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**GLUTEN, THE PUBLIC ENEMY 52' & 90'**



**An uncompromising investigation by Patrizia Marani,  
the director of "ALL ALLERGIC?"  
An ARTE GEIE and Graffiti Doc co-production**

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**What if gluten had nothing to do with the wave of intolerance that we blame it for? What if we had to look further? For example, in the practices of a globalized agriculture, dedicated to profitability rather than to the quality of its products?**

## **PRODUCER'S NOTE**

The statistics are alarming: 1 in 10 people may now show symptoms of gluten sensitivity or intolerance; 1 in 100 may suffer from celiac disease<sup>1</sup>. Gluten intolerants are 10% more likely to get cancer or liver disease, or, for younger people, to develop the symptoms of autism...

As gluten-free restaurants, products or books on the topic multiply, a question arises: why is it that a food that 80% of the world's population has consumed for thousands of years has become so toxic?

Gluten-free has, beyond doubt, become one of today's big businesses, especially when you consider that the average price of a gluten-free product is 232% higher than the price of its regular counterpart!

## **SYNOPSIS**

Wheat has always been the staple food of humanity, the very foundation of the world's first civilizations. But today, for a growing number of individuals, it has become a poison. 8% of the world's population has reportedly become gluten intolerant. This fuels a thriving gluten-free product market – \$8 billion in the United States alone.

And yet, the real cause of this sudden tsunami of cereal intolerance remains a mystery. Are these figures only due to a recent improvement in diagnostic tools, as some claim? Or have recent changes in our eating habits triggered the epidemic? Is wheat no longer the good old grain we've been eating for 10,000 years, or more?

Scientists, activists and committed farmers are trying to unveil the true quality of industrial food. The industry's need to produce well-baked breads or al dente pasta has led to the selection of wheat varieties that contain more gluten, but also more toxic proteins. Above all, the cultivation and processing of cereals has become a chemically intensive activity, and when certain industrial pasta – but also bread, beer or cereals – are tested, traces of toxic chemicals, including glyphosate, are detected.

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<sup>1</sup> Celiac disease is a chronic intestinal disease triggered by the consumption of gluten, a mixture of proteins contained in certain cereals (wheat, barley, rye...). The observable symptoms are mostly digestive (diarrhea, pain, bloating...).

Indeed, over the last two decades, a practice little known to the general public has developed in intensive agriculture: the practice of desiccation – which consists in spraying glyphosate one week before harvesting directly on the ears of different cereals (wheat, barley, oats, etc.) – it is used on 200 different kinds of crops. The quantities applied have boomed, as has the number of glyphosate-based formulations: more than 700 to date.

Our film will explore the increase in the use of chemicals in the cereal industry, and the mysterious biology of gluten sensitivity, which has ramped up at the same time. We will reveal the enormous economic interests underlying this epidemic, as well as the influence that large agribusiness conglomerates have on science and regulators, who should protect public health. To conclude, we will show why this globalized food system benefits neither the farmers nor the consumers; it would be up to a local agriculture, free of chemical excesses, to produce food that guarantees a healthy life while preserving the environment.



## **TREATMENT**

The global market for gluten-free products reached around \$15 billion in 2016; it is expected to grow by 9.3% per year between 2017 and 2025. One third of American adults are trying to remove gluten from their diet, as are a growing number of Europeans. The Asia-Pacific region is expected to be the fastest growing market in the coming years. They are all convinced that they are intolerant to gluten, the protein contained in grains as common as wheat, barley and rye. But are they really?

## **Wheat as a global commodity**

“Thanks to recent free trade agreements, including the AECG/CETA signed in 2017 between Canada and the European Union, new players have entered the European durum wheat market: Canada, Russia and Ukraine,” says Ettore Pottino, a Sicilian organic farmer and president of the main local farmers' union. The stakes are high: just for pasta, Italy, the world's leading producer and exporter, needs nearly 6 million tonnes of durum wheat flour, almost half of which is purchased on the international market. However, durum wheat, which originates from the hot, dry plains of the Middle East, cannot be grown at high latitudes.

How did Canada become the world's largest producer of durum wheat and one of the world's largest exporters, along with Russia and Ukraine?

“The World Trade Organization (WTO) was created in 1995 with the official purpose of regulating international trade. Its real mission was to dismantle the trade barriers that had been erected between the two world wars,” explains Jacques Sapir, an economist and specialist on globalization. The CETA, an international free trade treaty with Canada, and the TTIP, with the United States (under discussion), are the result. “International free trade agreements lower our environmental and food quality standards,” says Sapir.

## **Wheat and health**

The Italian association 'GranoSalus'<sup>2</sup> has analyzed popular brands of pasta and in almost all samples it found traces of the world's best-selling herbicide: glyphosate. Similarly, in France, 'Génération Futures' tested hundreds of supermarket food products and detected glyphosate residues in 53.3% of them, mainly in cereal-based foods and legumes. The Munich Environment Institute ('Umweltinstitut München'<sup>3</sup>) has also detected glyphosate in the 14 most popular beer brands in Germany, while another study found out that 99.6% of Germans had traces of glyphosate in their urine...

Why is glyphosate found in so many cereals?

Can the gluten intolerance epidemic be linked to the presence of glyphosate?

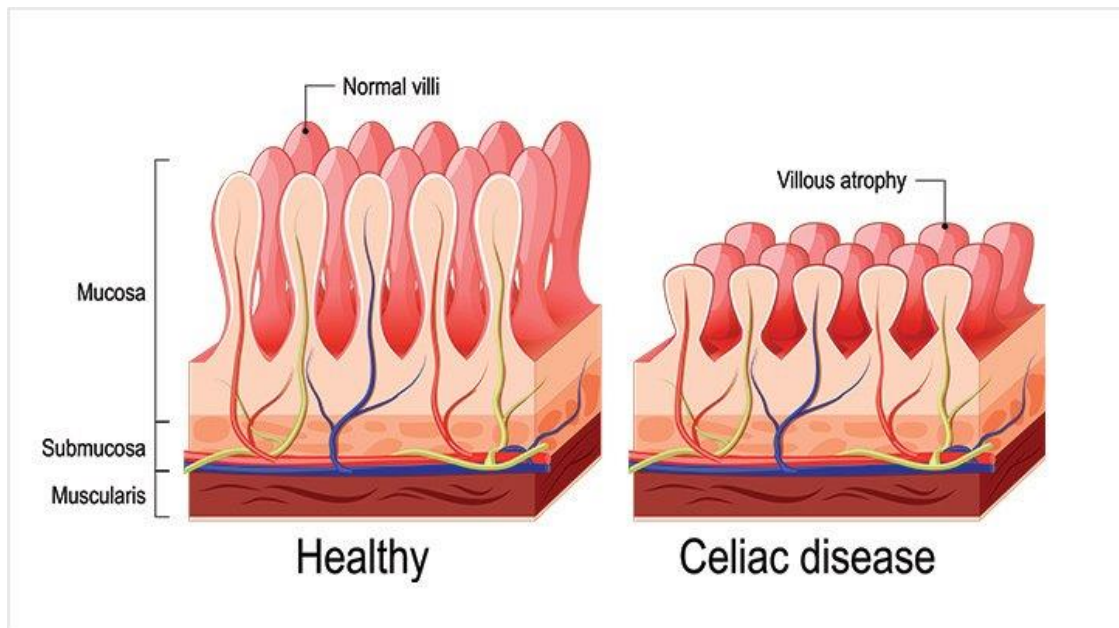
Wheat, the first grain in terms of gluten content, is the most widely consumed staple food in the world (it represents about 20% of caloric intake). But for people with celiac disease – about 1% of the world's population – gluten consumption can trigger a powerful immune response. Alessio Fasano, one of the world's leading experts on celiac disease, explains that “although there is a fashionable phenomenon with gluten-free diets, the symptoms of gluten intolerance are indisputable. The number of people with celiac disease has

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<sup>2</sup> <https://granosalus.it/>

<sup>3</sup> <http://www.umweltinstitut.org/home.html>

quadrupled over the past 60 years, and continues to increase.”



### Starting the war on gluten

Until about a decade ago, however, the 99% of the population without celiac disease did not seem to pay much attention to gluten. Then, in 2011, William Davis published *Wheat Belly (Why Wheat Hurts Your Health)* and suddenly millions of people were allergic to gluten.

But how did grains that we have eaten for more than 10,000 years suddenly become so difficult to digest?

### A concentrated global market

Today, about 20% of the world's food depends on the annual harvests of four commodity traders, located in 50 to 75 different countries, who distribute wheat worldwide: "ADM (USA), Bunge (USA), Cargill (USA) and Louis Dreyfus (Netherlands)". While the ABCDs are now challenged by new competitors, especially in Asia, they still control 90% of the world market and set its prices.

“The massive control of our food and agricultural systems exercised by these large groups is crushing small farms,” explains Pottino: “For every euro spent by consumers, the farmer only earns up to 15 cents.” Over the past 16 years, 310,000 Italian companies have gone out of business. In 2017, the number of agricultural bankruptcies increased by 10%, rising

to 38% for dairy farms.

Jan Slomp, vice-president of Canada's largest farmers' union, and himself a farmer, explains: "Free trade has not helped farmers or consumers. Multinational corporations are in a position to pit producers against each other to reduce the prices of grains, meat, milk, etc., while farmers are forced to buy their fertilizers, seeds, fuel, etc., at fixed prices from a handful of companies."

### **The scandal of desiccation**

"The real innovation in grain growing is desiccation, an agricultural technique introduced by Monsanto 18 years ago," says Thierry Vrain, a former scientist and pro-GMO soil biologist at Agriculture Canada. Most farmers were persuaded to spray glyphosate on crops just before harvest. The process allows the grains to dry directly on the vine, especially in regions where the climate is too cold or humid to approach an optimal degree of ripeness. It is this technique that has enabled the production of cereals in Canada or Russia.

The quantities of herbicides have boomed: in 1994, Roundup consumption amounted to 53.3 million kilos while in 2014 (20 years later), 825 million kilos of herbicides were sold worldwide, with the introduction of desiccation.



### **Who rules the market?**

Adrian Bebb and other FOE ('Friends of the Earth') activists are besieging EU agriculture ministers in Brussels to speak out on the CAP, the EU's Common Agricultural Policy. "Since Monsanto's exclusive patent has expired, glyphosate has been sold by more than 40

companies, and more than 300 herbicides containing glyphosate are now registered in Europe.”

As a desiccant, glyphosate has not been approved where the climate is sunnier, so this treatment is less necessary: Greece, Italy, Portugal and Spain. In 2013, Austria banned desiccation and in Germany, the use of glyphosate before harvest is not considered good agricultural practice. In July 2018, the Danish government introduced new rules prohibiting the use of glyphosate and in France President Macron also announced that he would ban it completely within three years.

“Desiccation is one of the most flagrant scandals in the history of modern agriculture,” says Sandra Reinacher of the Swiss Institute of Ecology Delinat.

In the body, glyphosate from wheat products adds up with what is left in the meat and milk of animals fed Roundup-tolerant soybeans or hay treated before harvest. Because of what industrial livestock eat, meat, milk and cheese are also highly contaminated.

To avoid the risks, consumers should buy wheat-based pasta from southern Europe or Swiss meat; except that under EU labeling rules, the label only states where the product was manufactured. “The adoption of a law such as the labeling of the country of origin of the raw material is frowned upon by food companies,” warns Sapir. “Giving consumers the opportunity to choose the best food for their health is like ‘hindering trade’... These agreements are written for and by big business,” Sapir bitterly concludes.

### **Science stifled?**

While Monsanto has always claimed that glyphosate is as harmless as spring water, in 2015, the International Agency for Research on Cancer (IARC) classified it as a “probable human carcinogen”. But soon after, American and European food safety regulators rushed to say otherwise.

As a result, in 2017, the European Chemicals Agency (ECHA), that monitors chemicals’ safety, gave the European Commission the green light for the renewal of the glyphosate license for 5 years.

Witze De Wolf, President of the ECHA Member Countries Committee, agreed to discuss recent controversies over glyphosate. He regrets the principle that companies must prove the safety of their products, not ECHA.

More than 800 studies have shown that glyphosate is safe. The problem is that most of them were funded by Monsanto itself, explains Carey Gillam<sup>4</sup>.

### **How to make an epidemic profitable?**

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<sup>4</sup> Investigative journalist specializing in industrial conglomerates.

Thus, thanks to this dysfunctional food system, a whole new sector of activity worth billions has developed: “gluten-free” and “without this or that” products, designed to prevent a myriad of food allergies.

In the United States alone, the forecast for the two sectors combined is \$23.9 billion per year by 2020, and market studies predict that gluten allergies will continue to rise. Consumers seem to be stuck in a rut where they have no choice but to eat processed food, fall ill, and then consume even unhealthier and excessively expensive processed food!

### **Boilers in our intestines**

Gluten is not contained *as such* in cereals. It only appears when water is added to cereal flour to produce dough: it is at this stage that gliadins and glutenins, the proteins of wheat, mix to form gluten:

“In my research I realized that our bodies ‘misread’ the glyphosate that is mixed with gluten as a protein, instead of the amino acid called glycine,” says Seneff, Senior Researcher at MIT Boston. “When the ‘machinery’ sees a genetic code for glycine, it wrongly recognizes glyphosate as glycine. Why? Because glyphosate is a molecule close to glycine, except that it contains an additional material bound to the nitrogen atom. This causes a major disruption in the functioning of our cells, organs and intestines, resulting in inflammation.”

### **More glyphosate, and then what?**

By 2022, Monsanto, whose image is now tarnished, will have been replaced by the more neutral Bayer, the German pharmaceutical giant, with which it has recently merged. And Bayer's glufosinate could take over the market share of glyphosate.

But is it really less harmful? Nothing is less certain, especially since it does not decompose easily in the environment.

Gluten intolerance is only the tip of the iceberg.. “We found a match for more than 30 human diseases with the epidemiological pattern caused by the increased presence of glyphosate and other chemicals in our food,” says Seneff. “And now, a single market leader manufactures both the poisons and the drugs to treat the diseases they cause.”

### **Epilogue**

A 'bottom-up' revolution in food production is already under way; even if it is egregiously swept under the rug by decision-makers, both at national and European levels.

“Why not help them make the transition to sustainable agro-ecological systems instead?” asks Pottino. “Indicating the origin of the main raw materials on labels would be a significant step forward, encouraging processing firms to buy from the best producers.”



“A change in international trade rules and, above all, a reform to make the EU accountable to its citizens, not to lobbies, can no longer be postponed,” says Jacques Sapir. François Veillerette recounts that a pamphlet calling for the reform of risk assessment methods related to chemicals and agriculture less dependent on chemistry was launched by the “Citizens for Science in Pesticide Regulation”, a coalition of civil society organizations, scientists and legal experts.

## **VISUAL APPROACH**

The film will explore landscapes as diverse as the vast expanses of intensive cereal farming in Canada, and the small plots of land cultivated with ancient varieties in Sicily. It will set its gaze upon the high-tech facades of the headquarters of the major international grain traders, and will enter the modest farms of French peasants, crushed by an overly competitive agricultural system.

Through archival films, it will show how agribusiness uses chemical materials in its quest for profitability, particularly with the drying of already almost ripe ears of grain.

It will meet with his experts who will show their work. It will have access to ongoing investigations by specialized journalists as well as undisclosed research by leading scientists and the documents related to it.

Where necessary, the film will use video material from the news, or even the Internet, especially to clearly mark milestones in the political official discourse and to highlight the series of favorable decisions in the interests of lobbies at the European level.

As has already been the case for “All Allergic?”, the film will also use cartoons of high graphic quality, especially when it comes to clarifying – by making them playful – the most complex passages of geopolitical and scientific discourse. The animation will also be useful to make statistical data intuitive, thus making it possible to lighten the discourse.

Through the use of these different elements, a captivating visual mosaic will take shape, engaging the viewer from beginning to end. We will avoid frontal interviews as much as possible, favoring setting up situations of discussion between several characters instead, each within the framework of their activity.

The film will be fast-paced. Great attention will be paid to the places and their resonance; the close-up shots dedicated to the characters and their activities will alternate with very wide shots, to make the audience understand the scale of a wheat field or the hugeness of a commercial port.

The equipment, and especially the film crew, will be carefully picked to create a visual fabric of high cinematographic quality – worthy of being shown on large cinema screens. Shooting will preferably be done in 4K, to allow the image to be rendered in line with the best contemporary standards.

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*Sales Manager*

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*Sales Manager*

s-soghomonian@arteFrance.fr

Eastern Europe, Russia, Africa  
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**FRANKA SCHWABE**  
*Sales Manager*

f-schwabe@arteFrance.fr

Germany, Austria, Switzerland,  
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