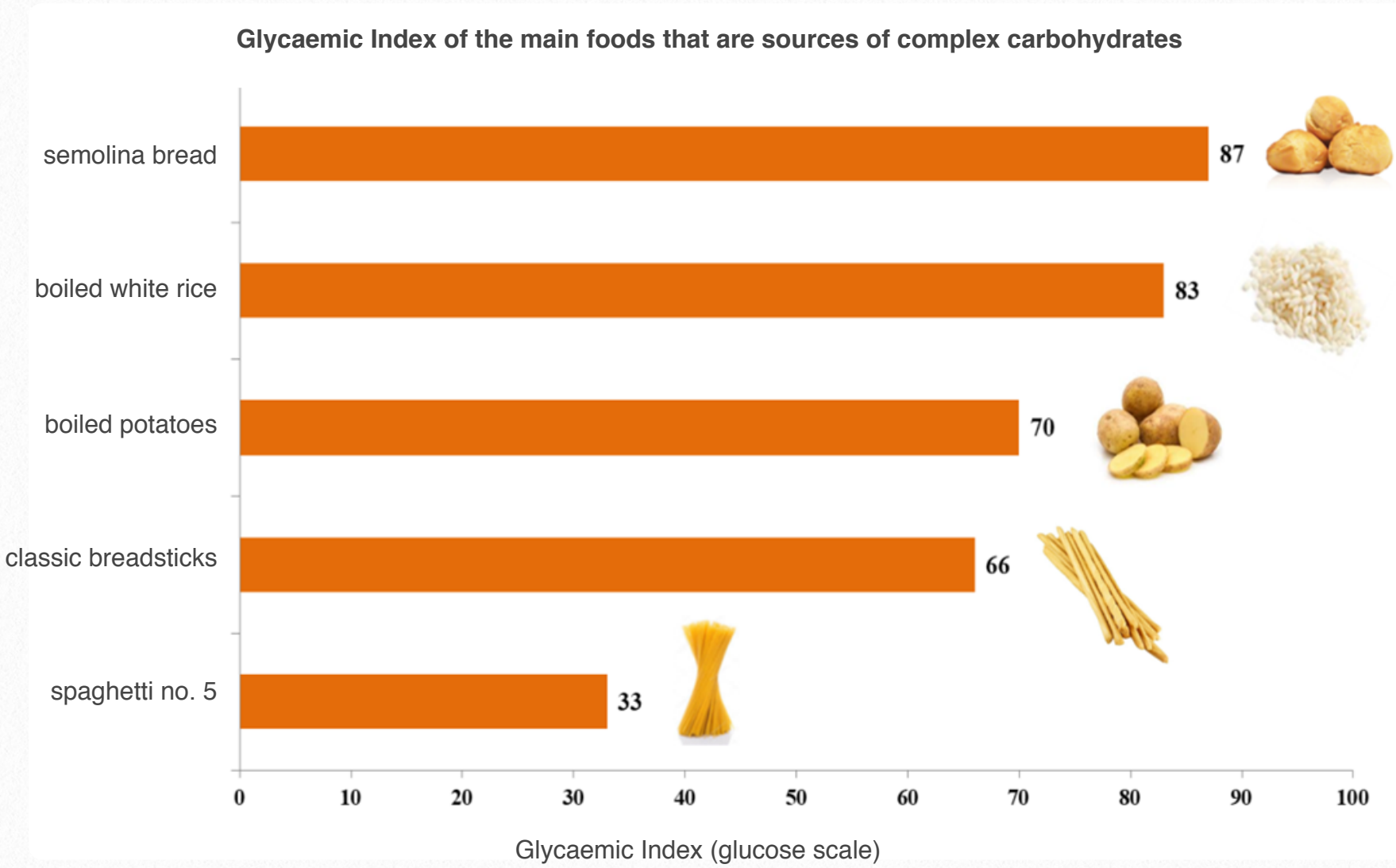
Table 1 **MAIN FACTORS AFFECTING THE GLYCAEMIC INDEX OF A FOOD**

INTRINSIC FACTORS	EXTRINSIC FACTORS
Nutritional composition of the food	Processing method
Product characteristics of the food	Technological process
Botanical characteristics of the starch granule	Cooking techniques
Structural characteristics of the plant cell	Preparation techniques

tent of starch granules compared to wheat) [48–50] (Table 1);

- extrinsic: these are associated with production techniques and food cooking and preparation methods. Certain processing stages such as grinding, puffing and homogenization (used to prepare puffed cereals or rice cakes) or prolonged cooking at high temperatures and humidity, favouring starch gelatinization, tend to increase the GI of a food [51–53]. Drying, [54,55] fermentation [52,56] or the formation of a dense and complex matrix (as in the extrusion stage of traditional dried pasta production) [55], or the addition of fat- or

Figure 3 **GLYCAEMIC INDEX OF CEREALS, DERIVATIVES AND TUBERS [47, 64]**





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protein-based condiments, meanwhile, may reduce the GI of a food [57–59] (Table 1).

Pasta: a medium-low GI source of complex carbohydrates

The main source of available carbohydrates in the Italian diet comes from the *Cereals and their derivatives* [21] category. This includes foods commonly consumed at our tables such as pasta and bread, two of the main food products derived from wheat processing. Compared to other sources of complex carbohydrates such as rice, bread or potatoes, which are part of the same food group, traditional pasta is generally characterised by a medium-low GI value (Figure 3), thanks to its raw ingredients and the production methods used. Once processing is complete, the starch granules in the food matrix are compact and crystalline, bound within a dense protein network that affects its bioavailability and therefore the body's ability to access the nutrient [55]. The gluten network limits the action of the digestive enzymes [60] and influences their speed of hydrolysis [61], as well as playing a role in reducing absorption of water during cooking [62]. A comparison of the GI values of dried pasta (e.g. spaghetti) and semolina bread reveals certain differences that are mainly attributable to the production process. The chemical, physical and structural properties of common semolina bread, including its high porosity, the humidity of the crumb and greater starch gelatinization result in a higher GI value compared to the main pasta shapes on the market, which all retain a medium-low GI value [47,63]. Table 2 sets out the GI values for certain food product categories.

Factors influencing the glycaemic index of pasta

Certain factors associated with formulation or technological production process methods may result in differences among the GI values of the various shapes of pasta available on the market (Figure 4 and Figure 5). For example, the GI of a whole-wheat pasta shape may be higher than its traditional equivalent. The higher quantity of bran in whole-wheat pasta physically interferes with the interaction between the starch and the gluten proteins, negatively affecting the development of the dough and competing for water activity distribution, resulting in dehydration of the protein network [65]. This tends to cause gaps in the structure, weakening the gluten network and mak-

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Table 2 **GLYCAEMIC INDEX OF CERTAIN TYPES OF FOOD [47, 64]**

Product category	Description	GI
Biscuits		
Biscuits with rolled oats and fruit	Grancereale Frutta (Mulino Bianco, Barilla)	51
Biscuits with rolled oats and chocolate	Grancereale Cioccolato (Mulino Bianco, Barilla)	52
Biscuits with rolled oats	Grancereale classico (Mulino Bianco, Barilla)	49
Butter and cream biscuits	Macine (Mulino Bianco, Barilla)	52
Bread substitutes		
Breadsticks	Classic crispy breadsticks (Mulino Bianco, Barilla)	66
Breadsticks with psyllium and oats	Fibra Activa Breadsticks (Panmonviso)	52
Savoury cracker	Sfoglia di grano savoury crackers (Mulino Bianco, Barilla)	63
Whole-wheat crackers	Sfoglia di grano whole-wheat crackers (Mulino Bianco, Barilla)	63
Focaccia with extra-virgin olive oil	Focaccelle with extra virgin olive oil (Mulino Bianco, Barilla)	63
Rusks	Le Dorate rusks (Mulino Bianco, Barilla)	64
Rusks with barley flour (50.1%)	Cuori di orzo rusks (Mulino Bianco, Barilla)	45
Whole-wheat rusks	Le Integrali rusks (Mulino Bianco, Barilla)	73
Breakfast cereals		
Muesli	Classic crunchy cereal (Grancereale Barilla)	66
Muesli with fruit	Crunchy fruit cereal (Grancereale, Barilla)	62
Cheerios	Cereal with honey (General Mills Canada Inc)	74
Cakes and snacks		
Plumcake	Plumcake (Mulino Bianco, Barilla)	47
Soft wheat flour and sugar snack	Nastrine (Mulino Bianco, Barilla)	47
Fluffy cake with cocoa, milk and cream	Kinder Délice (Kinder, Ferrero)	58
Fluffy cake with soft wheat flour, rolled barley and oats, apricot jam filling.	Apricot and cereal Brioss (Ferrero)	60
Sweets and deserts		
Orange sweets	Orange Tic Tac (Ferrero)	68
Chocolate and coffee praline	Pocket Espresso TO GO (Ferrero)	71
Spreadable hazelnut and cocoa cream	Nutella (Ferrero)	45
White chocolate bar	Galak (Nestlè)	44

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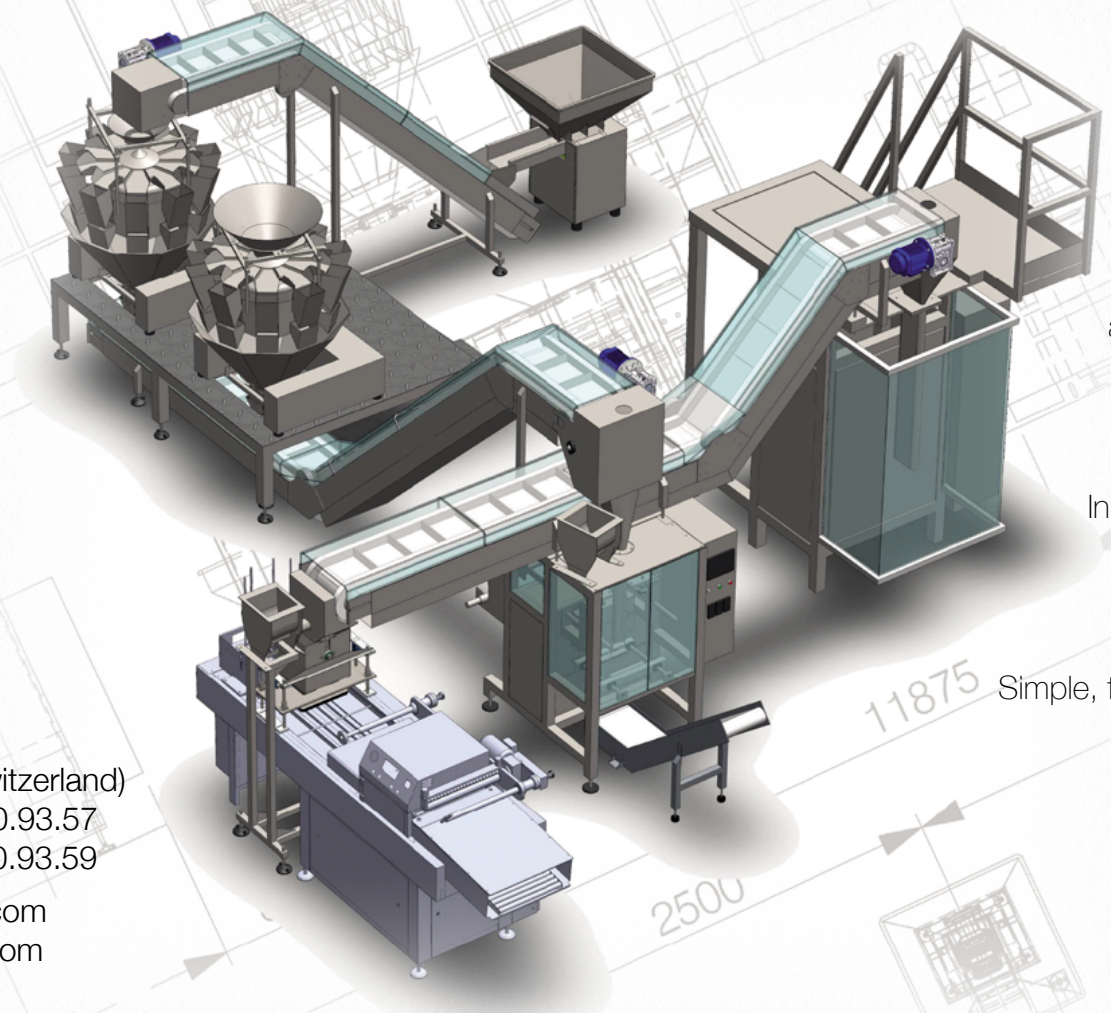

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Product category	Description	GI
Cereals and pulses		
Pearl barley	Barley (Barilla)	58
Pearled spelt	Spelt (Barilla)	63
Pearled wheat	Wheat (Barilla)	72
Tinned beans	Beans (Canada)	40
Dried beans, boiled	Beans (Italy)	36
Dried chickpeas, boiled	Chickpeas (Canada)	31
Dried green lentils, boiled	Lentils (Canada)	29
Dried red lentils, boiled	Lentils (Canada)	18
Dried peas, boiled	Peas (Australia)	22
Dried soya, boiled	Soya (Canada)	15
Pizza		
Pre-cooked and frozen margherita pizza	Bella Napoli margherita pizza (Buitoni)	56
Jams and conserves		
Blueberry conserve	Wild blueberry extra conserve (Bonne Maman)	63
Bitter orange marmalade	Bitter orange marmalade (Bonne Maman)	55
Peach/apricot compote	Peach/apricot Fruttosa (Rigoni di Asiago)	47
Sugar and sweeteners		
Sugar and sweeteners	Fruttosio (da mais)(Despar)	25
Zucchero di canna	Zucchero di canna (Panela)	69
Zucchero da frutta biologica	Dolcedì (Rigoni di Asiago)	23
Refined sugar	Classic Sugar (Eridania)	91

Taken from: Scazzina et al. Glycemic index and glycemic load of commercial Italian foods. Nutrition, Metabolism & Cardiovascular Diseases (2016) 26, 419-429. Foster-Powell. International table of glycemic index and load: 2002. Am J Clin Nutr 2002; 76:5-56.

ing it loose and poorly developed, favouring enzymatic attack during digestion of the food [66]. A similar tendency is also observed in the case of gluten-free pasta, where the absence of a gluten network weakens the structure of the dough compared to traditional pasta. Without the "barrier effect" of gluten on the alpha-amylase activity involved in carbohydrate digestion, then, the speed at which the

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starch is hydrolysed tends to increase, leading to a higher glycaemic response following consumption of standard gluten-free pasta [65,67]. Legume flour is one of the main ingredients used to produce gluten-free pasta, together with rice, potato, corn or other types of ingredients (e.g. modified starches or gluten-free protein sources) [68,69]. Although the use of chickpea or bean flours weakens the pasta dough, changing the digestibility of the starch [70], certain studies have indicated that partial substitution of durum wheat semolina with legume flour reduces the GI of traditional pasta [71,72]. It has also been observed that the pasta drying process may also reduce its GI. In fact, this is one of the main aspects of the technological process capable of affecting the strength and density of the gluten network. Thanks to the drying process, the protein network of dried pasta, characterised by a highly polymerised, complex structure, reduces the speed at which the starch is digested compared to fresh pasta [54,73–75]. Likewise, the drawing process used to create the shapes may influence the bioavailability of the carbohydrates. The type and consequent size of each shape may play a crucial role in determining the time required for the pasta starch to be digested. Smaller-sized

Figure 4 COMPARISON OF THE GLYCAEMIC INDEX VALUES OF VARIOUS TYPES OF PASTA [26, 47, 70, 71, 72]

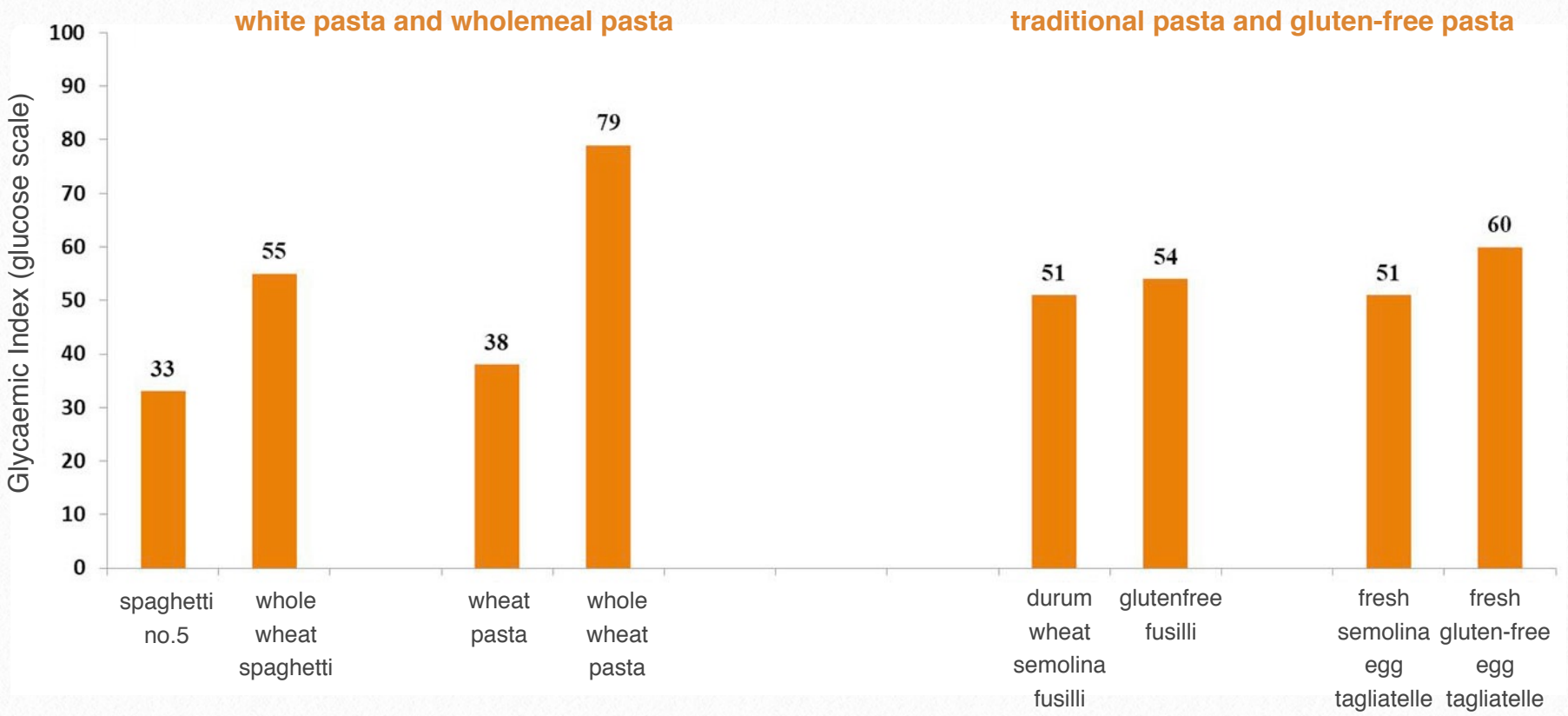





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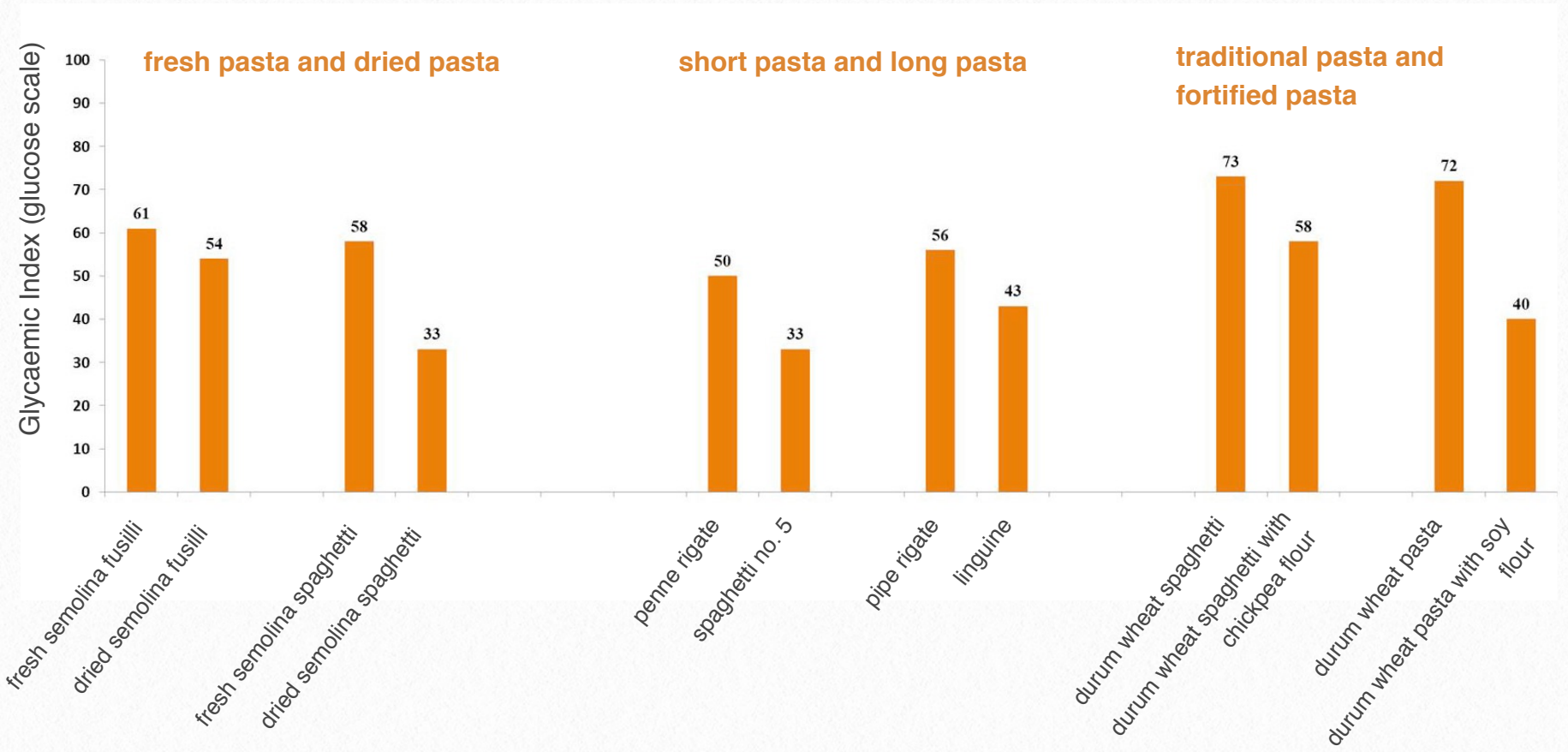
Figure 5 COMPARISON OF THE GLYCAEMIC INDEX VALUES OF VARIOUS TYPES OF PASTA [26, 47, 70, 71, 72]



pasta shapes (short shapes such as penne or pipe rigate) tend to have a higher GI compared to the same weight of a longer shape. Indeed, the surface area available for enzymatic attack is greater in the case of shorter shapes than longer shapes such as spaghetti or linguine, thus increasing the GI [75].

Conclusions

Pasta is a food of good nutritional quality, based on its macronutrient content and the beneficial effects on the metabolic profile. The use of durum wheat semolina and water, as well as the technological production process employed, are key to explaining the lower glycaemic excursion following its consumption. Numerous studies have investigated how formulation and/or production methods may affect the GI of durum wheat pasta. Despite being available in various shapes, the product tends to have medium-low GI values.

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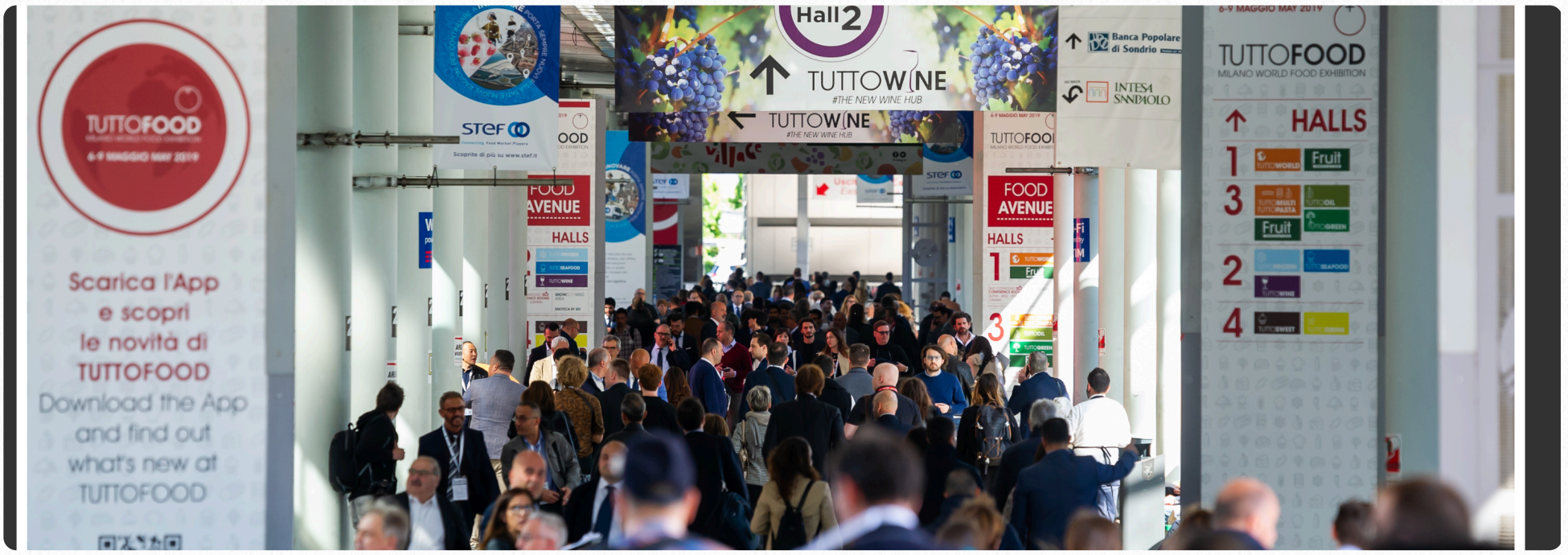
4

Towards Tuttofood 2021: a dynamic new campaign to consolidate the internationalisation strategy is underway

Press release



The media plan supports the strategy by combining planning in Europe with growth in focus areas, like the US or the Middle East, and the addition of new countries such as Canada and new countries in the Far East. In addition to the growth in internationalisation, the aims of the strategy include the scouting of new decision makers and influencers from all over the world. Significant attention is being paid to the digital channel, in keeping with the innovation that characterises Tuttofood. The new institutional payoff 'International Food Fair', with a graphic evolution of the logos, has been launched along with an ADV campaign focused on a dynamic and contemporary visual.

Young and dynamic. Just like Tuttofood which has become the leading event in the sector in Italy within a very short space of time. This is the new *Adding value to taste* communication campaign, which will be accompanying the journey to the next edition, at fieramilano from 17 to 20 May 2021.
In a visual created by the Leftloft studio with a shot by food & fashion photographer Maurizio di Iorio, the event's historic logo, the tomato, makes a comeback in its original realistic version, reinterpreted in a contemporary key, as a symbol of the meeting between Italian agri-food excellence and the Food & Beverage sector around the world. The campaign will be completed with an evolution of the logos – of both the event and the areas – in more linear and graphic versions, and a new claim in which Tuttofood will simply be 'the' International Food Fair, emphasising the consolidation of the positioning acquired and the increasing openness to even the most distant markets. Plans are also afoot to strengthen the staff dedicated to communication.
The new media plan reflects the strategy of increasing internationalisation, combining careful planning in the historic markets of Europe with the strengthening of the event's focus areas, such as the US and Middle East, with the addition of new countries like Canada and those of the Far East. Italy continues to be the subject of significant attention, with the general media being targeted in addition to the trade press. Digital technology plays a central role, providing an immediate, direct channel, in keeping with the innovation that characterises Tuttofood.
In addition to internationalisation, the goals of the communication strategy also include the scouting of new decision-makers and influencers, the natural development of another added value, essential to the success of an event: the ability to create business relationships and support them with the sharing of skills and sector-specific know-how. Tuttofood has always been acknowledged by its stakeholders as having this ability and this is confirmed by the numbers of the survey carried out during the last edition. 92% of buyers said they were satisfied or very satisfied and 91% would recommend the event to their colleagues – revealing almost unanimous appreciation. At Tuttofood 2019, 82,551 operators from 143 countries met 3,079 brands from 43 countries during 13,609 business meetings.
The next appointment with Tuttofood is at fieramilano in Rho from 17 to 20 May 2021.
For updated information:
www.tuttofood.it/en, @TuttofoodMilano.

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5

Italian pasta dribbles past Trump duties

Pastaria Centre for Economic Research



With the US threat allayed, for six months at least, the other hot front is Great Britain, with a no-deal Brexit that could trigger a 20% increase in food prices, which would force the country across the Channel to deal with massive inflation.

Pasta goes unscathed after the list of European products subject to increases in US import duties was reviewed.
The list, drawn up last October by Washington, after the World Trade Organization (WTO) ruled in favour of the US in the Airbus case, did not include Italian pasta in the February review. A decision by no means taken for granted, considering that the USTR, (Office of the United States Trade Representative) not only had spaghetti and macaroni in its sights, but also Italian wines and olive oils.
For the record, it should be remembered that in October, several products symbolizing the Made-in-Italy agri-food sector had found themselves in the first list of products affected by American duties. These include Grana Padano and Parmigiano Reggiano, cured meats and citrus fruits not to mention spirits and liqueurs.
The matter, as mentioned, dates back to 2 October 2019 when the WTO authorized the US to impose tariffs totalling $ 7.5 billion to the detriment of the EU, as compensation for the subsidies paid to the European aviation industry with the endorsement of Brussels.
For Italian pasta producers, who develop a significant share of their business across the Atlantic, this is a result of great importance, bearing in mind that the risk of duties would have had a considerable inflationary impact on the final price, indirectly favouring competitors, starting with Canada, Mexico and Turkey.
It will now be a matter of evaluating the developments in the negotiations between Washington and Brussels, given that the USTR will carry out a review on the application of duties every six months, evaluating any changes to the approved lists.
The hope is that a process of relaxation in transatlantic relations will lead to a commercial "*pax*", restoring normality in the exchange relations between the EU and the US.
However, rose-tinted glasses hardly seem appropriate for scrutinizing the horizons in terms of Brexit. The European Commission recently announced that negotiations with the United Kingdom are based on building a "close and ambitious" partnership. But very few people believe that an agreement on a text will be reached before the United Kingdom effectively leaves the single market and customs union by 31 December. Without a deal or an extension of the post-Brexit transition period, customs controls and the application of duties foreseen by the World Trade Organization on agri-food products will start as of 1 January 2021. Added to which is the loss on the British market of the protection currently awarded to Protected Geographical Indications, an issue not to be considered secondary in It-

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Table 1 **USA, PASTA IMPORTS IN THE PERIOD 2015-2019* (DATA IN $ .000)**

	2015	2016	2017	2018	2019	19/18 var.	2020 share
World, of which:	**624,485**	**643,289**	**649,598**	**669,943**	**720,552**	**7.6%**	**100%**
Italy	162,498	173,735	179,770	189,330	218,200	15.2%	30.3%
Canada	71,355	60,585	54,309	52,804	53,276	0.9%	7.4%
China	50,715	51,774	55,097	60,510	51,604	-14.7%	7.2%
South Korea	22,452	25,147	26,451	30,068	34,222	13.8%	4.7%
Mexico	55,382	53,407	49,621	37,495	28,975	-22.7%	4%
Thailand	25,431	24,525	23,649	24,958	26,793	7.4%	3.7%
Turkey	3,556	7,707	8,907	10,363	12,250	18.2%	1.7%
Vietnam	7,209	8,041	8,687	10,569	11,275	6.7%	1.6%
Japan	8,659	9,362	9,736	10,669	10,951	2.6%	1.5%
Taiwan	6,403	6,922	6,666	6,907	7,889	14.2%	1.1%
India	2,897	3,900	3,483	4,654	4,360	-6.3%	0.6%
Philippines	3,926	4,005	3,522	3,858	3,986	3.3%	0.6%
Indonesia	1,950	2,172	2,676	3,487	3,519	0.9%	0.5%
France	3,295	2,622	2,640	2,409	2,651	10%	0.4%
Germany	2,210	2,674	2,417	2,728	2,638	-3.3%	0.4%
Israel	4,132	3,380	2,835	2,683	2,391	-10.9%	0.3%
Hong Kong	2,006	2,196	2,370	2,403	2,045	-14.9%	0.3%
Greece	1,631	1,725	1,569	1,499	1,681	12.1%	0.2%
Costa Rica	1,691	1,815	1,744	1,480	1,282	-13.4%	0.2%
Guatemala	839	1,012	906	1,049	1,047	-0.2%	0.1%
Ecuador	487	478	789	669	1,007	50.5%	0.1%
Australia	781	740	715	787	877	11.4%	0.1%
Chile	1,569	1,847	1,046	1,012	844	-16.5%	0.1%
Singapore	572	591	612	664	811	22.2%	0.1%
Poland	628	739	819	884	771	-12.8%	0.1%
Guyana	616	775	546	724	750	3.5%	0.1%
Romania	2,069	1,550	1,239	531	569	7%	0.1%
United Kingdom	38	66	160	53	386	635%	0.1%

Source: Data processing by Pastaria based on US Census Bureau Data
**Noodles and couscous included.*

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Table 2 **ITALIAN PASTA EXPORTS (TONNES)**

	2015	2016	2017	2018	Jan-Nov 2019	Jan-Nov '19/ Jan-Nov '18 Variation	2018 share
United Kingdom	259,995	269,075	273,738	274,964	266,978	5.5%	13%
United States	160,480	177,932	181,515	196,734	206,492	14.6%	10%
World	**1,912,862**	**1,976,074**	**2,037,127**	**2,066,789**	**2,014,674**	**6%**	**100%**

Source: Pastaria elaboration of ISTAT (Italian State Statistics Institute) data

Table 3 **ITALIAN PASTA EXPORTS (€ ,000)**

	2015	2016	2017	2018	Jan-Nov 2019	Jan-Nov '19/ Jan-Nov '18 Variation	2018 share
United Kingdom	329,968	319,389	316,305	319,340	301,337	2.6%	13%
United States	259,996	269,975	272,291	304,329	318,016	14.7%	13%
World	**2,355,232**	**2,311,462**	**2,317,124**	**2,425,705**	**2,383,062**	**6.8%**	**100%**

Source: Pastaria elaboration of ISTAT (Italian State Statistics Institute) data

aly which holds the highest number of PDOs and PGIs in Europe.

According to Luigi Scordamaglia, former president of Federalimentare, today CEO of Filiera Italia, Great Britain produces just over 50% of the food it consumes. A no-deal Brexit, albeit deferred, would lead to a 20% increase in food prices, forcing the country across the Channel to deal with massive inflation.

Beyond the possible developments in negotiations on both fronts (USA and UK), considerable figures are at stake for Italian pasta.

Taking a look at the data published a few days ago by the US Census Bureau (the American statistical office) imports of Italian pasta reached an all-time high in 2019, reaching over $ 218 million, 15% more than 2018 levels.

With an incidence of 30% on total expenditure, Italy is way ahead of the second largest US supplier of pasta, i.e. Canada, which holds just 7% of the currency share.

Among the runners up, the trio of Asian countries, consisting of China, South Korea and Thailand, mainly sends noodles to

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the US, while roles of a certain weight (albeit with market shares way lower than those of Italy and Canada) are held by Mexico (4%) and Turkey (2%).

When it comes to the British market, the third largest by turnover after Germany and France, Istat data relative to the whole of 2018 certify a national export of pasta to the sum of around € 320 million (in the European currency the value of exports to the US is € 304 million). 2019, for which complete data are not yet available, confirms for the first eleven months of the year an increase in sales of Italian pasta in the USA of around 15%, while across the Channel the trend appeared significantly more attenuated, with a growth of 2.6% compared to January-November 2018.

It should be noted that both in the US and on the UK market, Italy (separately) makes 13% of its entire export turnover. If we look at volumes, the United Kingdom share remains anchored at 13%, while the US share stands at around 10%, with quantities of 275,000 tons and just under 200,000 respectively (2018 data).

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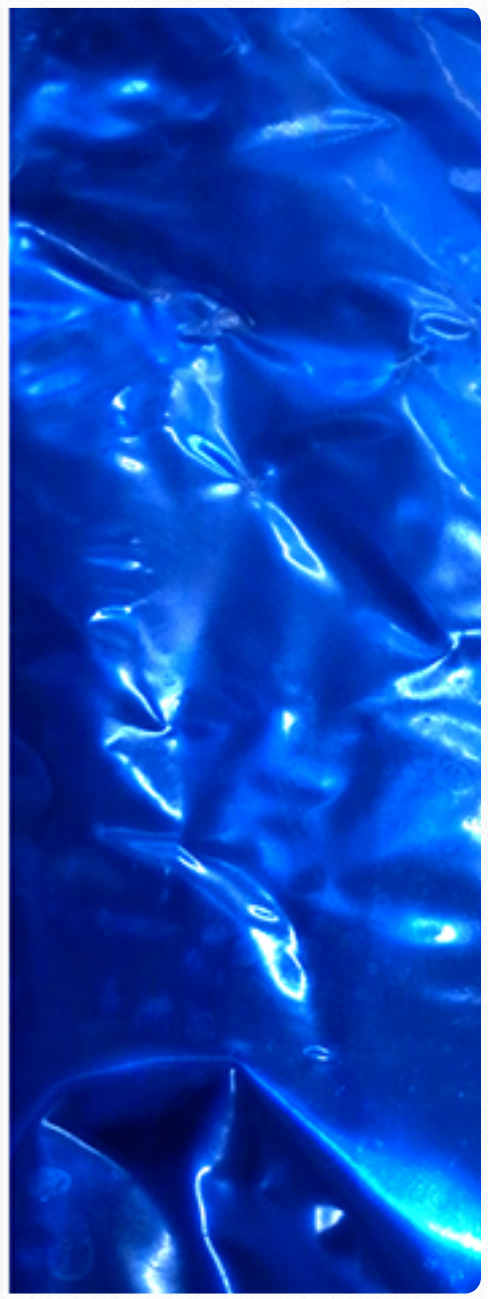
6

Salmon: smoked, frozen and now also pasteurized







Saporitalia, a company specialized in supplying salmon and its derivatives to the food industry, has recently launched a new product on the market which is particularly suitable for the pasta manufacturing sector.

The renowned quality of Norwegian salmon combined with the food safety guaranteed by pasteurization are the main characteristics of the new Saporitalia product intended for the European food industry.

We are talking about the smoked, pasteurized and frozen salmon pulp recently launched on the market by the young Danish company, which is rapidly establishing itself in the pasta manufacturing sector, and not just in Italy.

Salmon (*Salmo salar*) from the Norwegian seas undergoes cold smoking, using beech wood, and pasteurization before it is quickly frozen.

The product is available in vacuum packs of 1 or 5 kg and can be stored for 18 months at a temperature of -18°C.

The salmon pulp is distributed in 20 kg crates (4 x 5 kg packs or 20 x 1 kg packs) and on 500 kg pallets (25 x 20 kg crates).

Pasta producers interested in trying the smoked and pasteurized salmon pulp can request a sample from Saporitalia, by sending an email to: contact@saporitalia.dk or calling the commercial offices at +39 331 2488534.

As well as smoked and pasteurized salmon pulp, Saporitalia offers European pasta manufacturers the following products:

- raw salmon scrape meat;
- smoked salmon granules (3 mm);
- smoked salmon trimmings;
- raw salmon pulp;
- flakes of salmon hot smoked at 68 degrees.

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7

Did Marco Polo really bring pasta to Italy?

Al Ronzoni



A late medieval copy of the *Tabula Rogeriana*, with the North at the bottom, created by the cartographer Abu Abdullah Muhammad Al-Idrisi for King Roger II

Whenever I give presentations on the story of my great-grandfather, Emanuele Ronzoni and the company he founded in 1915, I ask the audience if they can tell me how pasta first got to Italy. Invariably, someone will hold up their hand and say, “Marco Polo!”

As American food journalist, Corby Kummer observed in a 1986 article for *The Atlantic*, “the idea that Marco Polo brought pasta from China to Italy is as congenial to Italians as the idea that hamburger came from Germany to Americans.” Kummer went to note that while no one disputes that the Chinese have made noodles, from many more types of flour than Europeans since at least 1100 B.C., Italians insist as a point of national pride that they invented pasta in their part of the world despite considerable evidence they did not. A set of reliefs on an Etruscan tomb dating from the fourth century B.C., depicting a knife, a board with a raised edge, that resembles a modern pasta board, a flour sack and a pin alleged to have been used to shape tubular pasta, are cited as evidence (today there are still many websites making this claim). Regarding pasta’s possible Etruscan origins, Kummer quoted food historian Charles Perry who said, “There are plenty of things to do with a pin besides shape pasta.” In fact, Perry said no sure Roman reference to a noodle of any kind, tubular or flat has turned up, which makes the Etruscan theory even more unlikely, given that the Romans dominated Italy soon after the Etruscans.

The first clear Western reference to boiled noodles, according to Perry was found in the Jerusalem Talmud of the fifth century A.D., written in Aramaic. The book contained a debate on whether or not noodles violated Jewish dietary laws. They used the word *itriyah* thought by some scholars to derive from the Greek *itrion*, which was a type of flatbread used in religious ceremonies. And, it is as *itriyah* that we see the earliest known reference to *pasta secca* on Italian soil. The story behind it is fascinating.

As recounted in John Dickie’s excellent 2008 book, *Delizia: The Epic History of Italians and Their Food*, from 827 to 902 A.D. Muslims from North Africa wrested Sicily from its Byzantine overlords and established a



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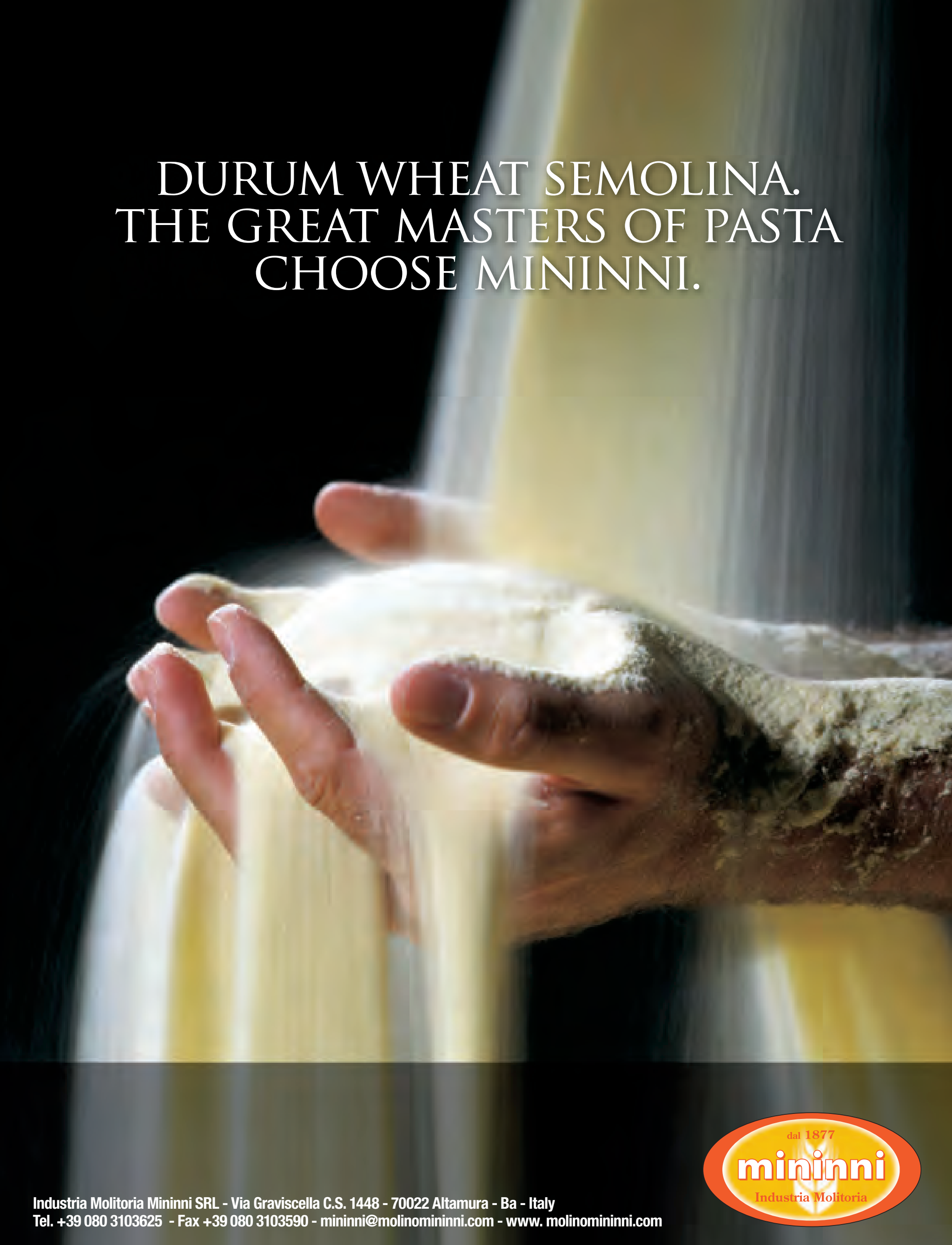
semi-independent emirate. The new Muslim rulers-initiated land reforms, which increased productivity and encouraged the growth of smallholdings to the detriment of large landed estates. The North Africans also brought irrigation techniques that had originated in the Middle East, transforming agriculture beyond recognition. The Emirate of Sicily was an island of carefully watered orchards and gardens where generations of Muslim technical expertise and commercial know-how had bequeathed a rich bounty of lemons, almonds, pistachio nuts, cane sugar, dates, figs, carobs and more.

Then, from 999 to 1139 the Muslims were gradually displaced by the Normans, descendants of Viking raiders who had settled in Northern France, an area that is to this day, of course, known as Normandy. From their home base, the adventurous and mercenary Normans fanned out across Europe fighting and conquering in England, Ireland, Wales, Scotland, Byzantium and Southern Italy. By 1091, Roger de Hauteville, the twelfth son of a minor Norman nobleman had put an end to two hundred years of Muslim rule in Sicily and was granted the title of count. When his eldest son, Simon, died in 1130 after a reign of only four years, Roger's second son and namesake assumed the throne as King Roger II. Like his father, Roger II implemented a policy that mixed generosity to allies with extreme brutality to foes. His influence stretched from the borders of the pope's lands in central Italy, to the Maghreb and even as far as the holy land. Engraved on his sword was the motto: "The Puglian and the Calabrian, the Sicilian and African All Serve Me."

Early in his reign Roger sent for the foremost geographer of the age, Muhammed Al-Idrisi and offered him a fortune to produce a cartographic survey that would surpass all others. Al-Idrisi had been born in the town of Ceuta in what is now Morocco around 1100 and was descended from a noble line that could trace their lineage back to the Prophet Mohammed. From an early age Al-Idrisi took an interest in foreign lands and travel. Beginning in his teenage years into adulthood he made extensive voyages through Spain, North Africa, the Middle East and Europe, gathering geographical data along the way. After completing university in Cordoba, he relocated to Sicily where he came to the attention of the king. For fifteen years al-Idrisi studied, journeyed and consulted with other travelers. With a great iron compass, he painstakingly traced longitudes and latitudes and distances onto a drawing board. When he had finished his work in 1154, the most skillful silversmiths in the realm were com-



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missioned to transfer the resulting outlines onto a specially cast solid silver disk, close to two meters in diameter and weighing as much as two men. Engraved on its polished surface were the contours of the known world; it was the most complete map ever created up to that time. It was known as the *planisphere*.

Anyone who was not merely content to gaze in astonishment at the world thus displayed, could consult al-Idrisi's great geography book kept beside it – its title translated as *A Diversion for the Man Longing to Travel to Far Off Places*. It contained a wealth of information on the customs, products, commerce, language and character of all the locations on the silver planisphere. A few lines after completing his celebration of the glories of Roger II's capital of Palermo, Al-Idrisi provides a description of Trabia, some eighteen miles along the coast to the east:

"West of Termini there is a delightful settlement called Trabia. It's ever-flowing streams propel a number of mills. Here there are huge buildings in the countryside where they make vast quantities of *itriya* which is exported everywhere: to Calabria, to Muslim and Christian countries. Very many shiploads are sent."

Thus al-Idrisi can be credited for the earliest reference to *pasta secca* on Italian soil.

But the Marco Polo myth has refused to die. It may have begun with an influential article in a 1929 issue of the *Macaroni Journal* (now the *Pasta Journal*), an American trade magazine, which has inspired countless advertisements, restaurant placemats, cookbooks, and even movies. In the 1938 film *The Adventures of Marco Polo*, Gary Cooper points to a bowl of noodles and asks a Chinese man what he calls them. "In our language," the man replies, "we call them spa get." Perhaps needless to say, there is no such word in Chinese, the actual term being, *yidali mian*.

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8

Cibus and Parma 2020: when food becomes capital of culture

Press release



The culture of healthy and sustainable food, a relaunch of domestic consumption, the connection with the local area and flexibility as key to the export sector. These are the topics that Industry and distribution players will discuss at Cibus from 11 to 14 May. The next date is already set for 4 May 2021, as Cibus turns into an annual event.

Thanks to Federalimentare and ITA, Cibus embarks on a virtuous path that will strengthen its position as the permanent platform of Authentic Italian Food. It takes off in May, with an edition that promises to be a historic one, in terms of visitors' flow. In consideration of the fact that the scheduled dates of some exhibitions have been postponed or cancelled as prevention against the Coronavirus, Cibus 2020 is set to become the key international event for Made-in-Italy food.

It will be launched on Monday, 11 May with a key event dedicated to bringing together the food industry and distribution. Through a shared sector study, they will be engaged in developing a strategy for the relaunch of domestic food consumption, which is crucial for consolidating the extraordinary qualitative and quantitative progress achieved by the agri-food sector. As international markets become more volatile, relaunching domestic consumption and searching for new geographies for exports are decisive actions for the sector's health. In this perspective, the strategy of Cibus is to increasingly take on the role of boosting the Made-in-Italy food sector, both by promoting new initiatives aimed at consolidating the Italian Out-of-Home sector (such as Flavor, the new event in Florence from 4 to 6 October) and by making Cibus an annual event to facilitate the product choices of national and international buyers.

Cibus as an annual event also meets a need expressed by the top buyers, whose words we quote below.

"I am pleased to learn that Cibus will be held every year," said Tom Berger, buyer for Guido's Fresh Marketplace, USA. "It's an important trade show that makes it possible for me to meet my suppliers, old and new partners, and create strong business synergies."

"I am happy you have decided to organize again in 2021 a trade show that is entirely dedicated to Italian food products," said Usman Kallukothiyil of the Five Group Trading Company. "I'll be there."

"I find it very interesting that Cibus 2021 – said Michael Del Mastro, of Del Mastro, Denmark– will have the same characteristics as Cibus 2018 and Cibus 2020, an event that I have never missed."

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Fiere di Parma strongly believes in making this an annual event. For this purpose, it has allocated a budget of over 5 million Euro for the incoming programme for buyers, based also on the success of the Factory Tour project in the Food Valley area of the Emilia region. To develop this initiative, Cibus has created a new corporate figure, the “Destination Manager”, to be replicated throughout Italy, offering both Italian and foreign top buyers a complete experience of Authentic Italian Food.

“Cibus is already the only major international exhibition that showcases only Italian food products and its mission is also that of stimulating domestic consumption”, said Antonio Cellie, CEO of Fiere di Parma. “We continue to look at foreign markets, and indeed we have increased budgets and contents for the incoming programme for foreign buyers, but the serious issues affecting international trade must make us focus on recovering national market shares. This is a strategy that we will develop with the Distribution chain and the players of the Out-of-Home sector.”

However, the export share of the agri-food sector continues to be a driving force for the entire industry, as shown by the 6.6% growth in exports in 2019 compared to the previous year.

“Being the second production sector in the country with numbers that buck the trend of the rest of Italian industry speaks volumes about our products and our know-how, but it is at the same time a great responsibility,” pointed out Ivano Vacondio, President of Federalimentare. “We cannot afford mistakes and we must do everything in our power to defend our products of excellence against the risks facing the food & beverage sector.

“Tariffs and Brexit are undoubtedly a threat because they can play a crucial part in our only source of growth, exports, to which our food production is anchored,” continued Vacondio, “but I am convinced that foreign consumers buy Italian food because it’s good unique and inimitable, regardless of its price. The real threat has to do with everyone’s health and it is called Nutriscore. With its simplistic, discriminatory and penalizing principles, which have no scientific basis, it tries to undermine the pillars of the Mediterranean diet, frightening consumers who, while willing to spend more to buy good products, might not be willing to spend a cent on foods that are branded as ‘unhealthy’ by this labelling system.”

“To counter this attack,” emphasized Vacondio, “it becomes essential to display our products and the know-how of those who produce them. International unknowns aside, the cornerstone of our industry continues to be the value of what we produce and its extraordinary excel-

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lence. This is the excellence that we showcase at Cibus, the largest exhibition of authentic Italian food, with the objective of sending a strong message: our food&beverage sector is an all-Italian asset, and it is available to the world."

Cibus confirms its support of expansion on international markets with the launch of a new project: M-EATING Italy at Expo Dubai 2020 (October 2020 – April 2021). This is an innovative food and beverage area that, in addition to making available to visitors the best of Italian cuisine and excellent Made-in-Italy products, will be a priority stage to promote the champions of Italian creativity.

The agri-food industry has successfully met the consumers' demand for increasingly sustainable, safe, nutritious and healthy products. Cibus 2020, to be held in Parma from 11 to 14 May, promises to show a very green profile, www.cibus.it.

The Cibus Innovation Corner will showcase products selected by a pool of experts for their capacity for innovation in promoting their local area, as well as the sustainability of the production chain.

There will also be itineraries throughout the exhibition leading visitors to Organic, Free-From and Vegan products. Over 3,000 exhibitors will present their new products to more than 80,000 business operators, including about 3,000 foreign buyers.

Among the many conferences, the Barilla Foundation in collaboration with Cibus presents: "The transition towards more sustainable food systems: analysis and perspectives." This event will tackle the main challenges faced by global agri-food systems, with a particular focus on the Italian situation. The aim will be to accelerate progress towards the achievement of the Sustainable Development Goals and to identify effective policies of sustainability for the implementation of the 2030 Agenda. Strategic approaches to sustainability and innovation will be illustrated by the case histories of Italian companies.

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