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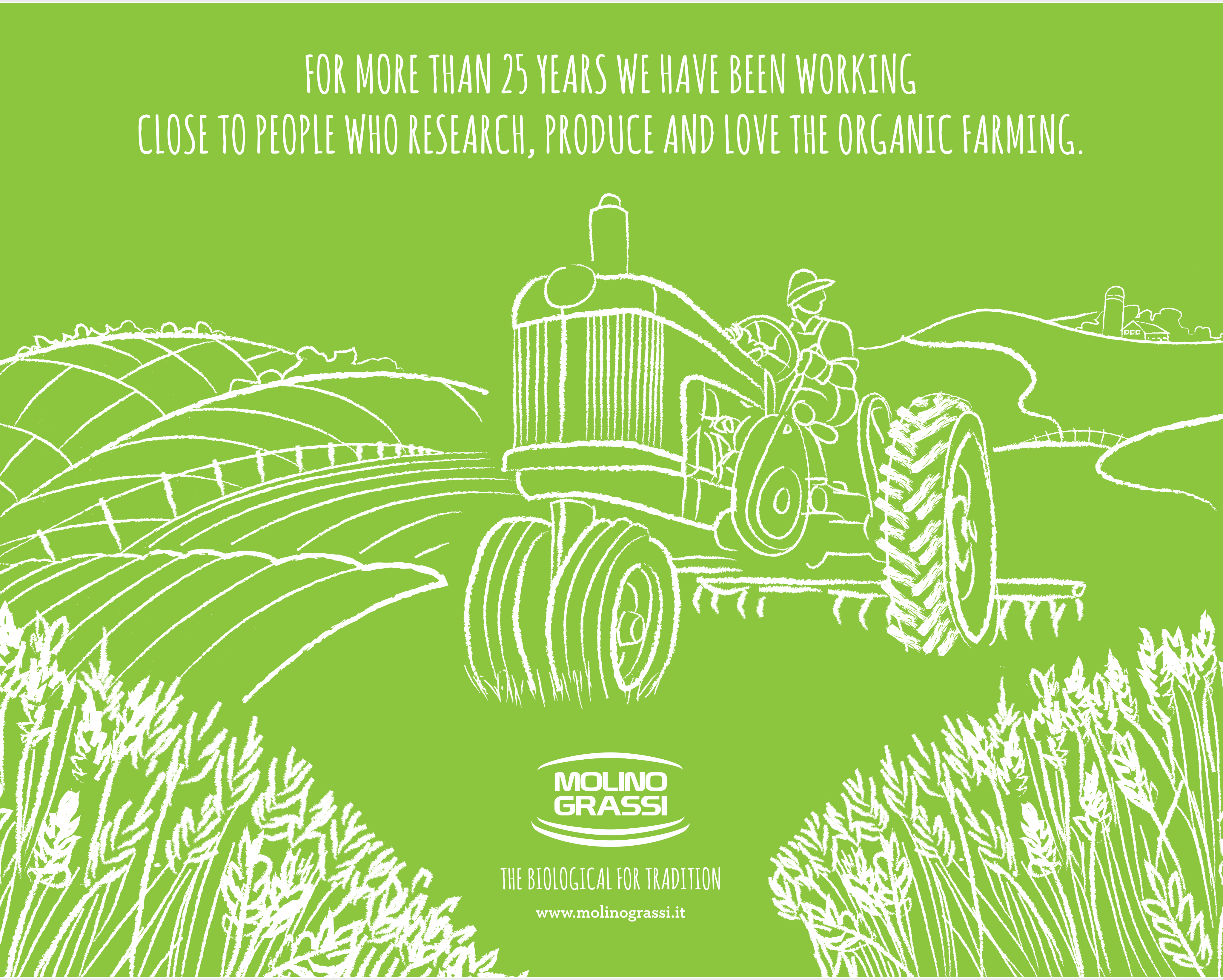

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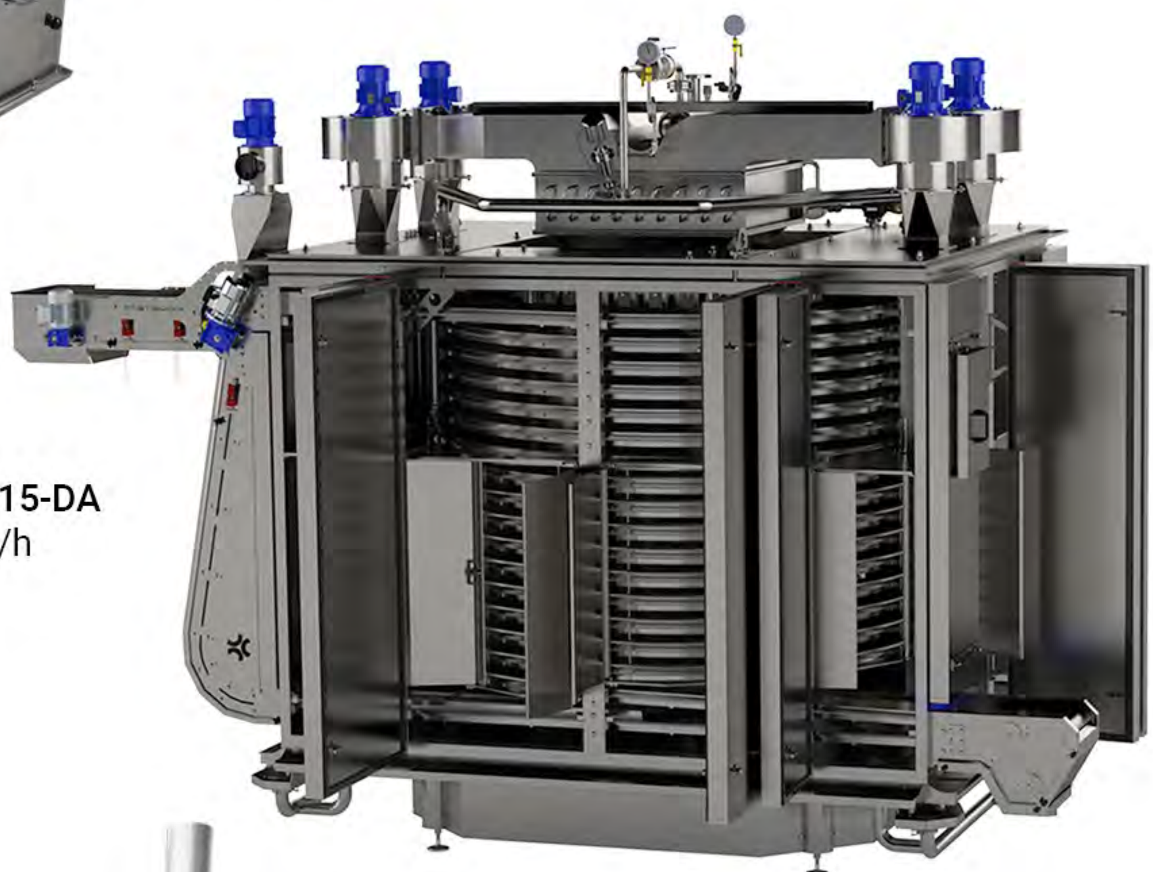

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Pastaria International DE 5/2021
September

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fax +39 (0)521 1564935
Email redazione@pastaria.it
ROC no. 23238

EDITOR-IN-CHIEF
Lorenzo Pini

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PASTA TECHNOLOGIES GROUP

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2020 has been a year of change, and our 2020 Annual Meeting was canceled due to the risks that COVID 19 posed on an in person meeting.

As the NPA Member Education Committee began to plan for 2021, the current state of the country, member safety and comfortability had to be taken into consideration. After much deliberation, the NPA Board of Directors has made the decision to postpone the NPA 2021 Annual Meeting from its originally scheduled dates of March 21-23 to October 17-19, 2021 to allow for an in person event in Florida.

The meeting will be held in the same hotel, the Ponte Vedra Inn & Club in Ponte Vedra Beach, FL, and registration rates from the March 2020 meeting will be rolled over and applied to the new October dates for those who had previously registered.

On a positive note, this allows us to be together during National Pasta Month and celebrate National Pasta Day (October 17) in person! More information about registration will be forthcoming in a few months.
We are excited to see you in October!

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Ancient wheats in pasta making: how to predict and assess their suitability for processing

Maria Ambrogina Pagani,
Alessandra Marti
Department of Food, Environmental and Nutritional Sciences (DeFENS), University of Milan

Here is a brief summary of the contribution of Maria Ambrogina Pagani and Alessandra Marti at the conference *Quality and process in dry pasta production: from the grain to the information on the label*, held at the 2020 edition of the Pastaria Festival.

In recent years, Italian consumers have been increasingly drawn to the term "ancient" in the context of cereals and their derivative products. Indeed, the adjective is often used as a synonym for "natural", minimal human "modification" and, as such, greater nutritional value. This trend – coupled with the growing conviction within the agrifood sector that innovation should not forsake or overlook tradition – has seen a strong and steady increase in the revival of ancient varieties of wheat. Simultaneously, processing methods that were quite common in the past, such as stone grinding, are now also enjoying a successful revival, and being presented and promoted as better suited to preserving the nutritional integrity of the food product.

When discussing ancient grains (or cereals), it is essential to begin by clarifying the terminology. With reference to wheat, this definition is used – in general and commercial contexts – to group together species and/or varieties that were quite common, sometimes up until relatively recently, before being progressively abandoned in favour of "modern" varieties capable of guaranteeing generally better production yields, technological quality and suitability for processing than the varieties referred to (by contrast and with a view to simplification) as "ancient". Such a classification becomes rather more complex, however, if considered in light of scientific criteria that take the genetic evolution of the *Triticum* genus into account. Very useful clarification on this topic can be found in the works of Oriana Porfiri and a number of researchers at the University of Parma[1] (Boukid et al., 2018). It is therefore possible to distinguish between:

- *ancient grains*: these are primitive, wild populations that have never been subject to genetic selection;
- *ancient wheats*: belonging to the *Triticum* genus, they include the following species: triticum monococcum, small spelt or Einkorn (T. *monococcum*); triticum dicoccum, medium spelt or Emmer (*T. dicoccum*); Khorasan, Kamut or turanicum wheat (*T. turanicum*); spelt wheat or large spelt (*T. spelta*). These species evolved approximately 10,000 years ago from wild forms (a phenomenon known as the

"domestication" of wheat);

- *local wheat varieties, local populations or landraces* (e.g. *Rossia*, *Saragolla*, *Russello*, *Scorzonera*, etc.): these terms refer to genetically heterogeneous varieties, with a dynamic relationship with the natural environment and growing methods, which evolved as a result of both spontaneous selection and selection performed – often inadvertently – by farmers themselves, which then adapted to the local environment. Cultivation of these varieties, which began in very ancient times, continued until the middle of the 20th century;
- *"improved" old varieties of wheat or cultivars*: between the end of the 19th century and the beginning of the 20th century, plant growers began engaging in genetic improvement (breeding), with a view to producing improved varieties characterised by high and stable levels of genetic uniformity. Nazareno Strampelli was a key figure in this field in Italy: through hybridization (the cross breeding of different varieties), he created dozens of new cultivars of wheat, including soft and durum varieties, with innovative characteristics. Some of these varieties are still grown and remain popular today, including "Senatore Cappelli" durum wheat.
- *"modern" varieties*: discussion of "modern" varieties began in the 1980s, referring to varieties produced through continuous and targeted breeding, performed at a national and international level. These activities aim to select, from one year to the next, the specific lines capable of offering improvements of various kinds (greater productivity under various pedoclimatic conditions, resistance to disease, plant height, quantity and quality of protein and other components, etc.).

Current interest in ancient wheats, local varieties and old varieties such as "Senatore Cappelli" is justified, first of all, by their undisputed biodiversity (genetic variability), evident in their high resistance to disease and capacity to adapt to adverse pedoclimatic conditions, properties that are important and desirable for organic crops. Some researchers also highlight certain specific nutritional properties, particularly gluten protein characterised by lower levels of the epitopes responsible for coeliac disease(Van den Broeck et al., 2010). There is, however, conflicting literature on this point, as other authors claim that ancient and modern wheats contain the same protein concentration and toxicity levels(Gregorini et al., 2009). With regard, also, to bioactive compound content (including fibre, antioxidant compounds,

vitamins, etc.), no scientific confirmation has been provided, to date, of the greater nutritional quality of ancient varieties compared to modern wheats(Shewry e Hey, 2015).
In any case, promotion of these "rediscovered" ingredients requires the ability to assess their so-called "technological quality", which makes it possible to predict how they will behave when subject to technological processing. Undoubtedly, proteins have the most significant role to play in determining the end properties of the food, be it bread or pasta. With regard to the latter product, it is universally accepted that, when cooking pasta, good quality is closely linked to gluten quantity and quality. For this reason, voluntary standards set by the de (UNI) state that, in addition to the indices established by law (whereby the minimum protein content for semolina to be used in food products is set at 10.5% d.m.), commercial semolinas can be grouped into three quality categories (UNI 10940, 2001). The indices used to perform this grouping are total protein content (which must exceed 13.5% d.m. for the highest category and be between 12 and 10.5% d.m. for the lower quality level) and dry gluten content (at least 12% d.m. for the "top" category and between 9% and 10.5% d.m. for the lower category).

Completing the description of the commercial value of semolinas, the UNI standard refers to certain protein quality indices, such as the Gluten Index and the W and P/L alveographic parameters, which provide information on gluten strength, i.e. the capacity of the protein network to react and resist intense physical stresses, such as those involved in the pasta-making process, and the balance between the tenacity and extensibility of the proteins that form gluten. In particular, the UNI 10940 standard states that higher quality semolinas exhibit high tenacity, as indicated by W values exceeding 250 x 10^{-4} J and a P/L ratio of > 2. Even for semolinas of lower pasta-making quality, however, decent tenacity is required, corresponding to W values of between 100 - 180 x 10^{-4} J and a P/L ratio of between 0.5 and 1.
While the commercial assessment described above may be successfully applied to durum wheat semolinas, it is, unfortunately, of little use with regard to flours produced from ancient wheats and local varieties of the *Triticum* genus. First of all, Italian Law no. 580/1967 and the subsequent amendments introduced by way of Italian Presidential Decree no. 187/2001 do not establish composition characteristics or value ranges for such

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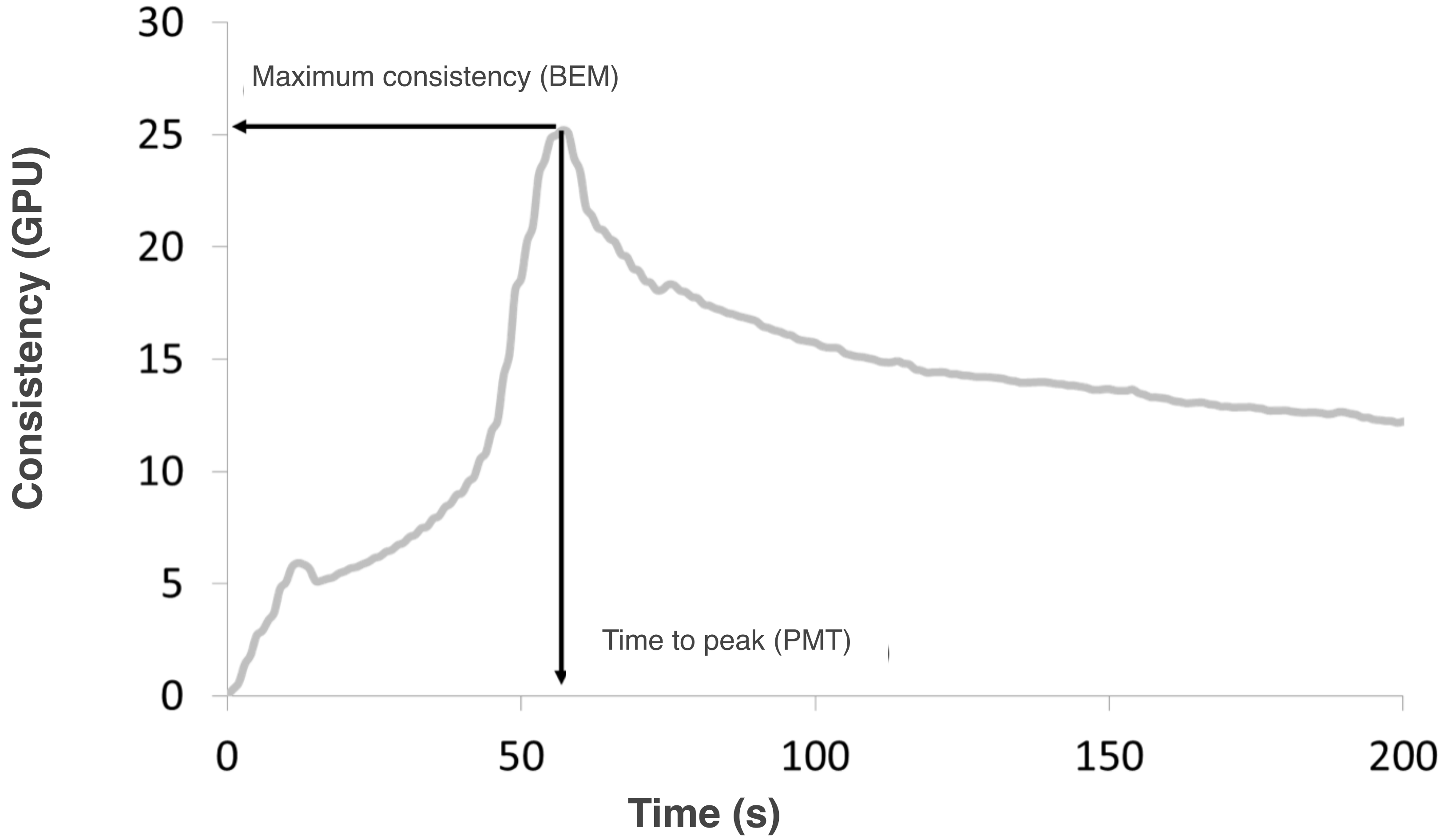
Figure 1 **EXAMPLE OF GRAPH OBTAINED USING GLUTOPEAK AND RELEVANT INDICES**



indices with regard to the ingredients in question. Furthermore, it must be remembered that ancient wheats are often: i) the product of organic farming, which, frequently, does not guarantee the accumulation of protein in the caryopsis of a quantity and quality comparable to those seen in wheats grown using conventional practices (Pandino et al., 2020); ii) used in the form of whole-wheat flours, preferably produced iii) using stone-grinding methods that facilitate the formation of large bran particles (Pagani et al., 2020) and make it more difficult to assess their rheological properties through alveographic testing, as will be shown below.

As such, conventional rheological approaches (which also require long analysis times and trained personnel) do not seem to offer information on the pasta-making quality of ancient wheats, as indicated by the results obtained in relation to certain varieties of spelt (Marconi et al., 2002). Indeed, despite their comparable alveographic parameters (W = 150 x 10^{-4} J; P/L = 0.18 for Rouquin; W = 154 x 10^{-4} J; P/L = 0.27 for Triventina), pasta types produced using flours made from the Rouquin and Triventina cultivars of *T. spelta* exhibited opposite cooking behaviour: significant stickiness and barely sufficient bite in pasta made using

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Rouquin; no stickiness and good consistency in pasta made using Triventina.

The GlutoPeak test, Brabender's most recent contribution, seems capable of overcoming these limitations. As described in detail in the works of Marti et al., (2013), Marti et al., (2014) and Cardone et al. (2018), the test offers numerous benefits: it is carried out on a small sample size (10 g), it takes just a few minutes to complete (including cleaning the tool) and it does not require particular skills on the part of the person performing the test. Figure 1 shows a typical curve obtained using the GlutoPeak and the indices that are automatically calculated using the software associated with the tool. Specifically, a suspension of flour in water is prepared (at a ratio of approximately 1:1) and mixed vigorously (up to 3000 rpm). The strong mechanical action promotes the aggregation of the gluten protein, a phenomenon that leads to increased consistency, up to a maximum peak or BEM (Brabender Equilibrium Maximum), the value of which is expressed in arbitrary units (GPU). The aggregation time or PMT (Peak Maximum Time) corresponds to the time required to reach maximum consistency, expressed in seconds. Other factors commonly taken into account when assessing the quality of flour include Total Energy, expressed in arbitrary units (GPU), represented by the area under the curve from the beginning of the test until 15 seconds after formation of the peak (BEM), and Aggregation Energy (also measured in GPU), corresponding to the area under the curve in the period spanning 15 s before and 15 s after formation of the peak.

As well as the numerous benefits outlined above, the GlutoPeak test also makes it possible to achieve repeatable and reliable results, including when testing soft whole wheat flours, as indicated by the collaborative work carried out by DeFENS at the University of Milan and a number of American research institutes (Malegori et al., 2018). The indices obtained from an analysis of whole flours were found to be capable of predicting those resulting from the corresponding refined samples, thus making it possible to further reduce the time required to obtain information on the qualitative properties of a sample and predict its behaviour during the production process. Indeed, as the presence of bran particles in a flour may negatively affect the alveographic test result, compromising the quality assessment of the wheat, grinding at a laboratory scale to obtain a small quantity of refined flour or semolina is, unfortunately, an essential step. Positive information has been obtained using the

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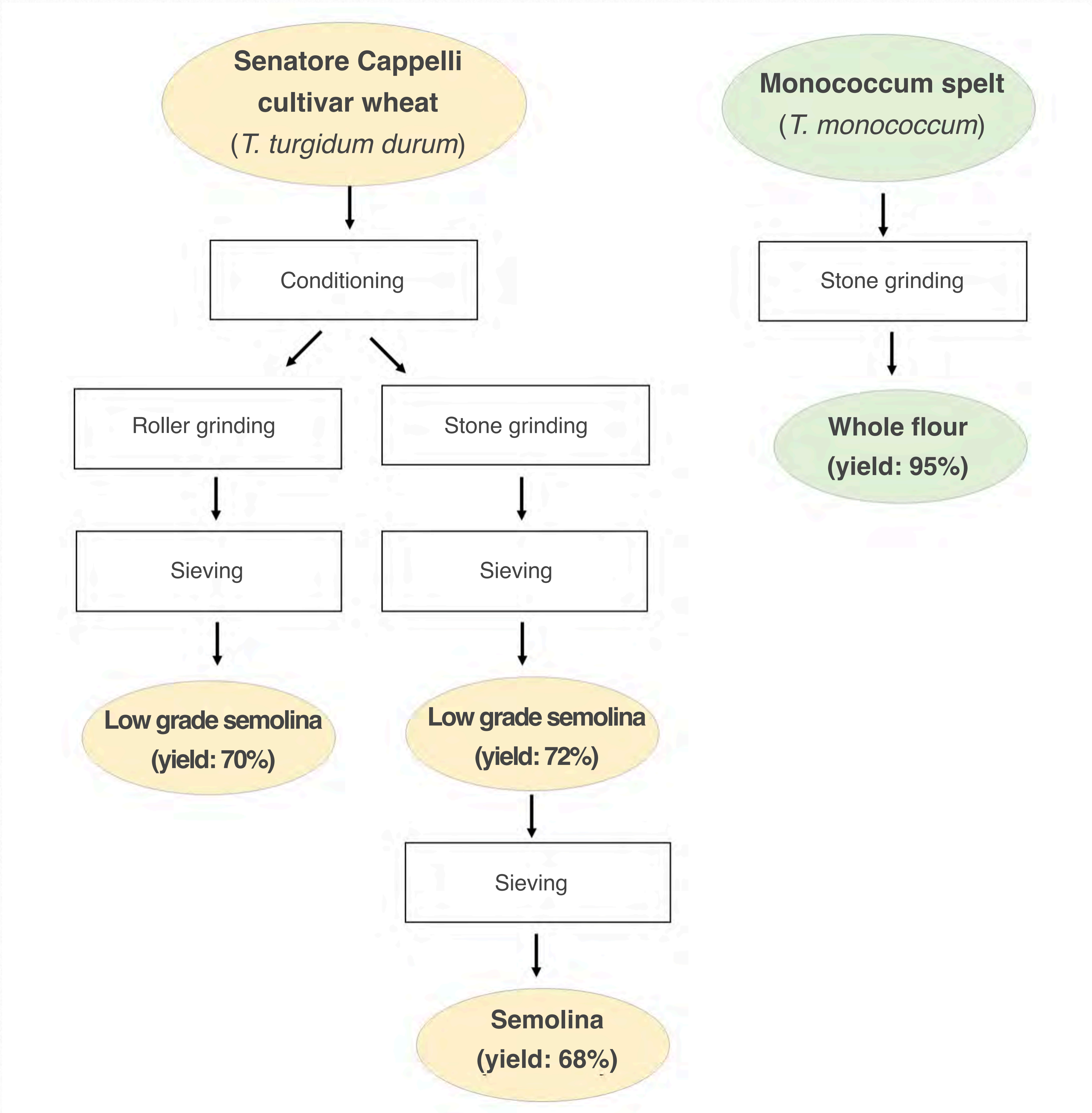
Figure 2 **OUTLINE OF PRODUCTION OF THE FLOURS USED IN THE RESEARCH**



GlutoPeak test not only in relation to soft whole wheat flours, but also whole spelt flours (from both triticum monococcum and triticum dicoccum), spelt wheat and durum wheat: the aggregation time in which the peak appears (PMT) and the

Table 1 **COMPOSITION CHARACTERISTICS OF FLOURS PRODUCED FROM THE SENATORE CAPPELLI DURUM WHEAT CULTIVAR AND MONOCOCCUM SPELT (EXPRESSED IN g/100 g T.Q.)**

PARAMETER	DURUM WHEAT SENATORE CAPPELLI CULTIVAR			MONOCOCCUM SPELT
	Low grade semolina (roller grinding)	Low grade semolina (stone grinding)	Semolina (stone grinding)	Whole Flour (stone grinding)
Total starch	58	56	61	55
Damaged starch (% tot. starch)	10.4 (17.9)	11.3 (20.2)	11.2 (18.4)	8.3 (15.1)
Proteins	11.3	11.3	12.1	11.9
Lipids	1.9	1.8	1.7	2.4
Total fibre	4.5	4.8	3.5	7.6
Ash	1.3	1.2	1.0	1.4

maximum peak of maximum consistency (BEM) are results that are, in fact, closely correlated with the stability of the dough and development of the bread in terms of volume, demonstrating that the test is a valid alternative to the long and complex bread-making micro-tests (Geisslitz et al., 2018).
In light of these encouraging results, we at DeFENS at the University of Milan verified the potential of the GlutoPeak test to predict the pasta-making suitability of four flours at different extraction rates, obtained from monococcum spelt and the Senatore Cappelli variety of durum wheat. The samples were ground using either a roller mill or stone mills at an artisanal flour mill, specialised in processing ancient wheats, as outlined in Figure 2. The figure also indicates grind yield, which obviously differs depending on the number of sieving steps and consequent removal of a portion of the bran. Only flour produced from monococcum spelt, involving no sieving steps during the grinding process, can be classified as whole in accordance with the guidelines set out by certain international institutions (Van Der Kamp et al., 2014).
The composition of the flours, outlined in Table 1, shows expected differences that correlate with the type of wheat and the grinding process. Indeed, refined Senatore Cappelli semolina has the highest protein and starch content of the samples of this cultivar. At the same level of refinement (roller-ground and stone-ground Senatore Cappelli low grade semolina), there are no substantial differences in composition

Table 2 **ALVEOGRAPHIC TEST PARAMETERS AND APPEARANCE OF THE BUBBLE IN THE DOUGHS MADE FROM SENATORE CAPPELLI CULTIVAR SEMOLINA AND WHOLE MONOCOCCUM SPELT FLOUR**

PARAMETER	DURUM WHEAT SENATORE CAPPELLI CULTIVAR			MONOCOCCUM SPELT
	Low grade semolina (roller grinding)	Low grade semolina (stone grinding)	Semolina (stone grinding)	Whole Flour (stone grinding)
W (10^{-4} J)	149 ± 3^{a}	147 ± 16^{a}	105 ± 8^{b}	nd
P (mm H_20)	99 ± 3^{b}	120 ± 4^{a}	$88 \pm 0{,}7^{c}$	nd
L (mm)	39 ± 1^{a}	29 ± 3^{b}	31 ± 4^{ab}	nd
P/L	2.5 ± 0.2^{b}	4.2 ± 0.3^{a}	2.9 ± 0.3^{b}	nd

Different letters in the same row indicate significant differences (p<0.05); n.d., not determinable

arising from the use of rollers or a stone mill, aside from a small but significant difference in terms of the quantity of damaged starch: indeed, stone grinding seems to result in a higher number of mechanically damaged granules in terms of breaks, cracks, etc. As this portion is particularly susceptible to absorbing water and to hydrolysis by amylase in a dough system, it may play a positive role in bread-making, but not so much in pasta-making. The starch damage content of monococcum spelt flour is substantially lower, by around 3 percentage points, than that of durum wheat flours. Indeed, this cereal is characterised by a mealy caryopsis and, consequently, its grain offers little resistance during grinding, splitting easily without the fracture line affecting the starch granule. As would logically be expected, the sample obtained from monococcum spelt also has the highest fibre content, as almost all of the external bran components and the germ are preserved.

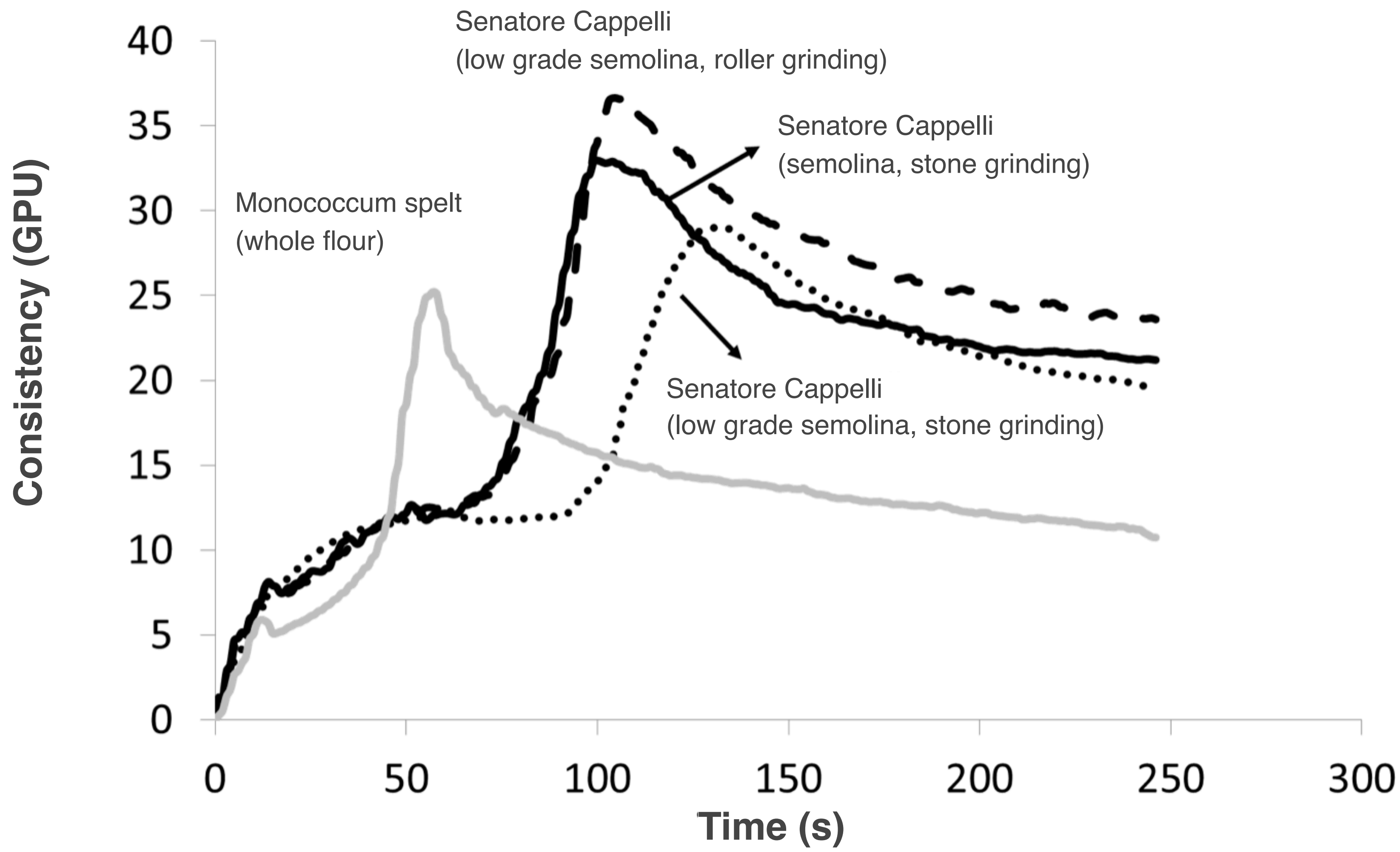
As regards alveographic properties (Table 2), the Senatore Cappelli cultivar low grade semolina samples are characterised by entirely similar W values (149 x 10^{-4} J and 146 x 10^{-4} J) and are associated with modest pasta-making quality in accordance with the voluntary UNI 10940 standard (2001), as regards the technological classification of durum wheat semolinas. Low grade semolina obtained from stone grinding presented a P/L ratio of 4.2, indicating high rigidity. Finally, the alveographic test could not be used to assess the monococcum spelt sample, both due to the difficulty in

Figure 3 IMAGES OF SENATORE CAPPELLI SEMOLINA (LEFT) AND MONOCOCCUM SPELT (RIGHT) DOUGHS DURING ALVEOGRAPHIC TEST

forming uniform disks of dough (due to the high extensibility of this flour), and because it was not possible to produce a bubble during air insufflation, as shown in Figure 3.

The information offered by the GlutoPeak test, presented as graphs in Figure 4, with the corresponding parameters provided in Table 3, was more interesting and useful. The GlutoPeak analysis enabled a distinction to be made between the samples not only based on species, but also based on the grinding method used. Indeed, roller-ground Senatore Cappelli cultivar low grade semolina had a substantially higher BEM (maximum peak consistency) value and a lower PMT value than the equivalent stone-ground sample, suggesting that the roller-ground sample has a greater capacity to form a strong gluten matrix. As such, the grinding process can affect the aggregation capacity of the gluten protein. The act of sieving stone-ground Senatore Cappelli low grade semolina, and therefore the removal of the large-grain bran, made it possible to obtain semolina with protein aggregation properties similar to those of low grade semolina obtained through conventional roller grinding, as emerges both from the PMT index and the Aggregation Energy. Finally, the whole monococcum spelt sample exhibited entirely different behaviour from that of

Figure 4 **GRAPHS OF DURUM WHEAT AND MONOCOCCUM SPELT FLOURS OBTAINED USING THE GLUTOPEAK TEST**



flours obtained from Senatore Cappelli durum wheat, recognisable by the rapid appearance of the peak (PMT=56 s), low BEM value (25.4 BE) and low Aggregation Energy, confirming that the gluten in this cereal is less suitable for processing to make pasta (Brandolini et al., 2018).
The suitability of four flours for pasta-making was verified through experimental pasta-making tests carried out using the pilot systems of the University of Milan. In particular, all samples (pipe rigate shape) were subject to the same drying cycle at 60°C.
According to the information provided by the GlutoPeak test, monococcum spelt was the ingredient found to be least suited to pasta-making, particularly based on the index relating to consistency of the pasta after cooking, which was 20% below pasta made using Senatore Cappelli low grade semolina (482 N and 600 N, respectively).
Overall, the results of this work indicate that the rediscovery and promotion of ancient wheats and old varieties of durum wheat as ingredients for pasta-making,

Table 3 **PARAMETERS OF THE GLUTOPEAK TEST ON DURUM WHEAT AND MONOCOCCUM SPELT FLOURS**

PARAMETER	DURUM WHEAT SENATORE CAPPELLI CULTIVAR			MONOCOCCUM SPELT
	Low grade semolina (roller grinding)	Low grade semolina (stone grinding)	Semolina (stone grinding)	Whole Flour (stone grinding)
Maximum Torque (GPU)	36 ± 0.91[a]	29 ± 0.6[c]	33 ± 0.8[b]	25 ± 0.3[d]
Peak maximum time (s)	105 ± 2[b]	129 ± 2[a]	102 ± 3[b]	56 ± 3[c]
Energy at peak (GPE)	1579 ± 41[b]	1849 ± 68[a]	1426 ± 62[c]	572 ± 36[d]
Aggregation Energy (GPE)	999 ± 25[a]	852 ± 14[c]	919 ± 24[b]	615 ± 10[d]

Different letters in the same column indicate significant differences (p<0.05)

justifiable based on the agronomical and nutritional properties of these cereals, require fast and reliable approaches to assessing their "technological quality". The most common rheological tests, such as the alveographic test, seem incapable of determining the effective suitability of these ingredients for processing, particularly if they are analysed in the form of whole flours. The rheological test recently proposed by Brabender – the GlutoPeak test – is quick, repeatable and easy to perform; furthermore, initial studies on ancient wheats suggest that it satisfies industry requirements, making it possible to recognise the capacity of gluten proteins to aggregate and resist the mechanical stresses involved in the pasta-making process.

Notes

1. http://agrariansciences.blogspot.it/2015/12/grani-antichi-e-moderni-un-paradigma-o.html

Bibliography

Boukid F., Folloni S., Stefano Sforza S., Elena Vittadini E., and Barbara Prandi B., 2018. *Current trends in ancient grains-based foodstuffs: insights into nutritional aspects and technological applications*. Comprehensive Reviews in Food Science and Food Safety, 17, 123-136.

Brandolini A., Lucisano M., Mariotti M., Hidalgo A. 2018. *A study on the quality of einkorn (Triticum monococcum L. ssp. monococcum) pasta*. Journal of Cereal Science, 82, 57–64.

Cardone G., Vazzola M., Marti A. 2018. *Previsione dei principali indici di qualità della farina di*

frumento tenero mediante GlutoPeak test. Tecnica Molitoria, 69, 1096-1107.

Geisslitz S., Wieser H., Scherf K.A., Koehler P., 2018. *Gluten protein composition and aggregation properties as predictors for bread volume of common wheat, spelt, durum wheat, emmer and einkorn*. Journal of Cereal Science, 83 204–212.

Gregorini A., Colomba M., Ellis H.J., Ciclitira P.J., 2009. *Immunogenicity characterization of two ancient wheat α-gliadin peptides related to coeliac disease*. Nutrients 1, 276–290.

Malegori C., Grassi S., Ohm J.-B., Anderson J., Marti A., 2018. *GlutoPeak profile analysis for wheat classification: skipping the refinement process.* Journal of Cereal Science, 79, 73–79.

Marconi E., Carcea M., Schiavone M., Cubadda R. 2002. *Spelt (Triticum spelta L.) pasta quality: combined effect of flour properties and drying conditions.* Cereal Chemistry, 79, 634–639.

Marti A., Dreisoerner J., Pagani M.A. 2013. *Caratterizzazione di farine di frumento tenero mediante GlutoPeak*. 64, 1088-1092.

Marti A., Cecchini C., D'Egidio M.G., Dreisoerner J., Pagani M.A., 2014. *Characterization of durum wheat semolina by means of a rapid shear-based method*. Cereal Chemistry, 91, 542–547.

Pagani M.A., Giordano D., Cardone G., Pasqualone A., Casiraghi M.C., Erba D., Blandino M., Marti A., 2020. *Nutritional features and bread-making performance of wholewheat: does the milling system matter?* Foods, 9, 1035; doi:10.3390/foods9081035

Pandino G., Mattiolo E., Lombardo S., Lombardo M.G., Mauromicale G., 2020. *Organic cropping system affects grain chemical composition, rheological and agronomic performance of durum wheat*. Agriculture 2020, 10, 46; doi:10.3390/agriculture10020046.

Shewry P.R., Hey S., 2015. *Do "ancient" wheat species differ from modern bread wheat in their contents of bioactive components*? Journal of Cereal Science, 65, 236–243.

UNI – Ente Nazionale Italiano di Unificazione. Norma n.10940, 2001. Prodotti derivati dal grano duro destinati alla pastificazione. Definizioni, caratteristiche e classi di qualità.

Van Der Kamp, J. W., Poutanen, K., Seal, C. J., Richardson, D. P., 2014. *The HEALTHGRAIN definition of "whole grain*. Food and Nutrition Research, 58, 1–8.

Acknowledgements

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2

The fifth edition of Pastaria Festival is set to open

Editorial staff

The free, day-long Pastaria Festival event providing specialised information for pasta producers will take place on 26 October 2021 in Rho (Milan), as part of Tuttofood. Pastaria Festival will also be available live on the Internet.
A preview of the programme and information on how to take part in Pastaria Festival are available on these pages.

Pastaria Festival 2021 will be held on 26 October at FieraMilanoRho, and for the first time ever will be part of a trade fair event (Tuttofood, 22-26 October). Pastaria Festival – the free, day-long event providing specialised information for pasta producers and supply chain operators – will once again welcome people in attendance, and in a prestigious international setting in which numerous and well-known pasta manufacturers are traditionally exhibitors.
The event can also be followed live online, and in English, allowing international operators to participate.
And so, for the first time ever, it will adopt a hybrid format, with people being able to attend either in person or virtually.
Given it will be staging the event as part of a trade fair, Pastaria Festival will employ a leaner formula, compared to previous Festivals with a live audience, and it will only take place in one room, with no simultaneous parallel sessions.

The Programme

The following sessions will take place at the Retail Plaza area of pavilion 6 of Tuttofood, where the Pastaria Festival will be held between 9:45am and 6.00pm:

- Fabio Licciardello (University of Modena and Reggio Emilia, GSICA), Elena Torrieri (University of Naples Federico II) *Design and innovation for pasta packaging*;
- Francesca Mostardini (University of Parma, GSICA), Davide Pollon (Corepla), *Ecodesign and end-of-life scenarios for fresh pasta packaging*;
- Sara Limbo (University of Milan, GSICA), *The perishability of packaged fresh pasta during the distribution phases: the role of packaging gases and the characteristics of light sources*;
- Alessandra Marti (University of Milan), Maria Ambrogina Pagani (University of Milan), *Production and characterisation of legume pasta*;
- Maria Cristina Messia (University of Molise), Emanuele Marconi (University of Molise), Francesca Cuomo (University of Molise), *Development of innovative pasta of high dietary and nutritional value and environmental sustainability*;
- Gabriella Pasini (University of Padua), *Protein extracts from insects to produce "high protein content" pasta*;

- Margherita Dall’Asta (Università Cattolica del Sacro Cuore di Piacenza), Gianluca Giuberti (Università Cattolica del Sacro Cuore di Piacenza), *Digestibility of legume pasta*;
- Francesco Sestili (Tuscia University), *Innovative wheats to reduce the glycaemic index of pasta*;
- Pasquale Catzeddu (Porto Conte Ricerche), *Fresh pasta produced from fermented durum wheat flours: technological and nutritional aspects*;
- Marco Dalla Rosa (University of Cesena), Stefano Zardetto (University of Cesena), *Application of MAP packaging to increase the safety and shelf-life of filled fresh pasta*;
- Luca Sivelli (Biofresh), *Biofresh: ozone management systems for the containment of mould on pasta*;
- Alessio Cappelli (University of Florence), *Promotion of short supply chains and local production in response to the COVID-19 crisis and the environmental emergency*;
- Stefano Galli (Nielsen), Sara Beretta (Nielsen), *Pasta and new dietary habits: continuity and new trends*;
- Matteo Figura (NPD Europe), *Away from home pasta consumption before and after the pandemic*.

There will be plenty of opportunity for discussion, and the Pastaria Awards 2021 prize-giving ceremony will also take place during the event (see article *Pastaria Awards 2021: and the winners are...*).

An event in collaboration with associations and universities

As always, the event will avail itself of the support and collaboration of the most important Italian and international associations of pasta producers, and the contribution of researchers and professors from Italy’s most reputable universities. As is customary, they will focus on the status of research applied to pasta.

Sponsors

The event was made possible thanks to solid support from leading international companies in the supply of machinery and systems, ingredients and services for pasta production, aware of the importance of specialised training and continuous professional development.
Sponsors of Pastaria Festival 2021 are: Gea Pavan (Leading sponsor), MartinoRossi (Leading sponsor), Molino Casillo (Leading sponsor), Anselmo, Axor, Biofresh, Brambati, Fava, Foodtech, Landucci, Molino De Vita, Molino Grassi, New Flavours, Pasta Technologies Group, Rivestimenti Speciali.

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The papers

The Pastaria Festival papers will be published in Pastaria over forthcoming issues of the magazine.

Taking part

Attendance is free and reserved for sector operators.

In-person attendees of Tuttofood will have free access to the Retail Plaza area of Pavilion 6 where the Pastaria Festival will be held, subject to availability. Ways of taking part on-line, via the Zoom platform, will be announced soon on Pastaria.

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3

Giovanni Rana, President of APPF: "Retail sales have kept turnover high, so now we are expecting a rapid recovery"

Delia Sebelin

Giovanni Rana, President of APPF

The optimism of APPF (Association of Fresh Pasta Manufacturers) has prompted the association's top management to examine – before the end of the summer – "sensitive" legislative issues that could affect the sector's economy.

That Covid brought various sectors of the economy to its knees is undeniable but, in this particular case, the situation of APPF (Association of Fresh Pasta Manufacturers) is a clear exception.
"In general, the performance of our companies has been positive and, in some cases, extremely so", says Cavalier Giovanni Rana, President of APPF. He explains: "Restrictions on eating out have led to a considerable increase in pasta and gnocchi sales in the retail channel, due to the fact that families were compelled to prepare and eat more meals at home". But it hasn't all been "easy sailing": "Of course, some of our members whose business is oriented towards foodservice, have suffered due to the intermittent opening and closing of the activities in Italy and abroad – Rana hastens to clarify, but he adds – But now they are very optimistic that they will make a rapid and lively recovery in the second half of this year".
The strong entrepreneurial spirit that shored up the pasta producers during the worst of the pandemic emerges clearly from this interview. An "attitude" that kept them going notwithstanding the difficulties caused by the economic situation.
Like everyone else, they were striving to cope with a period of history the full scope of which no one could have imagined, a catastrophe that has brought out the strengths and weaknesses of our way of life and our co-existence, a valuable experience to learn from in order to be "reborn" stronger and more mindful than before. Hopefully, we have learned or are learning something from all of this. Pasta producers, for example, have had confirmation of how important it is to distinguish themselves by offering excellence, since, according to the leader of APPF, "there has been a great demand from consumers for high quality and Italian style, with gourmet products and PDO ingredients. Sales of organic and gluten-free products are also on the rise".

Cavalier, from your words it would appear that your members have been able to withstand the impact of Covid…
I would say so, given the scale and duration of the phenomenon. At the outset, the most important thing we had to do was adapt Human Resources management to the new regulations, and we had some difficulties in meeting the demand for our products in the first two weeks of the first lockdown, when people reacted to the crisis by "hoarding". It was also tricky dealing with some critical issues related to logistics: cross-border transport slowed down and cost more,


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From left to right, Cavalier Giovanni Rana, President of APPF, with Secretary, Gherardo Bonetto

but now everything has returned to normal.

In some sectors, smaller companies had to draw on external resources to meet the costs involved in making the necessary changes to guarantee occupational health safety...
Not in our case, inasmuch as the difficulties were in proportion to the size and specific organisation of each company.

And now, how do you think that the fresh pasta market is going to develop?
It is difficult to know how consumers will react once everything is "back to normal", but the general feeling is optimism that the positive trend of recent years will continue.

In view of this, what are the short- and long-term goals of your association?
As you know, APPF's main aim is to safeguard the interests of fresh pasta and

gnocchi producers. To this end, we are also involved in arranging the study of laws, decrees, regulatory and technical standards likely to impact the economy and performance of the sector. With this in mind, we are planning, in the near future, to take a deep dive into two issues that could particularly impact our sector: Legislative Decree 116 of 3 September 2020 on packaging and packaging waste; and Regulation 1400/2020/EU on the use of feed additives for laying hens.

APPF
ITALIAN ASSOCIATION OF FRESH PASTA PRODUCERS

President: Giovanni Rana

Secretary: Gherardo Bonetto

Year of establishment: 1989

Goals:
- to protect the interests of Italian fresh pasta and gnocchi producers in general, on a national and international scale;
- to promote initiatives designed to obtain legislative provisions;
- to arrange the study of laws, decrees, regulatory and technical standards that may affect the economy and operation of the sector;
- to organise conferences, round tables, study seminars and exchanges with other commercial or industrial categories, including competitors;
- to maintain relations with the press, the media in general and the Consumers' Union;
- to undertake the appropriate initiatives to protect and assist both in and out of court, in all cases in which the status of the Association is relevant and important.

Member companies: 16

Sustaining members – Suppliers: 9

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How do you intend to proceed?
We are going to analyse these regulations during the Association's next workshop (presumably at the end of the summer) with the contribution of sustaining members (leading companies in the production of eggs and egg products) and the Legal Firm that has always collaborated with us.

What, in detail, are the advantages offered by APPF to its members?
We have a very streamlined structure, which is extremely quick to respond and take action. We build a professional but also "personal" relationship with our members, in the sense that we really do have their interests at heart. They perceive this and it creates an added value to all our work.

How would you describe your role at an institutional level?
Well, representing more than 85% of fresh pasta and gnocchi production in Italy, we are invited to actively collaborate with ministerial bodies in issuing or amending the technical-legal codification of fresh pasta and gnocchi.

And what about your presence at a European level?
APPF is a member of ECFF (European Chilled Food Federation, the umbrella

organisation for national chilled food associations and individual European chilled food manufacturers, editor's note). This affiliation opens the doors to the competent European authorities and decision-making bodies in the individual member countries in the event of problems, the need for regulatory interpretations, and so on.

Last but not least, what about your relationship with other pasta associations?

It has always been good. I am hoping for a new and constructive discussion with them soon on a number of issues concerning Italian legislation for the sector, which, in our opinion, contains a number of paragraphs that are somewhat restrictive and out of sync with the new consumer requirements.

News

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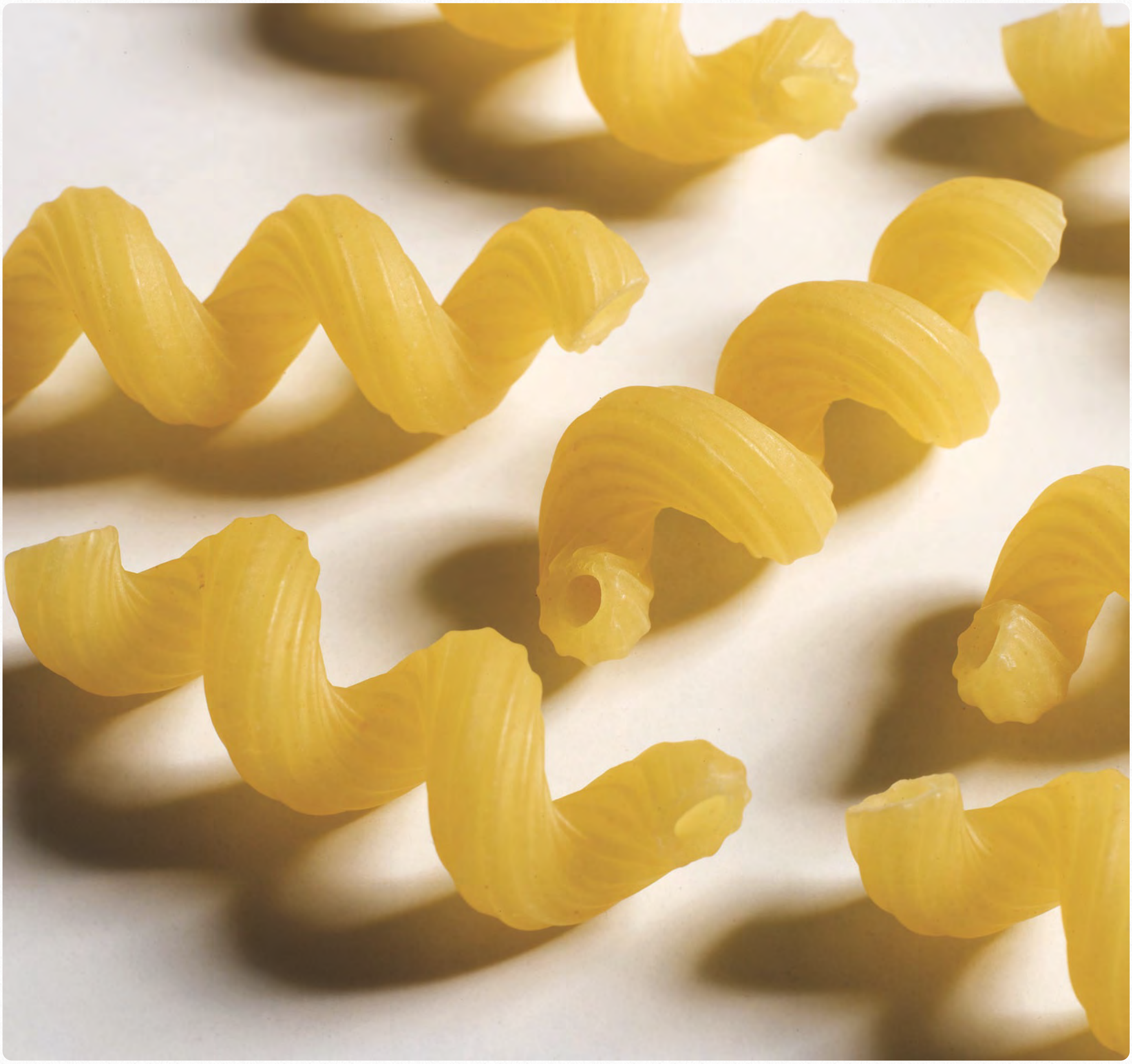
4

Short news

Editorial staff



Garofalo, financing from Intesa Sanpaolo in the name of sustainability

Intesa Sanpaolo has signed a financing agreement for €25 million with the renowned Gragnano-based Lucio Garofalo pasta factory, to enable the company to achieve specific sustainability targets, i.e. significant reduction in energy consumption, emissions and materials used, as well as virtuous waste management. The transaction includes a credit line with a 6-year term and a fixed interest rate, characterised by a pricing mechanism. "We want to take concrete action in response to the demands of our consumers, who are increasingly conscious and mindful of what they serve up" explained Massimo Menna, CEO of Pastificio Garofalo. "As such, we need to consider the leading social and environmental trends that affect our sector, to mitigate their negative effects and maximise the positive impacts of our actions". Pastificio Garofalo also announced the publication of its first sustainability report, drafted in collaboration with Lifegate, which allowed it to pinpoint the sustainability issues of greatest significance to the company and its stakeholders and identify three areas of action: product safety and quality, person-centredness and environmental friendliness.

Rana: an award and growing turnover

The innovative "Rana – Giro d'Italia" limited edition – celebrating the company's partnership with the legendary cycling race with four delicious traditional Italian regional recipes – received the "Best New Entry" award in its category at the 2021 Brand Awards.

The Rana Group, which approved the consolidated financial statements for the period ending 31 December 2020, also confirmed the upward trend in turnover, which reached €900 million, up 16.3 percentage points compared to 2019. "The 2020 financial period rewarded commitment, planning and investments made during such a complex year" the company noted.

The American market played a fundamental role in driving sales, accounting for a turnover of $364 million, up 33% compared to 2019. Over the course of 2020, meanwhile, Rana retained its position as market leader in the fresh filled pasta sector in Italy, France, Spain, Germany, the United Kingdom and the United States. "We are very pleased with the results achieved by our team, because

they were by no means guaranteed in a year such as last year, characterised by uncertainties," stated Gian Luca Rana, CEO of the company.

Inter and La Molisana renew their partnership

The collaboration between Inter and La Molisana continues: the pasta company from Campobasso, Official Supplier of the black-and-blue club since 2019, has now been named the Italian Champions' Regional Partner until the 2022-23 season, while also supporting the women's team project by becoming Official Women's Team Partner. "We are delighted to continue our partnership with Inter," declares Giuseppe Ferro, CEO of La Molisana, "a solid club and current national champions, giving us flexibility in terms of promoting our brand in Northern Italy, an area of great interest to us". As of this season, the La Molisana logo will be displayed pitchside during all home games played by both the Men's First Team and Inter Women.

De Cecco seeks a minority shareholder

The De Cecco food group is looking for a minority shareholder to acquire 35%. The transaction would involve a reserved capital increase, with the issuance of 75 million new shares at a minimum price of €4.16 per share. The deadline is set for 31 January 2022. The recapitalisation is aimed at an institutional investor or strategic financial partner interested in obtaining a qualified minority shareholding of up to 35% of the capital of the Fara San Martino company. The project has been part of the De Cecco family's plans since 2007, but is yet to be realised. This time, however, the value of the capital-strengthening transaction, aimed at entities outside the group, has been established, at a figure of at least 312 million.

The Luciana Mosconi pasta factory acquires 75% of La Monacesca

The Luciana Mosconi pasta group enters the national and international wine market: the brand, which owns two pasta factories – one in Matelica and one in Ancona – has acquired 75% of Cantina La Monacesca, a business based in the Marches region, with 56 hectares, two cellars, and potential to exceed the current yield of over 100,000 bottles. The top quality and exceptionally refined products include, most notably, the jewels in the crown of the Matelica terroir: Verdicchio DOC and Verdicchio Riserva

DOCG. The synergic project aims to create a "made-in-the Marches" multibrand agrifood hub, excellently positioned for national and international growth, with both companies being able to benefit from complementary know-how, without compromising their respective identities.

28 Pastai, blockchain-certified pasta

In collaboration with Authentico, the 28 Pastai brand lets consumers trace the entire production chain: from the wheat fields to the semolina selected by the mill, from the drying process to the packaging. Each individual pack of pasta features a QR code that gives transparent access to all the information, and lets consumers verify all of the quality standards applied to the specific production batch. The brand name (which translates literally as "28 Pasta Makers") comes from the idea of promoting the stories of 28 pasta makers who, over the years, contributed, through their knowledge, to bringing the processing methods, secrets and traditions of Made-in-Italy pasta to the world. The pasta factory in the Valle dei Mulini (Valley of the Mills, Gragnano, Italy) has production capacity of 750,000 kg per year and is among the most modern and innovative pasta production plants.

New shapes for Pasta Armando

Pasta Armando, the premium brand produced by the De Matteis pasta factory, expands its durum wheat semolina pasta line with three new shapes: Linguina, Treccione and Mezza Penna Rigata. The three new additions, made using 100% Italian durum wheat semolina from the Armando supply chain, stand out thanks to the bronze die extrusion and slow drying techniques used and, like all items in the line, come in packaging that can be disposed of entirely as paper waste and are certified by the Bureau Veritas certification body as containing Zero Residue of pesticides and glyphosate. The Armando supply chain requires a direct agreement, known as the "Patto Armando" (Armando supply chain agreement), to be signed between the company and each individual farmer, committing them to strict adherence to cultivation guidelines based on virtuous farming practices.

5

Products of origin: The Pros and Cons of PGI pasta

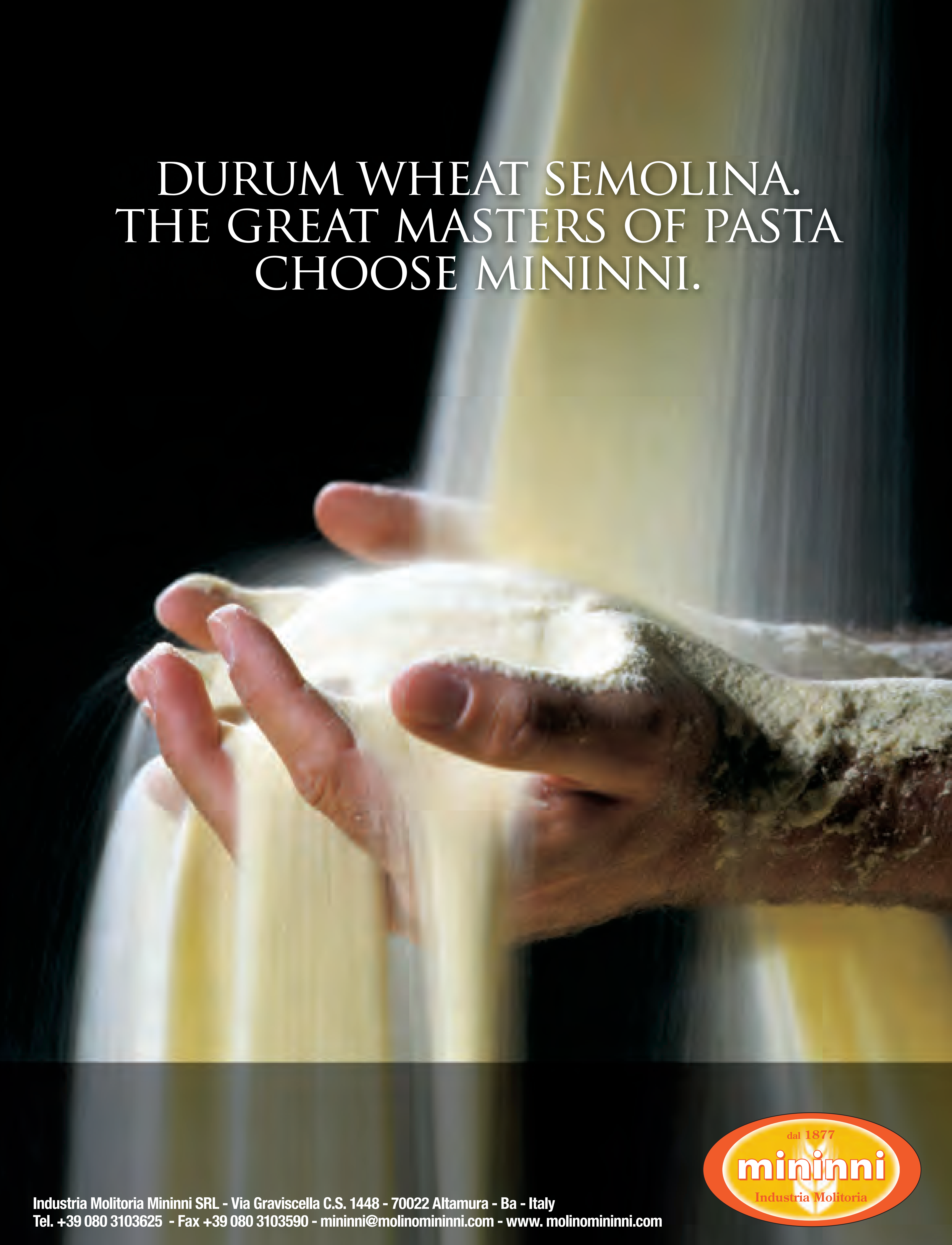
Delia Sebelin

Economist Dario Casati explains when it might be profitable to invest in branded food and when, on the other hand, it could be a flop.

How to gauge whether it is an added value to offer a product with a protected designation of origin. Why don't the Giants that produce the Queen of the Italian table market PGI pasta? And how are our specialities viewed abroad? With the help of Dario Casati, Emeritus Professor of Agricultural Economics at the University of Milan, we have taken a deep dive into the subject.

Professor, let's start from basics. Why are branded products successful?
Protected designations of origin were instantly hailed with great enthusiasm in Italy because they appealed, almost instinctively, to the localist mentality of our communities: these are the foods that were once eaten in the family, in the 10,000 villages of origin and their hamlets: they have the taste and flavour of the past that is now being viewed in a new light. And they have resolved a difficult problem for marketing: how to find a distinctive, non-contestable, low-cost requirement to enhance certain food products. This requirement is fundamental and designates a well-defined – and unique – geographical area of production where these foods are created, complying with the specifications handed down from generation to generation, modernising them where possible, especially with regard to hygiene standards. The raw materials can be found, the production practices can be imitated, but the origin cannot. This is the trump card of designations of origin.

***Pasta di Gragnano*, *Maccheroncini di Campofilone, Culurgionis d'Ogliastra, Ravioli di Zucca di Ferrara*: these are all PGI-certified products, while *Casunziei delle Dolomiti* and *Agnolotto Piemontese* have started the process to become so. *Bigoli* from Veneto, on the other hand, are PAT-approved products (Prodotto agroalimentare tradizionale – Traditional Agri-Food Products), as are *Cavatelli* from Molise and *Spaghetti alla Chitarra* from Abruzzo: PAT, PGI, PDO… why these differences?**
The designations are rated according to their degree of stringency. PDO certification requires the production of raw materials from a certain place, processed in that place using codified procedures and contained in specific packaging. PGI, on the other hand, is less stringent because it allows raw materials from outside the area to be used following the traditional methods. An example of a PDO product is *prosciutto crudo* from Parma or San Daniele obtained from pigs of defined breeds, bred and slaughtered in the area. A very well-known and highly appreciated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PGI, *Bresaola Valtellinese*, is – in contrast – produced from specific cuts of cattle also from outside the area. Then, over time, the best-known designations have been joined by a series of others, such as PAT: traditional agri-food products, several thousand in all, managed by the municipalities. These are less protected than PDO and PGI and garner less weight on the market.

But don't all these designations risk creating confusion?

The large number of products covered by designations and the variety of such designations should not be misleading as regards the economic aspects of the sector. The majority of the turnover and exports in the Food sector are in cheese, followed by processed – mainly cured – meats. Together they account for 84% of production value, around the same

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percentage as that of consumption, and 68% of exports. The first 10 products, with the exception of balsamic vinegar, belong to this category. The first 4 products account for 55%, the first 8 for 70%. In other words, the remaining 830 make up the last 30%. It turns out that they are generally very small, which explains why French designations, although fewer in number, produce a higher value. And let's not forget that a designation involves costs: to achieve it, maintain it, promote it and actively defend it against imitations. Those that are too small are spread and promoted over a small area: this means a restricted market, unable to reach a critical size.

So what are the pros and cons of producing PGI pasta, in particular?
Out of the more than 800 PDO and PGI designations, there are 17 for bakery products and only 5 for pasta. In general, they are authentic local specialities which are not widely known and appreciated, outside a small geographical area, and


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hence not very profitable. But excluding the top products in the various categories, this applies to all "minor" designations, which tend, similarly, to be concentrated over a small area. Investing has a price, as I mentioned before, and the additional cost of actively safeguarding the designation also has to be taken into account. So the smaller the designation, the less there is to be gained. Even in the rich cheese sector, it is easy to find little or totally unknown PDO products at local markets, literally sold at discounted prices to consumers who are often unaware of what they are buying, being attracted more by the cost than by the other characteristics.

Let's assume that a pasta maker from Gragnano goes to Berlin, sets up a pasta factory and produces pasta with the same grains he used in Campania, and with the same methods: would his product be less good and/or less profitable than that which he was selling in Naples?
PGI production outside the area of origin is destined for failure. An exception to this is the case of Provolone produced in Lombardy, which must be called '*Provolone Valpadana*', but these are very rare examples, permitted because they are historically documented. Such an attempt would most probably lead to a negative and underrated imitation, such as a '*Grana*' cheese produced in Denmark or '*Reggianito*', a kind of *Parmigiano Reggiano* made in Argentina. These cheeses are the result of the entrepreneurship of Italian emigrants, in partnership with local cheesemakers: foods with little or no commercial success. The risk is that of falling into the category of imitation products, a far cry from the concept of designations.

And for a producer selling PGI pasta, could it also be advantageous to invest in 'non-PGI'?
This is an issue that needs some attention. The risk would be that of detracting value from the branded product, while the advantage would be that of setting higher prices for unclassified product, because it is produced by a "qualified" company, since it also offers food products with a protected designation. In short, it's key to rely on small marketing stratagems, familiar to the producers themselves.

Such as?
Such as the advertising campaign of that entrepreneur who personally endorses it: an effective guarantee, used in an incontestable manner; in fact, there is no alternative: without such an endorsement, the product does not seem authentic and

does not fulfil the requirements desired by the consumer. Another solution is to produce pasta with particular or ‘ancient’ grains, used for high-end pasta, sold at higher-than-average prices.

Is this why the large industrial pasta companies do not invest in branded products, but focus on Premium Pasta?
You see, using the two channels at the same time, own brand and collective brand (PDO or PGI), may not be a good strategy if the taste and quality of the pasta are already established or if the composition (the recipe) makes use of quality raw materials, irrespective of limited local supply. What I mean to say is that the big names in wine or *Spumante* rarely play the two cards together. Two separate brands are doubly difficult to manage and maintain together.

Let’s look at the question from the standpoint of the consumer. In Italy we often nurture the ‘belief’ that if a food product is of Italian origin (from the territory) and produced by us, is better than an alternative from abroad: what do you think?
To answer this question, I have to make a couple of considerations. On the one hand, there is the proud, deep-rooted collective conviction of the superiority of Italian food and of our country’s dietary model. On the other, there is the conviction that, despite the undoubted appeal of foreign products and food fashions, people eat worse in the rest of the world. These are two mentalities that contribute to shoring up a widespread belief, which has major economic consequences, reason for which it finds a series of stakeholders.

A concept that is rooted in that proud sense of belonging that fundamentally brings Italians together...
Exactly, and the extent to which this superiority, real or imagined, corresponds to reality is difficult to assess because of the number and, in some cases, the vagueness, of the elements that contribute to it.

Namely?
The cornerstone of this way of thinking is the enshrining of the concept that the origin of our food is what makes the difference. This hinges on two widely-shared contentions: that Italy is the home of designations of origin, and that it is the leading country in the world for this category of products. In actual fact, this is not the case. Designations were introduced by the French in the 1930s and by us Italians – with the exception of


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certain cheeses – about thirty years later: first for wines and then for other products. With regard to this record, Italy ranks first for the number of designations, both for food products and for wines. As of 2020 we have 838, 312 of which for food and 526 of which for wine, while France totals 692, 246 and 436 respectively, and yet, in terms of production value, we are second to France.

And how is the situation at a global level?
There are a total of 3,123 designations, 3,093 of which are European, or rather EU. This means that in the rest of the world there are only 30, predominantly in Europe. The Italian leadership derives essentially from the lack of competitors, especially outside Europe. But even in the Union distribution is patchy. The 5 main Mediterranean

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countries with 2,312 designations account for 74% of the total. In a nutshell, the phenomenon of the designations is essentially European and, in particular, Mediterranean.

In the light of this fact, how do the foreign markets react towards Italian products with designation of origin?
From my explanation, it is clear why the world at large, in major negotiations, is not very inclined to make concessions on the subject (which Italy, on the other hand, would only be too keen to), and also why the support of the other Member countries for branded products is rather lukewarm, if not non-existent. In the rest of the world, regulations for protecting the origin of products seem, in essence, to actually be vague ways of introducing a new type of trade barrier, when most of these have been reduced or eliminated by the GATT/WTO agreements. To sum up, the rich speciality food market of the wealthiest countries is seen as a crafty castle of unwarranted protections. The fact that, as we have mentioned, other EU countries have little interest in protecting designations is an element that Italy has repeatedly come up against, making very little headway.

6

Commodity price observatory 3/2020

Pastaria Centre for Economic Research

Pastaria's four-monthly feature on the prices of the main raw materials used by pasta manufacturers.

Autumn set to be fiery on the prices front. In the Eurozone, inflation leapt to 3% by August. And across the Channel, the cost of living has already returned to the highest level in ten years, although post-Brexit complications have added fuel to the fire of rising prices in the UK.
There are many factors behind soaring commodity prices, the first link in the inflationary chain, with knock-on effects rapidly being felt downstream by consumers.
The spark was lit by the entire hydrocarbons sector, driven by oil. But the warm front quickly spread to a wide range of raw materials, with the food commodity segment also being impacted.
There are various factors behind the increases on this front. Firstly, the climate, with the high temperatures seen this summer (following floods and hailstorms) leaving crops in North America and much of Europe dry, reducing yields and harvests and negatively affecting quality standards.
Other factors raising the heat in terms of prices, as we know, included high shipping rental fees, exacerbated by a shortage of containers at embarkation ports, and the continued health crisis that has led to distribution and logistics gears stalling.
Currently, the situation is heated on multiple fronts. In the cereal sector, durum wheat prices at the end of August neared €500 per tonne, a level similar to the pre-crisis bubble in 2008, shortly before the most severe depression since the post-war period.
A “perfect storm”, according to Italmopa, the Association of Italian Millers, given that the cost of raw material (i.e. procuring the grain) accounts, on average, for more than 80% of total production costs in the sector.
Such intense and sudden changes in market conditions, combined with high logistics costs and major increases in energy bills, will inevitably impact the entire supply chain, and not just the milling industry, Italmopa continues, referring to the by-now real risks of increases in consumer prices of pasta.
Other items in the food commodity basket most affected by the inflation are corn and soy flours. Two basic animal feed products that have already sent bulk milk prices into a frenzy, suggesting that there is also tension

PRICES AND TRENDS OF CERTAIN FOOD RAW MATERIALS (AUGUST 2021)				
National fine common wheat	Price (€/ton)	Monthly variation	Annual variation	Forecast
	244.67	10.3%	29.1%	▲
Fine durum wheat from North Italy	Price (€/ton)	Monthly variation	Annual variation	Forecast
	395.17	25.1%	38.4%	=
00 type common wheat flour	Price (€/ton)	Monthly variation	Annual variation	Forecast
	501.67	8.1%	19.4%	=
Semolina above min. leg. req.	Price (€/ton)	Monthly variation	Annual variation	Forecast
	630.5	21.8%	27.8%	▲
Eggs M	Price (€/100 pcs)	Monthly variation	Annual variation	Forecast
	12.9	0.8%	-4.4%	▲
Pork hams for Prosciutto 12 kg and over	Price (€/kg)	Monthly variation	Annual variation	Forecast
	3.94	3.7%	38.7%	=
Beef – veal meat half-carcass, prime quality	Price (€/kg)	Monthly variation	Annual variation	Forecast
	5.05	0.2%	3.3%	=
Raw milk	Price (€/100 kg)	Monthly variation	Annual variation	Forecast
	39.19	-1.6%	13.8%	▲
Centrifuged butter	Price (€/kg)	Monthly variation	Annual variation	Forecast
	3.91	1.3%	16.7%	=
Grana Padano aged for 9 months or more	Price (€/kg)	Monthly variation	Annual variation	Forecast
	7.08	0%	15.1%	=
Extra virgin olive oil	Price (€/kg)	Monthly variation	Annual variation	Forecast
	4.3	-3.4%	16.2%	▼

Source: Centro Studi Economici Pastaria elaboration based on various data sources. Grain, flours and semolina: Granaria, Bologna; Eggs: CCIAA, Forlì; Pork and beef: Commodity Exchange, Modena; Milk, butter and Grana Padano: Commodity Market, Milan; Olive oil: CCIAA, Bari.

PRICE MONITORING				
FAO Food Price Index	Price (2014-2016=100)	Monthly variation	Annual variation	Forecast
	127.4	3.2%	33%	▲
Soft Red Winter FOB US Gulf port	Price (USD/ton)	Monthly variation	Annual variation	Forecast
	276.18	8.4%	32.2%	▲
Mais, U.S. No. 2 Yellow FOB US Gulf port	Price (USD/ton)	Monthly variation	Annual variation	Forecast
	256.61	-7.8%	71.8%	▼

IMF Food Price Index, Soft Red Winter, Mais: August 2021

ahead for derivative products based on butter, milk powder and cheeses.
In recent days, the ISO – International Sugar Organisation – raised its estimate regarding the global deficit of sugar, another commodity subject to strong speculative pressure. Prices – in this case also affected by climate issues that damaged cane crops in Brazil – reached their highest levels since February 2017.
Inflationary pressures arising from the initial stages of price formation could also continue and intensify in the vegetable oils chain. The rally in August, which as well as palm oil, saw rapeseed and sunflower oils caught up in the upward spiral, kick-started prices following a brief pause for reflection. This summer saw a triple-figure rise in prices, up 160% year-on-year, reflecting the situation of imbalance in Malaysia where palm oil supply is short. Less availability for export in the Black Sea area, from the perspective of the new campaign, also kick-started sunflower prices, while rapeseed benefited from greater European demand, again fuelled by predictions of imbalance in terms of supply.
Pressure arising from Chinese demand, in the context of a strong upswing in orders from the Far East and middle Eastern countries, further pushed up meat prices, benefiting poultry and beef in particular.
Tensions in the pork sector are easing, on the other hand, reflecting a decrease in demand from China.
In general, meat prices in international markets indicate a 22% increase year-on-year, while an annual increase of over 30% is registered for cereals and close to +50% for sugar.
In Italy, the cost of wheat is on average 30-40% higher than a year ago. The same trend is seen for pork meats, while dairy

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prices see growth trends of approximately 15-20%.
Prometeia analysts predict that the macroeconomic context for the autumn will see a slowdown with inflation – following the good recovery in the second half of the year – due to the spread of the Delta variant and bottlenecks in production and distribution chains.
In the context of still-robust demand and ultra-accomodative monetary policies, these circumstances are giving rise to widespread inflationary pressures, due to excess liquidity on financial markets, forcing central banks and governments to reconsider their approaches in more restrictive terms, at the risk of recessive effects.

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Pastaria Awards 2021: and the winners are...

Editorial staff

The winners of the Pastaria Awards 2021 for best doctoral and master's degree theses on pasta (now at its third edition) have been announced.

The evaluation committee has announced the names of winners of the Pastaria Awards 2021 for best doctoral and master's degree theses on pasta, now at its third edition.

The award for the best doctoral thesis was won by Veronica Gallo (PhD Course in Food Science, University of Naples), for her project entitled *Modellazione della digestione in vitro di prodotti adatti a specifiche popolazioni di consumatori* [Modelling in vitro digestion as strategy in developing tailored food for specific consumer population]. Veronica Gallo will receive € 700 in prize money and a diploma issued by Pastaria.

The prize for the two best master's degree theses went to Ambra Bonciolini (Degree Course in Food Science and Technology, University of Turin), for her thesis entitled *Formulazione di pasta all'uovo fortificata con tannini: valutazione dell'attività antiradicalica e dell'ossidazione del colesterolo* [Formulation of egg pasta fortified with tannins: assessment of antiradical activity and cholesterol oxidation] and Emanuele Fagetti (Degree Course in Food Science and Technology, University of Milan), for his thesis *Proprietà nutrizionali e salutistiche di pasta arricchita con incapsulati di estratti da polpe esauste di carota* [Nutritional and health properties of pasta enriched with leftover carrot pulp extract capsules]. The best master's theses will receive €400.00 in prize money and a diploma issued by Pastaria.

The award ceremony will take place at the Pastaria Festival 2021, the event of professional information and updating for pasta producers, which will be held at the Fiera Milano Rho on 26 October this year, as part of the prestigious Tuttofood fair (22-26 October 2021).

Summaries of the Pastaria Awards 2021 prize-winning theses will be published as scientific articles in the next issues of Pastaria, starting in November.

Pastaria's editor announces that details on how to participate in the Pastaria Awards 2022 will be published soon.