



# THE GRAINS OF HERITAGE WORKSHOP

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**Rome Mar 3rd 2024**

# LANDRACES

# THE FIRST LANDRACES

Long ago, wheat changed and grew by itself with help from nature. It had different kinds and could make many new plants quickly. People noticed wheat was good to eat when they started farming. They picked the best wheat and made it even better by choosing ones that were easy to separate and grew a lot of grain.

**These special kinds of wheat were called landraces and were good for the places where they were grown.** This phenotypic selection produced the first landraces - recognisable populations of wheat adapted to particular localities (*Casañas et al., 2017*).

# NATURAL SELECTION

Thousands of years ago, people moved plants to new places far away from where they started. These plants were different from one another and could change and survive challenges like sickness and bugs. This helped support the idea that **nature chooses the strongest** and led to the study of genes and farming.

## "INDUSTRIAL" AGRICULTURE

Unfortunately, when farming became more modern, people didn't realize the importance of having a variety of plants. This led to a problem where certain plants all had the same genes and were spread over large areas. This made it easy for diseases to spread quickly because they could adapt to these plants. As a result, the diseases could grow without anything stopping them. This happened a lot because diseases had to figure out how to survive as wheat evolved. This made it easy for diseases, pests, and weeds to spread when people used the same plants on their farms.

## SEEDS MIXTURE

In the 1970s, two researchers named John Barrett and Martin Stuart Wolfe realized that they needed to do something to stop the trend of planting only one type of crop. They wanted to make sure that there was a good balance of different plants, so that diseases wouldn't spread easily. They found that **planting a mixture of just three or four types of plants that were resistant to disease worked really well at slowing the spread of disease**. They tried this on 350,000 acres of barley in Germany and it worked, but then they had to stop when Germany was reunited as one country.

# WHEAT POPULATIONS

With organic farming, there is even more variety in the environment, so it's even more important to have a lot of different types of crops. Scientists have figured out **a way to breed plants that mimics how plants evolved in nature**. Professor Wolfe's project in the UK created a type of wheat that was really good at surviving in different conditions.

# EVOLUTIONARY BREEDING

Organic agriculture has greater environmental variation than non-organic, necessitating even more within-crop diversity. This can be provided through **‘evolutionary plant breeding’** (*Suneson, 1956*), which **mimics the way in which wheat evolved in nature**. A new project at the Organic Research Centre generated composite cross populations (CCPs) in wheat (*Phillips and Wolfe, 2005*), whose remarkable resilience in the UK and elsewhere led to their acceptance as potential ‘heterogeneous materials’ for the new EU organic regulation. A potentially important consequence is that, as the area of different modern landraces increases, the general risks from climate instability and disease, pest and weed outbreaks, should decrease.



# EVOLUTIONARY BREEDING

# PETRA EVOLUTIVA

Major application work on evolutionary populations has been conducted over the last 30 years by Salvatore Ceccarelli, 'father' of the seed mixtures from which Petra Evolutiva (soft wheat) and Petra Evoldur (durum wheat) flours originate

# THE DECLINE OF LANDRACES

Landraces have been important to plant breeding for a long time, providing many useful qualities. Researchers need to accurately measure the potential of landraces for modern plant breeding, especially for organic farming.

**Landraces were created by farmers who focused on specific adaptations, leading to diversity within and between them.** However, modern plant breeding has prioritized wide adaptation and yield, causing landraces to be seen as less valuable. This has also resulted in a decline in nutrition in modern crops like wheat.

## AGROECOLOGY

In farming using agroecology, it's important to adapt to specific conditions. **Participatory and evolutionary breeding methods are helpful for this.** For example, the original wheat populations of Petra flour were created with seed mixtures using heritage varieties from the Mesopotamia area. That being the result of experimental sowings in Syria by Prof. Salvatore Ceccarelli, over a period of two decades, to select wheat varieties capable of living in particularly adverse climatic conditions. These varieties were evaluated and the best ones were used for crosses to make new varieties.

# AGROECOLOGY

Agroecology is sustainable farming that works with nature. Ecology is the study of relationships between plants, animals, people, and their environment - and the balance between these relationships.

[Agroecology Knowledge Hub >](#)

# FUTURE HERITAGE GRAINS

As the climate changes, farms are being affected and it's harder to grow crops. However, there are special types of plants called landraces that have adapted to tough conditions and can produce more food. We think that we should focus on using landraces to make our food better and more nutritious, instead of just using newer types of plants. But there's a problem because some people want to keep landraces exactly the same, while others want them to keep changing. If we don't let them change, they might not be able to survive in the future. In this respect, evolutionary plant breeding is already showing both agronomic and nutritional benefits linked with growing of future heritage grains.

# CLIMATE CHANGE

# REGENERATIVE AGRICULTURE

Climate change is making it difficult for farmers to grow wheat. This is because the weather is changing and getting more extreme, like droughts, floods, and heatwaves. These events make it hard to grow good wheat. Other grain plants are also affected. **When it gets warmer, some wheat can't survive and may die.** This is a problem because it reduces the types of wheat we have. Having different types of wheat is important because it helps prevent pests and diseases. But, we can do things to help. Some farmers are using sustainable practices, like taking care of the soil, using water better, and **growing different crops each year.** These things can make farming stronger against climate change.



## THE ROLE OF BAKERS

Bakers play an important role in making sure our food is produced in a way that helps the environment. They can do this by getting their ingredients from millers who use wheat grown with sustainable farming methods. This helps the soil and keeps different kinds of plants and animals alive. **Bakers can also teach people about why it's important to use sustainable farming methods**, and how climate change can affect the food we eat. By making good choices and taking action, bakers can help make the food we eat better for our planet. The next step is using a type of wheat called "**heritage grains**" that can grow well and stay healthy without hurting the environment.

# HERITAGE GRAINS

Using sustainable farming methods is important for the making of bread, pizza, pastries and pasta. By getting grains from farmers who prioritize this, millers can help protect the environment and educate others about making good ingredient choices. Using heritage grains also supports biodiversity and soil health. This is good for future generations because it makes our food system more sustainable and secure. In this workshop, we will try and discuss the different flavors and qualities of three types of heritage grains: Evolutionary Wheat, Maiorca Wheat and Jermana Rye.

# TASTING SESSION

## TASTING AND DEBATE

The tasting and debate session on 3 unique grain varieties has been intended as a enlightening tasting experience. As each variety will be sampled and discussed, it will became evident that the **flavors and textures of heritage grains hold a wealth of diversity waiting to be explored**. Please compare and contrast the taste profiles, aromas, and baking qualities of the grains, to better understand of how these ingredients can elevate culinary creations. This experience will be served as a reminder of the importance of valuing and preserving the heritage grains that have sustained communities for generations.

# THE WHEATS



## JERMANA RYE (I)

Iermana rye is a type of cereal that grows best in cold places and is usually grown in high places above 750 meters. It came from a country called 'Germany' a long time ago, which is why it's sometimes called 'iermana'. It's a tough plant that can grow in clay soil, survive in the cold, and even make grain in dry weather. Rye flour made from Iermana rye is full of good stuff like minerals, fiber, and vitamins. People use it a lot for baking and making cookies. You plant Iermana rye between September and October and harvest it in August.

## **JERMANA RYE (II)**

Long ago, people grew a crop called Iermana rye because it was very strong. They used every part of the plant, including the long stems which they weaved into baskets called 'sporte'. These baskets were also used to carry wheat to the mill. However, because people started moving away from the countryside, especially from high places, Iermana rye disappeared. Nowadays, there are only a few businesses that make flour from this grain.

## **JERMANA RYE (III)**

One key aspect that sets rye apart from other grains is its distinctive taste profile. Rye has a robust and slightly nutty flavor that adds depth to dishes ranging from bread to whiskey. Its unique taste can be described as earthy with a hint of tanginess, making it a popular choice for those looking to elevate their culinary creations. This distinct flavor is what makes rye stand out in a world of grains, offering a new and exciting palette for chefs and home cooks alike to explore



## **JERMANA RYE (IV)**

Incorporating rye into various products offers a multitude of benefits beyond its historical significance. Rye's unique flavor profile and nutritional properties make it a versatile ingredient for a wide range of culinary creations. Whether used in bread, crackers, or even beverages, rye adds a depth of flavor and texture that can enhance the overall taste experience. Additionally, the fiber and nutrients found in rye can provide a boost to the nutritional value of the products it is included in, making them not only delicious but also health-conscious choices for consumers. These advantages make rye a valuable ingredient to consider when crafting new and innovative products that cater to both taste and wellness.

## Health Advantages of Rye Consumption

Rye has lots of fiber, which helps digestion and gut. It can also help keep blood sugar levels steady, which is helpful if glucose control is needed. Rye also has vitamins and minerals like iron, magnesium, and zinc that our body needs to stay healthy. These nutrients can help us fight off sickness, have energy, and feel good. By eating rye, we can get all these health benefits and enjoy its tasty flavor too.



## PETRA EVOLUTIVA PROJECT

The Petra Evolutiva project is dedicated to preserving and promoting the genetic diversity of wheat populations. The project supports farmers in the introduction of an innovative agricultural approach and involves chefs and bakers in activities that enhance the food chain to help shape the future of economically sustainable agriculture that is good for the environment and good for human health.

## MIXED WHEAT SEEDS

The history of mixed wheat seeds is a storied one, dating back centuries to when farmers first began experimenting with crossbreeding different wheat varieties. These early pioneers laid the foundation for the diverse and resilient wheat populations we see today, a testament to the power of innovation in agriculture. As we delve into the history of mixed wheat seeds, we gain a deeper appreciation for the time-honored tradition of seed cultivation and the role it plays in shaping the future of farming practices.

## **BENEFITS OF MIXED WHEAT CULTIVATION**

One of the key benefits of mixed wheat seed cultivation is the increased genetic diversity it provides. By planting a variety of wheat strains together, farmers are able to create a more resilient crop that is better able to withstand environmental stressors such as pests, diseases, and extreme weather conditions. This genetic diversity also leads to a more robust ecosystem within the field, with different wheat varieties providing different benefits to the soil and surrounding plant life. Additionally, mixed wheat seed cultivation can help to improve overall crop yields and quality, as different wheat varieties may complement each other in terms of growth patterns and nutrient needs.

## WHEN IT ALL STARTED

One of the key figures in the early development of this concept was Sir Geoffrey Vickers Charles, who, along with Professor Martin Wolfe, was instrumental in developing and promoting the idea of composite cross populations in the late 20th century. Their work at the Plant Breeding Institute in Cambridge, UK, and subsequently at the Organic Research Centre, Elm Farm, aimed to create wheat populations that were genetically diverse and capable of evolving over time. This was achieved by crossing many different varieties of wheat and then allowing them to interbreed freely in the field, creating a dynamic population that could adapt to changing environmental conditions and pressures from pests and diseases.

## NATURAL SELECTION

The rationale behind evolutionary wheat populations is based on the principle of evolutionary plant breeding, which leverages natural selection within a genetically diverse population to promote traits beneficial for specific environmental conditions, pest resistance, and yield stability. This approach contrasts with conventional breeding, which often focuses on developing uniform, high-yielding varieties that may lack genetic diversity and resilience to stressors.

# GOALS AND OBJECTIVES



**Biodiversity Enhancement:** To increase genetic diversity in wheat crops, thereby enhancing resilience to pests, diseases, and changing climate conditions.

**Sustainability and Resilience:** To develop sustainable farming practices that reduce dependency on chemical inputs, such as fertilizers and pesticides, and improve soil health.

**Adaptation to Local Environments:** To create wheat populations that are better adapted to local environmental conditions, reducing the need for external inputs and increasing efficiency.

**Community and Stakeholder Engagement:** To involve local farmers, researchers, and other stakeholders in the cultivation and research processes, fostering a community-driven approach to agricultural innovation.

Implementation Strategies

**Composite Cross Populations (CCPs):** The project likely utilizes CCPs, which involve mixing seeds from various wheat varieties and allowing them to cross-pollinate naturally. Over time, this leads to the development of a genetically diverse and locally adapted population.

**Research and Development:** Ongoing research to monitor and analyze the performance of evolutionary wheat populations under different environmental conditions and farming practices.



**Farmer Participation:** Engaging local farmers in the project by providing them with seeds, training, and support to adopt evolutionary wheat cultivation practices.

**Outreach and Education:** Conducting workshops, seminars, and field days to educate farmers, students, and the general public about the benefits of evolutionary wheat populations and sustainable agriculture practices.

# RECIPES

# PAGNOTTA EVOLDUR

RICETTA

TIPOLOGIA IMPASTO IMPASTO AD ALTA IDRATAZIONE  
CON FARINA PETRA  
METODO DIRETTO CON LIEVITO MADRE E GEL

## FORMULA IMPASTO E QUANTITATIVI DI PRODUZIONE

INGREDIENTI	QUANTITÀ IN g	DOSAGGIO su farina totale	QUANTITÀ abituale da produrre
PETRA EVOLDUR	1000	100	
lievito madre vivo	1000	25	
acqua	220	15	
PER IL GEL			
PETRA EVOLDUR	500		
Acqua bollente	1000		
Sale	34		

RESA IN N°PEZZI PER 1KG FARINA : 4 Pagnotte da 700 g circa (peso a crudo) oppure  
3 pagnotte da 1050 g circa (peso a crudo)

CALO PESO IN COTTURA : 16% /18% circa

## FOTO PRODOTTO FINITO



## PROCEDIMENTO DI ESECUZIONE

### RINFRESCO LM

Rinfrescare il lievito madre il giorno precedente in modo da averlo già pronto al mattino.

Esempio: alle ore 16 rinfrescare il lievito seguendo queste dosi: 10g di lievito madre, 1kg Farina Petra EVOLDUR, 1 litro di acqua a 20°C. Lasciare fermentare tutta la notte a 22-23°C. Il lievito è maturo per un pH compreso tra 3,9 e 4,1.



### PER IL GEL

- mescolare il sale alla farina
- Far bollire l'acqua e versarla sulla Farina.
- Mescolare fino a rendere omogeneo
- coprire con pellicola a contatto e lasciare raffreddare a temperatura ambiente. Conservare in frigorifero fino a 24 ore o comunque utilizzare quando ben freddo..



### IMPASTO

- Impastare tutti gli ingredienti insieme in impastatrice a spirale o planetaria con la foglia fino a ottenere un impasto liscio.
- Riporre in un mastello.



### GESTIONE DELLA LIEVITAZIONE E FORMATURA

- Una volta terminato mettere l'impasto a lievitare in massa a temperatura di 25/26°C, per 45 minuti.
- Stagliare e formare molto delicatamente, riporre in cestino tondo con la chiusura rivolta verso il basso.
- Lasciare fermentare nuovamente 90 minuti.
- ribattere sul telaio e infornare senza praticare tagli.



### COTTURA PER PEZZATURA DI CIRCA 1 KG

In FORNO STATICO tipo POLIN:  
Cottura a 266°C, aggiunta di umidità in fase di informamento (8 sec), valvola chiusa per 30 minuti  
Riduzione della temperatura a 230 e apertura della valvola, ulteriori 15 minuti di cottura. Temperatura di cottura al cuore circa 99°C.



Una volta cotto mettere il pane a raffreddare subito in una griglia.

# PANE EVOLDUR

RICETTA

ESEMPIO PROGRAMMAZIONE PRODUZIONE IN BAKERY

Nelle tempistiche sono indicate

ORA	DAY 1	DAY 2
00:00-05:59		
06:00		
07:00		
08:00	RINFRESCO LIEVITO 1 A 1	IMPASTO
09:00		FORMATURA
10:00		
11:00		COTTURA
12:00-13:00	LUNCH	LUNCH
14:00		
15:00	PREPARAZIONE GEL	
16:00	RINFRESCO LIEVITO LUNGO	
17:00		
18:00		
19:00-23:59		

COSTO DEL PRODOTTO E INDICAZIONI PER LA VENDITA

DETTAGLIO COMPOSIZIONE E COSTI MATERIE PRIME DEL PRODOTTO

INGREDIENTI	QUANTITÀ in g PER 1Kg farina	DOSAGGIO su farina totale	COMPOSIZIONE %	PREZZO AL KG INGREDIENTE	COSTO INGREDIENTE IN RICETTA	NCIDENZA % DEL COSTO SUL TOTALE
EVOLDUR		base calcolo				
lievito madre vivo						
acqua (1° dose)						
acqua (2° dose)						
sale						
totale						

RESA RICETTA : 0,82/0,84

MODALITÀ DI VENDITA: AL PEZZO/AL KG

PREZZO DI VENDITA:

INDICAZIONI DI GESTIONE DEL PANE UNA VOLTA COTTO (DA SEGNALARE ANCHE AL CLIENTE IN FASE DI VENDITA):

se si vuole consumare subito il pane si consiglia di rigenerarlo a 150°C/180°C in forno per qualche minuto per far riacquistare croccantezza alla crosta.  
se si vuole conservare il pane per più giorni si consiglia di congelarlo oppure chiuderlo in un sacchetto di nylon e tenerlo a temperatura ambiente

NOTE:

# PANE EVOLUTIVA

RICETTA

TIPOLOGIA IMPASTO IMPASTO AD ALTA IDRATAZIONE  
CON FARINA PETRA  
METODO DIRETTO CON LIEVITO MADRE - LIEVITAZIONE 24 ORE

## FORMULA IMPASTO E QUANTITATIVI DI PRODUZIONE

INGREDIENTI	QUANTITÀ in g PER 1kg farina	DOSAGGIO su farina totale	QUANTITÀ abituale da produrre
Petra Evolutiva 0201	1000	100	
lievito madre vivo	250	25	
acqua (1° dose)	700	70	
acqua (2° dose)	150	15	
sale	20	2	
totale impasto	2120		

RESA IN N°PEZZI PER 1KG FARINA: 3 Pagnotte da 700 g circa (peso a crudo) oppure  
2 pagnotte da 1050 g circa (peso a crudo)

CALO PESO IN COTTURA : 16% /18% circa

NOTE:

## FOTO PRODOTTO FINITO



## PROCEDIMENTO DI ESECUZIONE

### RINFRESCO LM

Rinfrescare il lievito madre il giorno precedente in modo da averlo già pronto al mattino.

Esempio: alle ore 16 rinfrescare il lievito seguendo queste dosi: 10g di lievito madre, 1kg Farina Petra evolutiva o Petra 0115 segale integrale, 1 litro di acqua a 20°C. Lasciare fermentare tutta la notte a 22-23°C. Il lievito è maturo per un pH compreso tra 3,9 e 4,1.



### IMPASTO

- Iniziare a impastare tutta la farina e 700g di acqua e il lievito madre maturo sino ad amalgamare gli ingredienti.
- Interrompere l'impastamento e lasciare riposare la massa per 30 minuti
- Trascorso il tempo inserire il lievito e riprendere a impastare in prima velocità per circa 10 minuti fino a formare bene la maglia glutinica.
- Aggiungere a questo punto il sale, avviare la macchina in seconda velocità inserendo costantemente l'acqua rimanente.



### GESTIONE DELLA LIEVITAZIONE E FORMATURA

- Una volta terminato mettere l'impasto a lievitare in massa a temperatura di 25/26°C, per 3 ore, conferendo una piega ogni ora.
- Al termine delle 3 ore controllare il pH sia 4,6.
- Procedere poi con la pezzatura e la formatura.
- Collocare il pane formato nei cestini e attendere a temperatura ambiente che il pH scenda a 4,5.
- Riporre quindi il pane a 4-5°C per almeno 12 ore.
- Cuocere direttamente da frigorifero.



### COTTURA PER PEZZATURA DI CIRCA 1 KG

In FORNO STATICO tipo POLIN:  
Cottura a 266°C, aggiunta di umidità in fase di informamento (8 sec), valvola chiusa per 20 minuti  
Riduzione della temperatura del suolo a 230, ulteriori 15 minuti di cottura.  
Riduzione della temperatura del cielo a 230 e apertura della valvola. Cottura per ulteriori 15 minuti.

Una volta cotto mettere il pane a raffreddare subito in una griglia.



# PANE EVOLUTIVA

RICETTA

ESEMPIO PROGRAMMAZIONE PRODUZIONE IN BAKERY

Nelle tempistiche sono indicate

ORA	DAY 1	DAY 2	DAY 3
00:00-05:59			COTTURA
06:00			COTTURA
07:00			COTTURA
08:00	RINFRESCO LIEVITO 1 A 1	IMPASTO	COTTURA
09:00		PRIMA PIEGA	COTTURA
10:00		SECONDA PIEGA	COTTURA
11:00		FORMATURA-FRIGORIFERO	COTTURA
12:00-13:00	LUNCH	LUNCH	LUNCH
14:00			COTTURA
15:00			COTTURA
16:00	RINFRESCO LIEVITO LUNGO		COTTURA
17:00			COTTURA
18:00			COTTURA
19:00-23:59			

COSTO DEL PRODOTTO E INDICAZIONI PER LA VENDITA

DETTAGLIO COMPOSIZIONE E COSTI MATERIE PRIME DEL PRODOTTO

INGREDIENTI	QUANTITÀ in g PER 1Kg farina	DOSAGGIO su farina totale	COMPOSIZIONE %	PREZZO AL KG INGREDIENTE	COSTO INGREDIENTE IN RICETTA	NCIDENZA % DEL COSTO SUL TOTALE
Petra Evolutiva		base calcolo				
lievito madre vivo						
acqua (1° dose)						
acqua (2° dose)						
sale						
totale						

RESA RICETTA : 0,82/0,84

MODALITÀ DI VENDITA: AL PEZZO/AL KG

PREZZO DI VENDITA:

INDICAZIONI DI GESTIONE DEL PANE UNA VOLTA COTTO (DA SEGNALARE ANCHE AL CLIENTE IN FASE DI VENDITA):

se si vuole consumare subito il pane si consiglia di rigenerarlo a 150°C/180°C in forno per qualche minuto per far riacquistare croccantezza alla crosta.  
se si vuole conservare il pane per più giorni si consiglia di congelarlo oppure chiuderlo in un sacchetto di nylon e tenerlo a temperatura ambiente

NOTE:



# METEIL JERMANA

RICETTA

TIPOLOGIA IMPASTO IMPASTO AD ALTA IDRATAZIONE  
CON FARINA PETRA  
METODO DIRETTO CON LIEVITO MADRE

## FORMULA IMPASTO E QUANTITATIVI DI PRODUZIONE

INGREDIENTI	QUANTITÀ IN g	DOSAGGIO su farina totale	QUANTITÀ abituale da produrre
PETRA JERMANA	500	50	
PETRA 3HP	500	50	
SALE	22	2,2	
Lievito madre	200	20	
acqua 1	700	70	
acqua 2	140	14	

RESA IN N°PEZZI PER 1KG FARINA : 5 Pagnotte da 400 g circa (peso a crudo) oppure  
2 pagnotte da 1050 g circa (peso a crudo)

CALO PESO IN COTTURA : 16% /18% circa

## FOTO PRODOTTO FINITO



## PROCEDIMENTO DI ESECUZIONE

### RINFRESCO LM

Rinfrescare il lievito madre il giorno precedente in modo da averlo già pronto al mattino.

Esempio: alle ore 16 rinfrescare il lievito seguendo queste dosi: 10g di lievito madre, 1kg Farina Petra JERMANA, 1 litro di acqua a 20°C. Lasciare fermentare tutta la notte a 22-23°C. Il lievito è maturo per un pH compreso tra 3,9 e 4,1.



### IMPASTO

- Iniziare a impastare tutta la farina e 700g di acqua e il lievito madre maturo sino ad amalgamare gli ingredienti.
- Interrompere l'impastamento e lasciare riposare la massa per 30 minuti
- Trascorso il tempo inserire il lievito e riprendere a impastare in prima velocità per circa 10 minuti fino a formare bene la maglia glutinica.
- Aggiungere a questo punto il sale, avviare la macchina in seconda velocità inserendo costantemente l'acqua rimanente.



### GESTIONE DELLA LIEVITAZIONE E FORMATURA

- Una volta terminato mettere l'impasto a lievitare in massa a temperatura di 25/26°C, per 3 ore, senza pieghe.
- Stagliare e formare molto delicatamente, riporre in cestino tondo con la chiusura rivolta verso il basso.
- Lasciare fermentare nuovamente 45 minuti.
- ribattere sul telaio e infornare senza praticare tagli.



### COTTURA PER PEZZATURA DI CIRCA 1 KG

In FORNO STATICO tipo POLIN:  
Cottura a 240°C, aggiunta di umidità in fase di informamento (8 sec), valvola chiusa per 30 minuti  
Riduzione della temperatura a 230 e apertura della valvola, ulteriori 15 minuti di cottura. Temperatura di cottura al cuore circa 99°C.

Una volta cotto mettere il pane a raffreddare subito in una griglia.

# METEIL JERMANA

RICETTA

ESEMPIO PROGRAMMAZIONE PRODUZIONE IN BAKERY

Nelle tempistiche sono indicate

ORA	DAY 1	DAY 2
00:00-05:59		
06:00		
07:00		IMPASTO
08:00	RINFRESCO LIEVITO 1 A 1	
09:00		
10:00		FORMATURA
11:00		COTTURA
12:00-13:00	LUNCH	LUNCH
14:00		
15:00	PREPARAZIONE GEL	
16:00	RINFRESCO LIEVITO LUNGO	
17:00		
18:00		
19:00-23:59		

COSTO DEL PRODOTTO E INDICAZIONI PER LA VENDITA

DETTAGLIO COMPOSIZIONE E COSTI MATERIE PRIME DEL PRODOTTO

INGREDIENTI	QUANTITÀ in g PER 1Kg farina	DOSAGGIO su farina totale	COMPOSIZIONE %	PREZZO AL KG INGREDIENTE	COSTO INGREDIENTE IN RICETTA	NCIDENZA % DEL COSTO SUL TOTALE
JERMANA		base calcolo				
lievito madre vivo						
acqua (1° dose)						
acqua (2° dose)						
sale						
totale						

RESA RICETTA : 0,82/0,84

MODALITÀ DI VENDITA: AL PEZZO/AL KG

PREZZO DI VENDITA:

INDICAZIONI DI GESTIONE DEL PANE UNA VOLTA COTTO (DA SEGNALARE ANCHE AL CLIENTE IN FASE DI VENDITA):

se si vuole consumare subito il pane si consiglia di rigenerarlo a 150°C/180°C in forno per qualche minuto per far riacquistare croccantezza alla crosta.  
se si vuole conservare il pane per più giorni si consiglia di congelarlo oppure chiuderlo in un sacchetto di nylon e tenerlo a temperatura ambiente

NOTE:

# Whiteboard