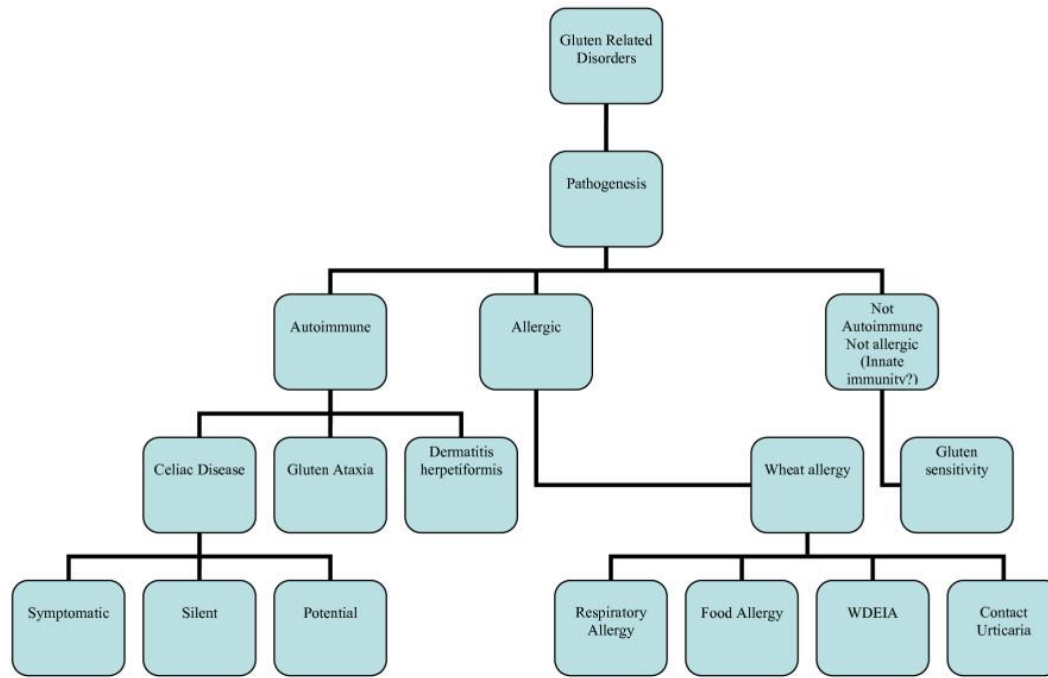


***CELIACHIA E DIETA  
SENZA GLUTINE  
tra verità scientifiche e  
falsi miti***

***Marco Silano***

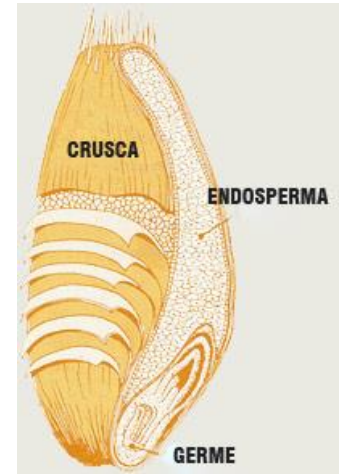


***Reparto di Alimentazione, Nutrizione e Salute  
Dipartimento di Sanità Pubblica Veterinaria e Sicurezza Alimentare***



***GLUTINE***

# GLUTINE



## ALBUMINE

idrosolubili

## GLOBULINE

solubili in sol. salina

## GLIADINA $\alpha$ $\beta$ $\gamma$ $\omega$

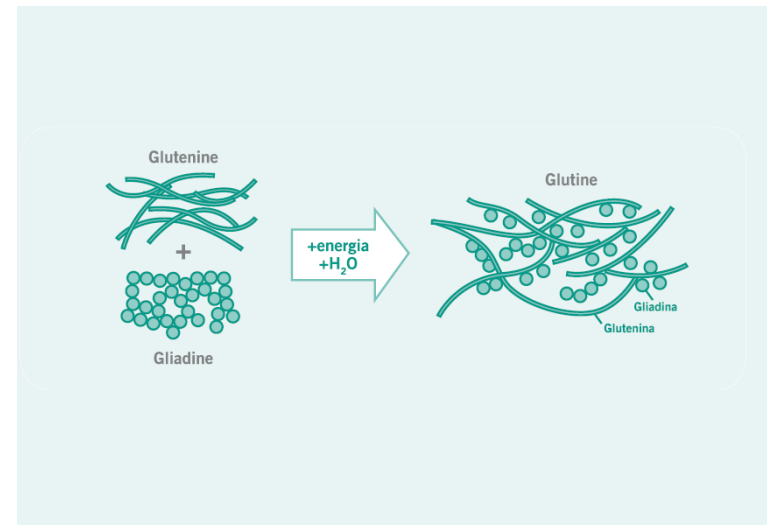
solubili in etanolo

## GLUTENINE

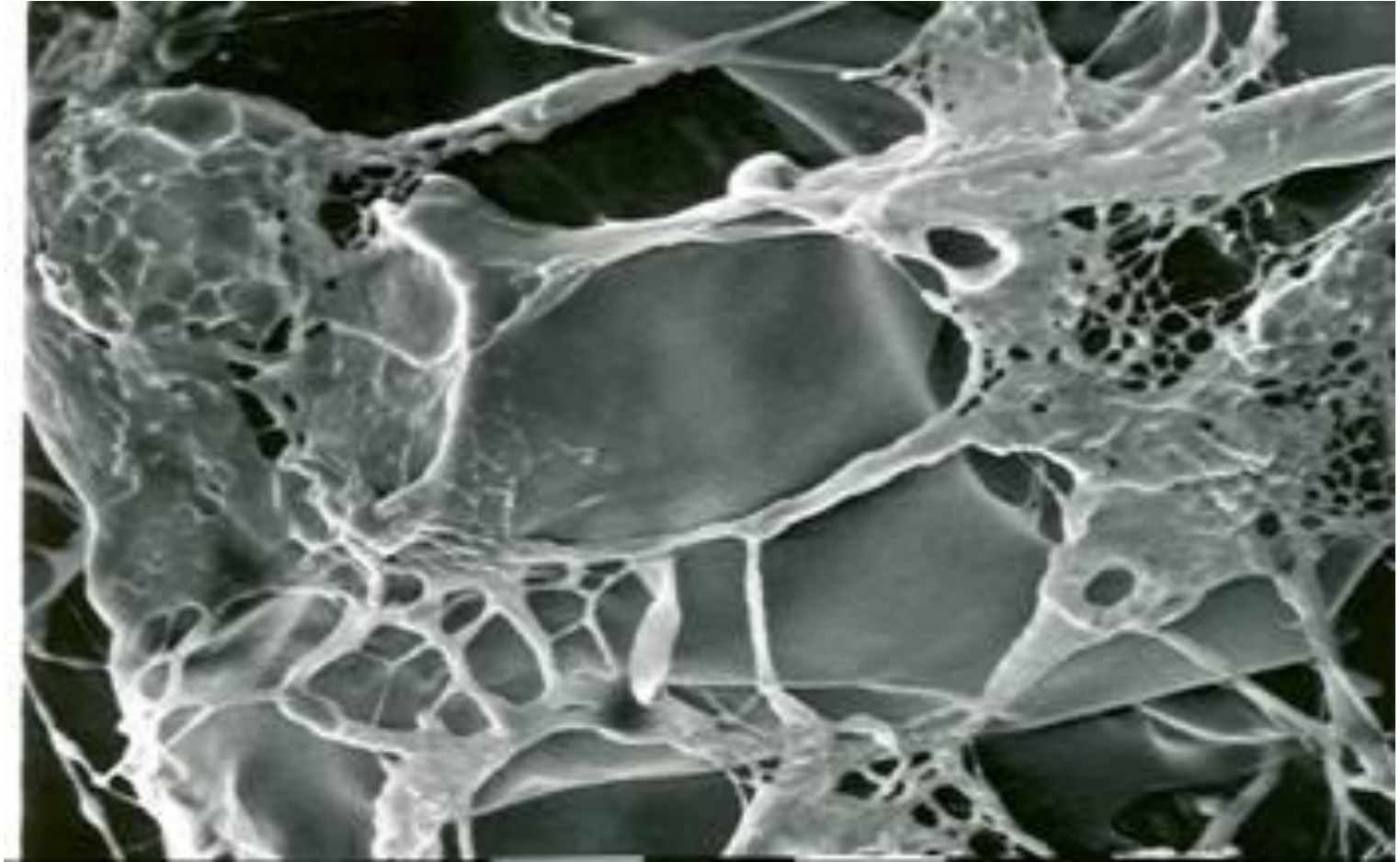
HMW LMW

solubili in acido acetico

### Proteine di riserva



# GLUTINE





**Alveografo di Chopin**



# ***MALATTIA CELIACA***



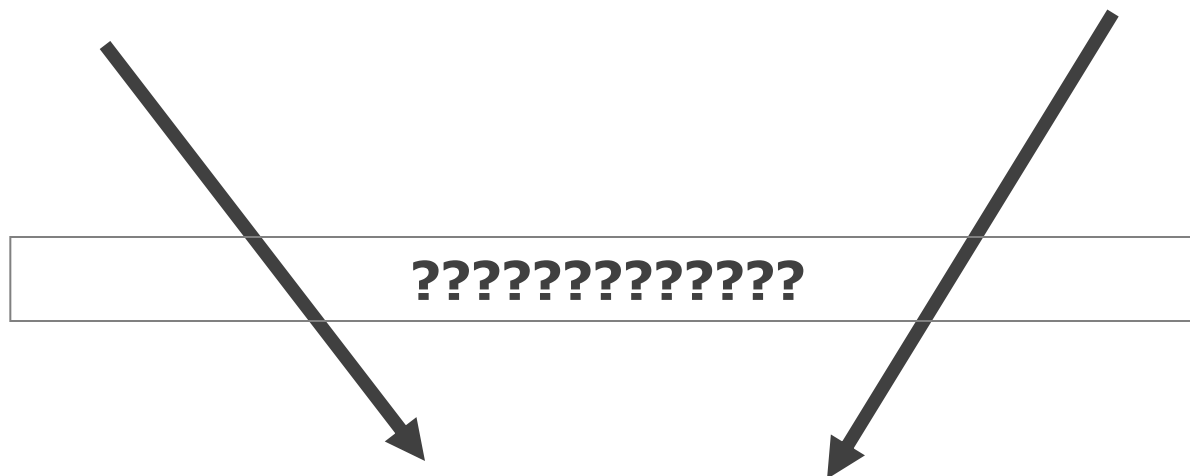
**FATTORE COSTITUTIVO**

**FATTORE AMBIENTALE**

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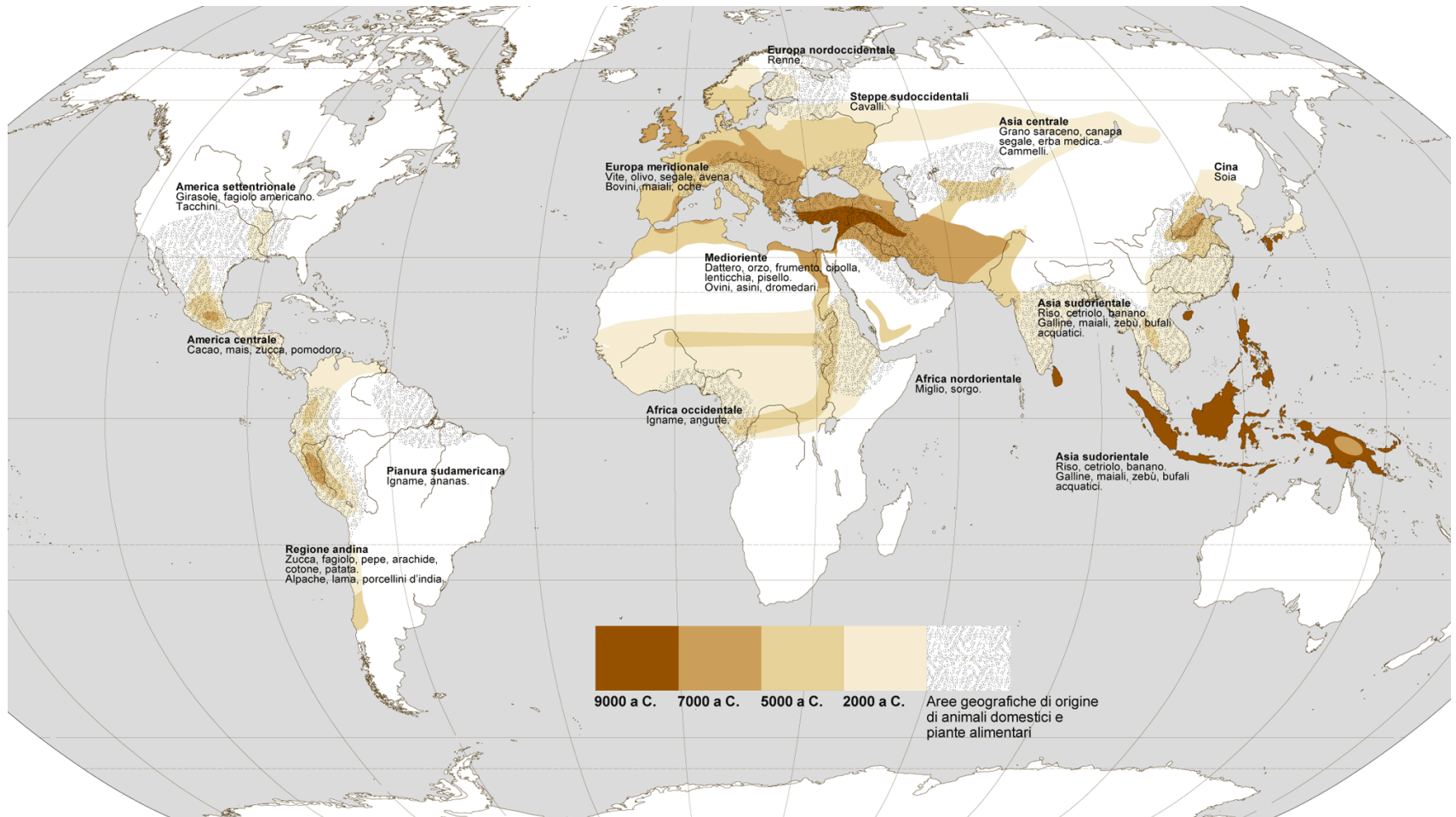
**PREDISPOSIZIONE  
GENETICA**

**ESPOSIZIONE AL  
GLUTINE**



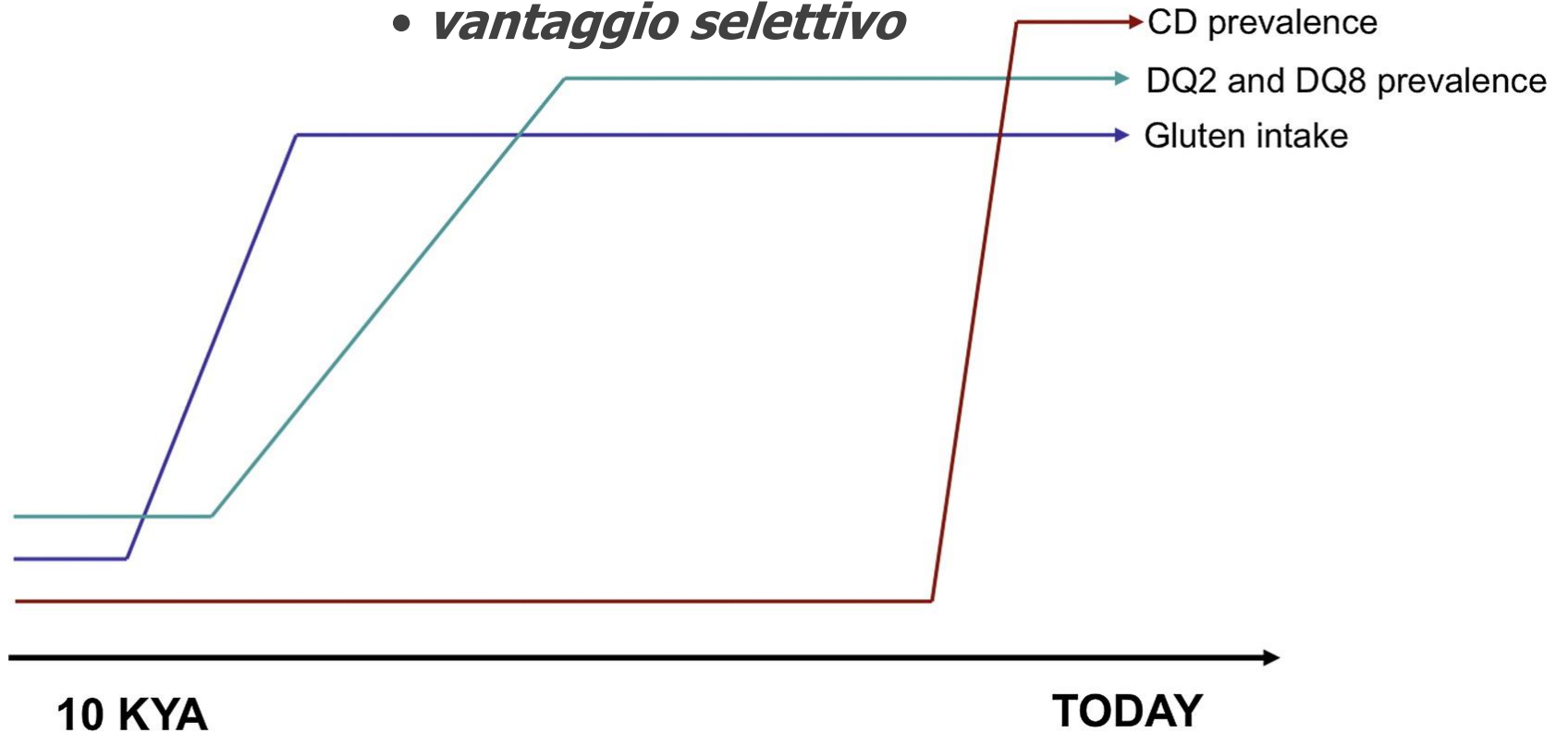
***MALATTIA CELIACA***

# diffusione agricoltura



- *effetto del fondatore*

- *vantaggio selettivo*

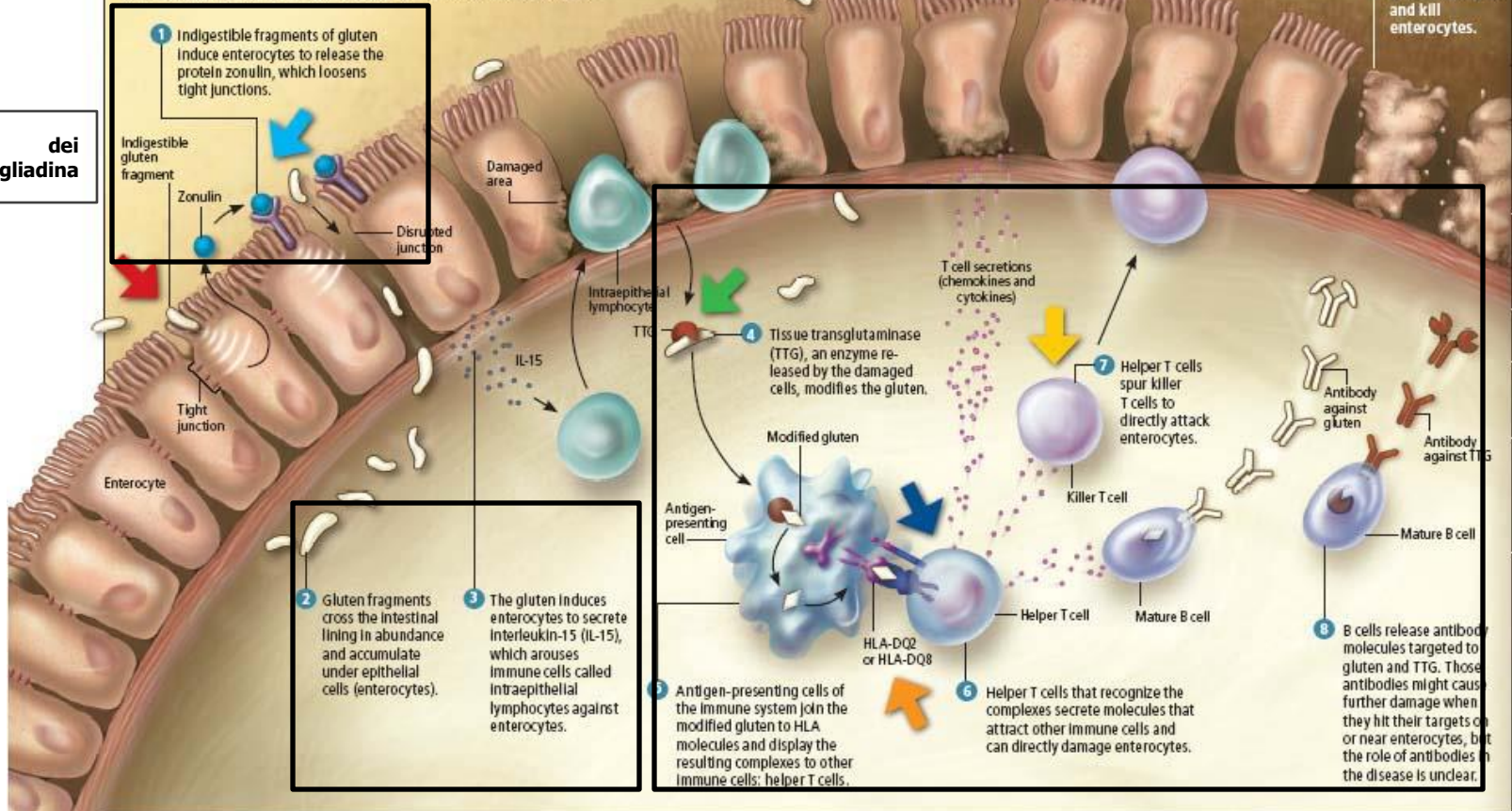


# Patogenesi della MC

[MECHANISMS OF DISEASE]

## THE INSIDE STORY

Investigators do not know every detail of how the immune system wreaks havoc with the intestinal lining of celiac patients, but they have identified a number of likely processes (below). Colored arrows indicate events that might be blocked by interventions now being investigated [see table on opposite page].

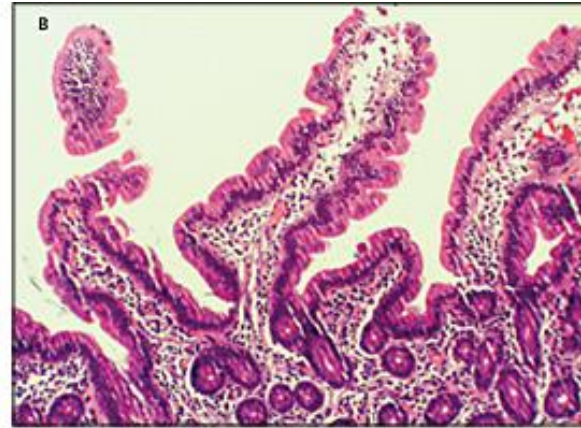


Accumulo intralisosomiale dei peptidi della gliadina (minuti)

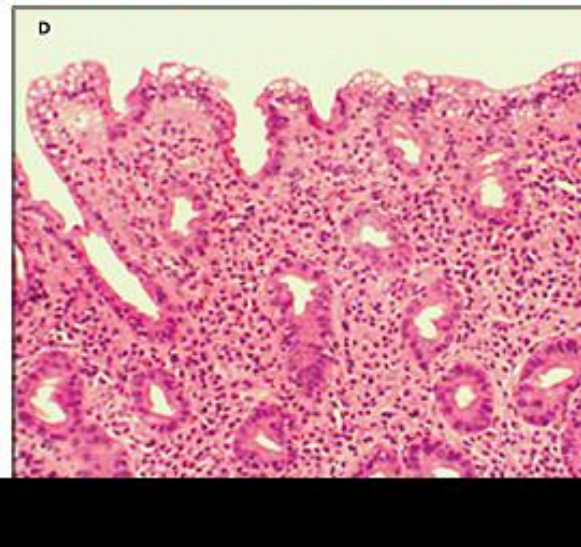
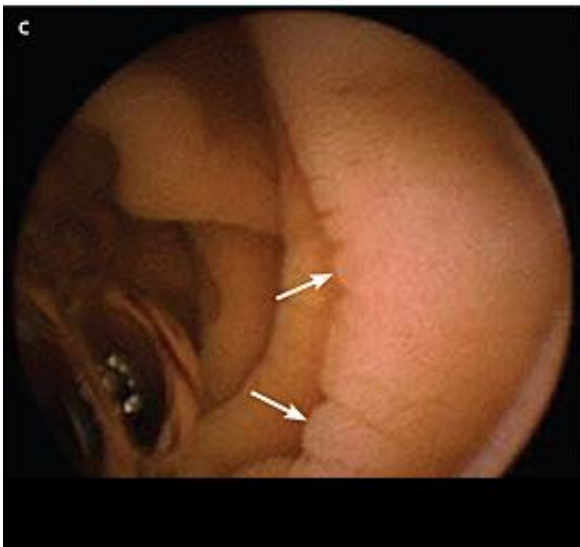
Immunità innata (3 ore)

Immunità adattiva (24 ore)

# Patogenesi della MC



**normale**

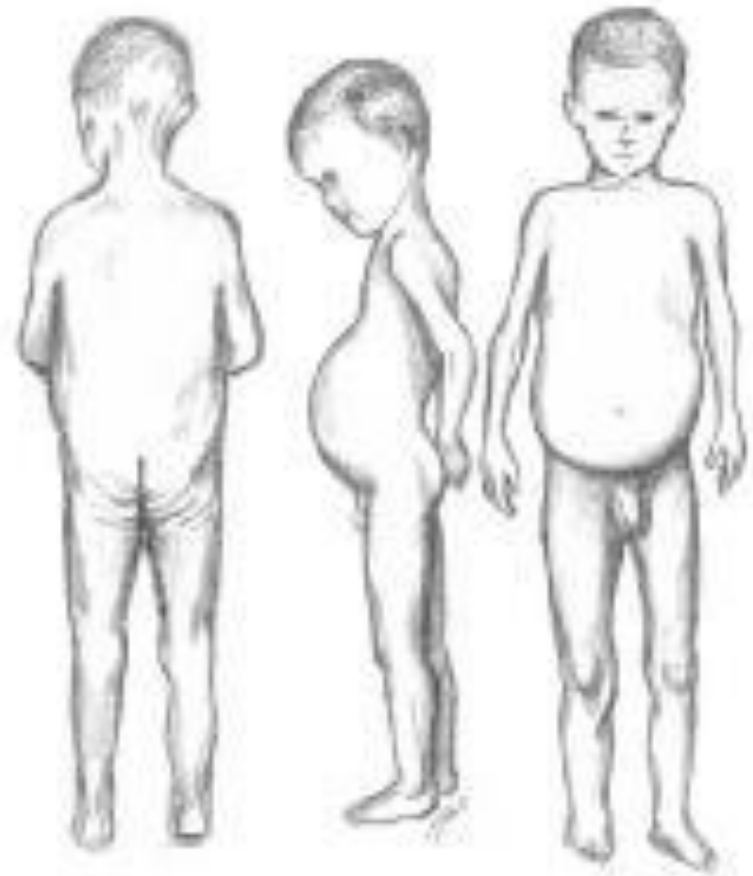


**celiaca**

# ***SINTOMATOLOGIA***

## ***Forma classica o tipica***

- **Diarrea cronica**
- **Scarso accrescimento**
- **Distensione addominale**

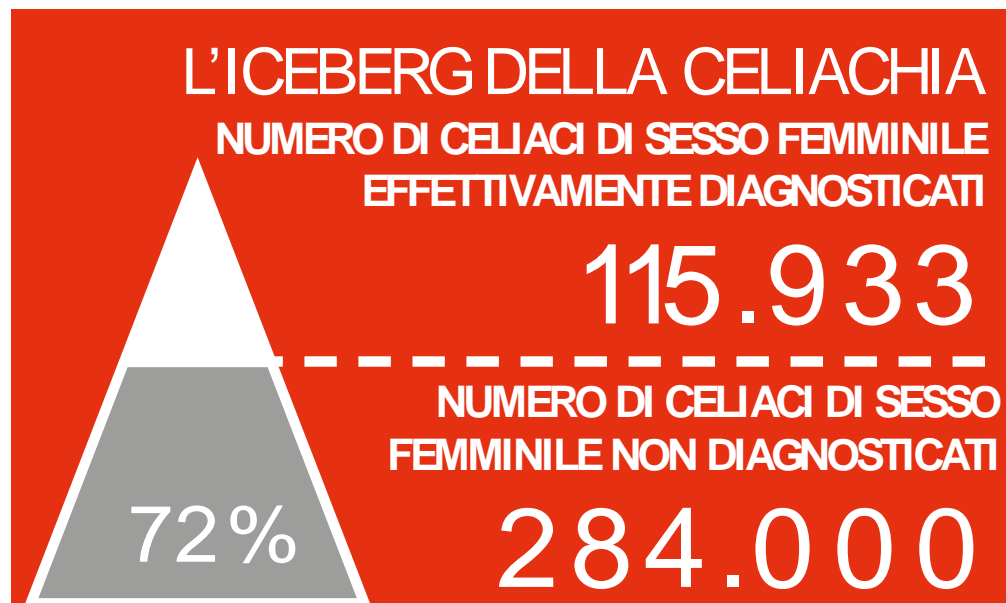


**Table 2. Gastrointestinal and Extraintestinal Celiac Disease**

Gastrointestinal Presentation	Extraintestinal Presentation
Diarrhea	Constitutional
Anorexia	Fatigue
Vomiting	Hematologic
Failure to thrive or weight loss	Iron deficiency anemia
Abdominal pain, bloating	Dermatologic
Constipation	Dermatitis herpetiformis
	Oral
	Dental enamel hypoplasia
	Aphthous ulcers
	Musculoskeletal
	Arthritis
	Arthralgia
	Osteopenia or osteoporosis
	Fractures
	Liver
	Mildly elevated AST, ALT levels
	Endocrinologic
	Short stature
	Delayed puberty
	Unexplained infertility (in women)
	Miscarriage
	Neurologic
	Cerebellar ataxia
	Recurring headaches
	Peripheral neuropathy
	Seizures
	Psychiatric disorders
	Anxiety, panic attacks, depression

Abbreviations: ALT, alanine aminotransferase; AST, aspartate aminotransferase.

# La malattia celiaca è in aumento?



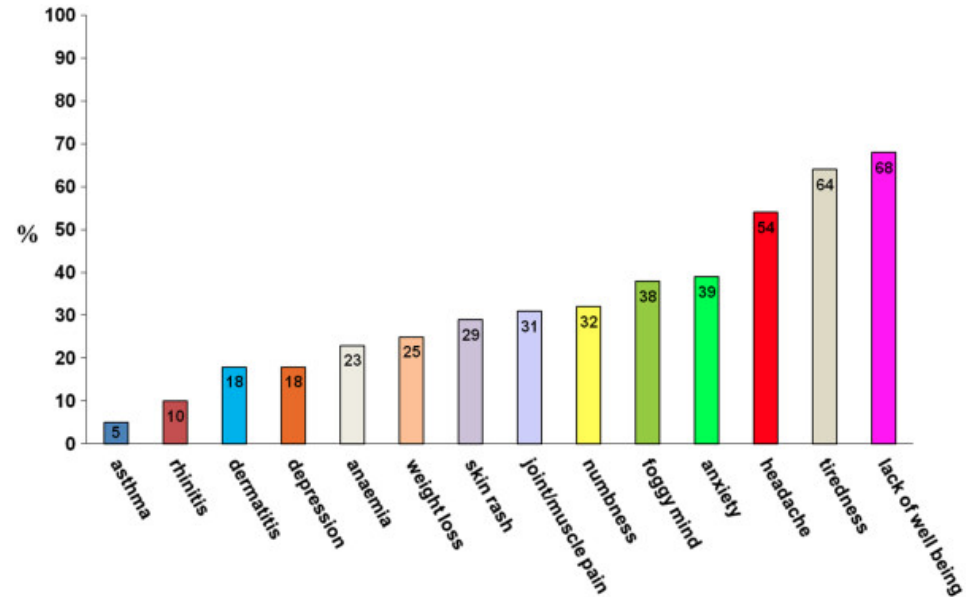
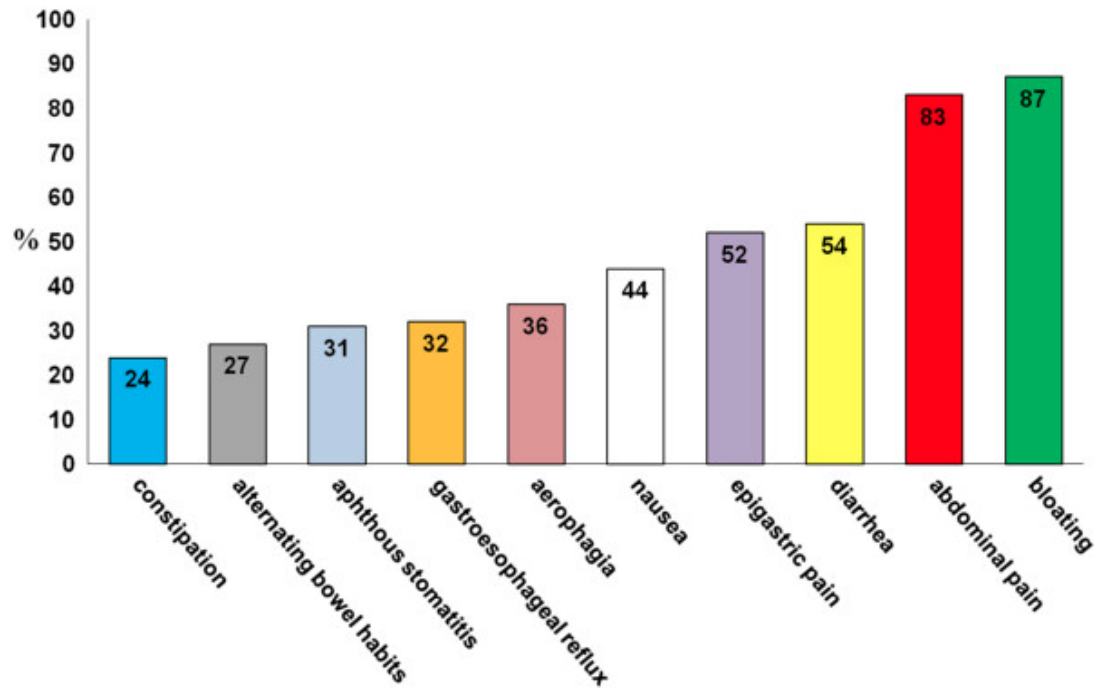


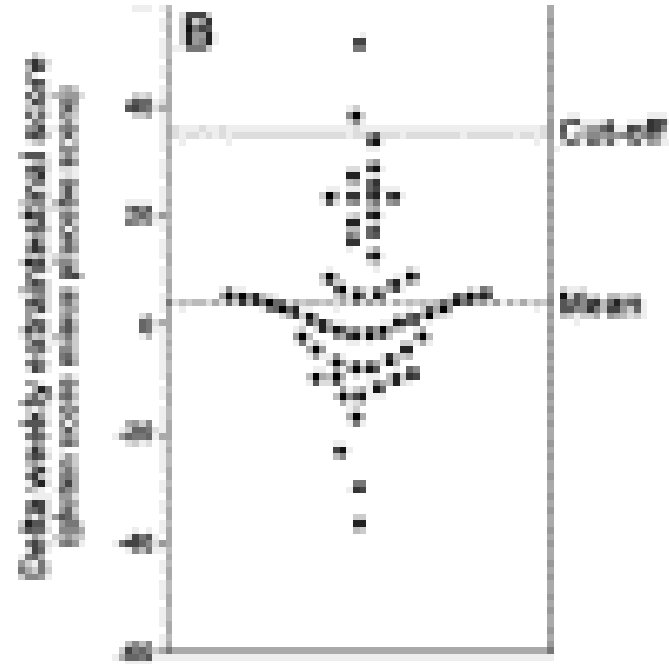
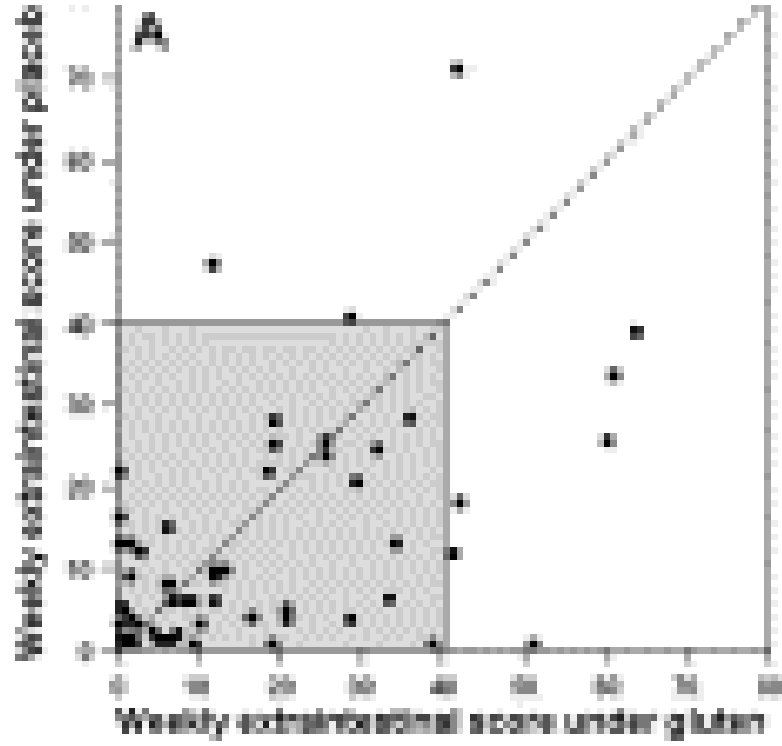
***GLUTEN***

***SENSITIVITY***

# Gluten sensitivity

- agente ambientale ?????
- predisposizione genetica NO
- marker serologico noto NO
- lesioni mucosali intestinali NO
- terapia ?????
- permanente NO
- sintomi SI





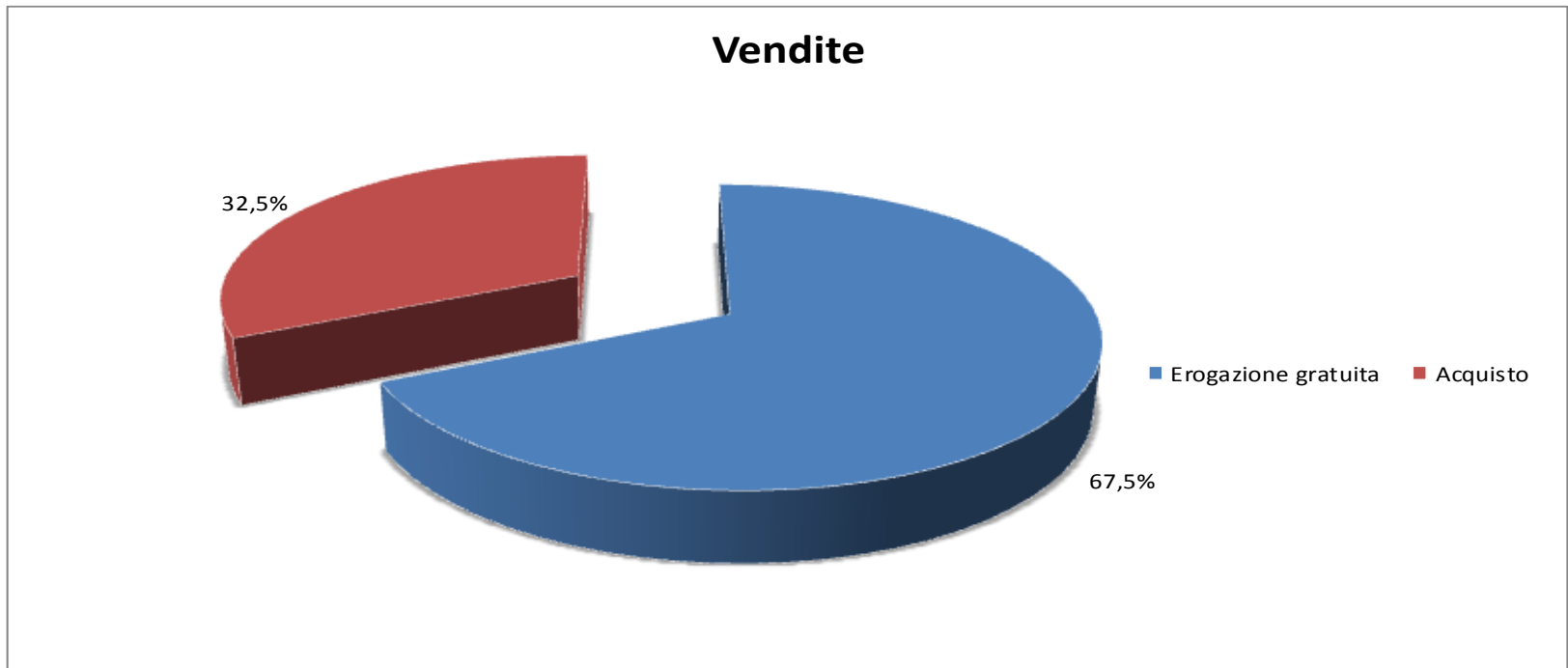
# Gluten sensitivity

## QUALCHE MITO, SENZA NESSUNA EVIDENZA SCIENTIFICA:

- ✓ 6 % della popolazione generale
- ✓ beneficio dai prodotti dietoterapici SG
- ✓ auto-prescrizione della DSG
- ✓ kit di auto – diagnosi

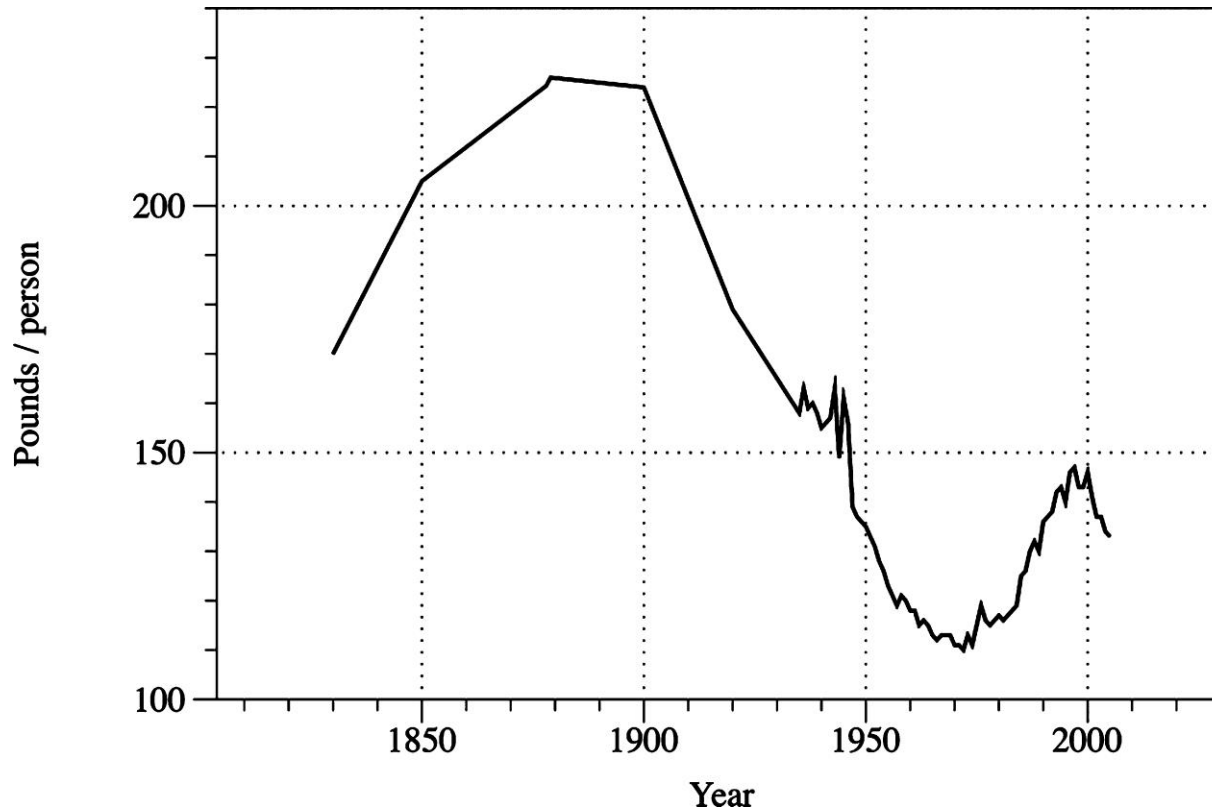
**La dieta senza glutine fa bene  
anche a chi non è celiaco ?  
È dieta dimagrante ?**





- La differenza tra mercato totale ed erogazione gratuita stimata sembra essere dovuto a:
  - integrazione del tetto di spesa per i celiaci in regime di erogazione
  - supposte gluten-sensitivity
  - pubblico generale, perché crede i prodotti sg più sani o perché convinti che facciano dimagrire

# L'aumento della prevalenza di "intolleranze al glutine" è legata ad un aumentato consumo di glutine ?



•U.S. per capita wheat flour use (figure redrawn from ref 18 and data supplied by G. Vocke).



**I grani ancestrali  
sono tollerati dai  
celiaci ?**

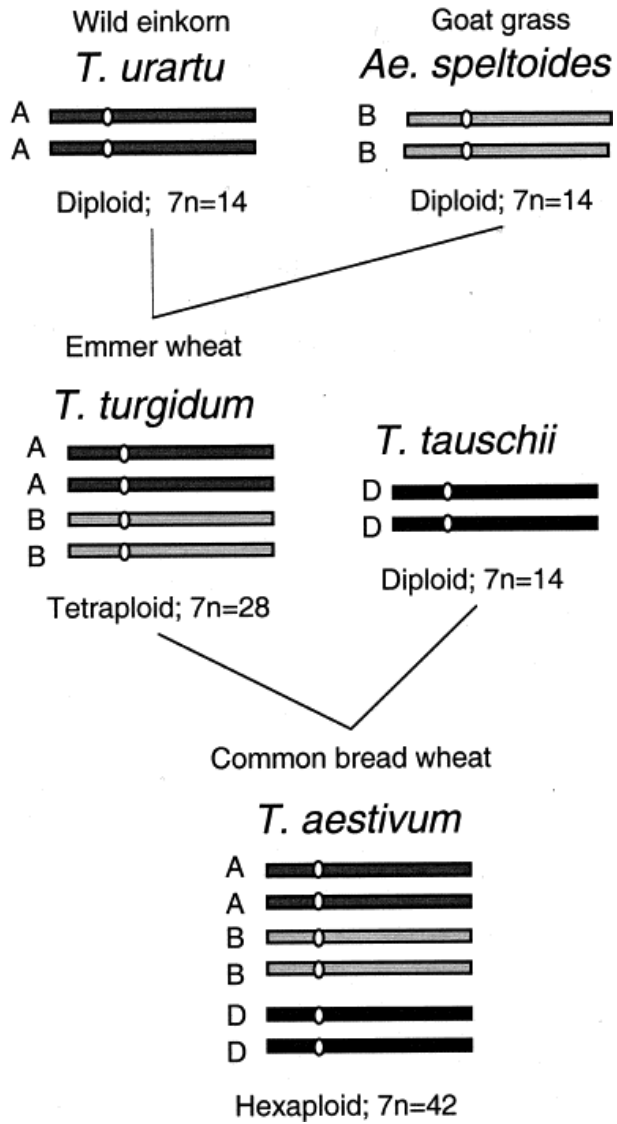
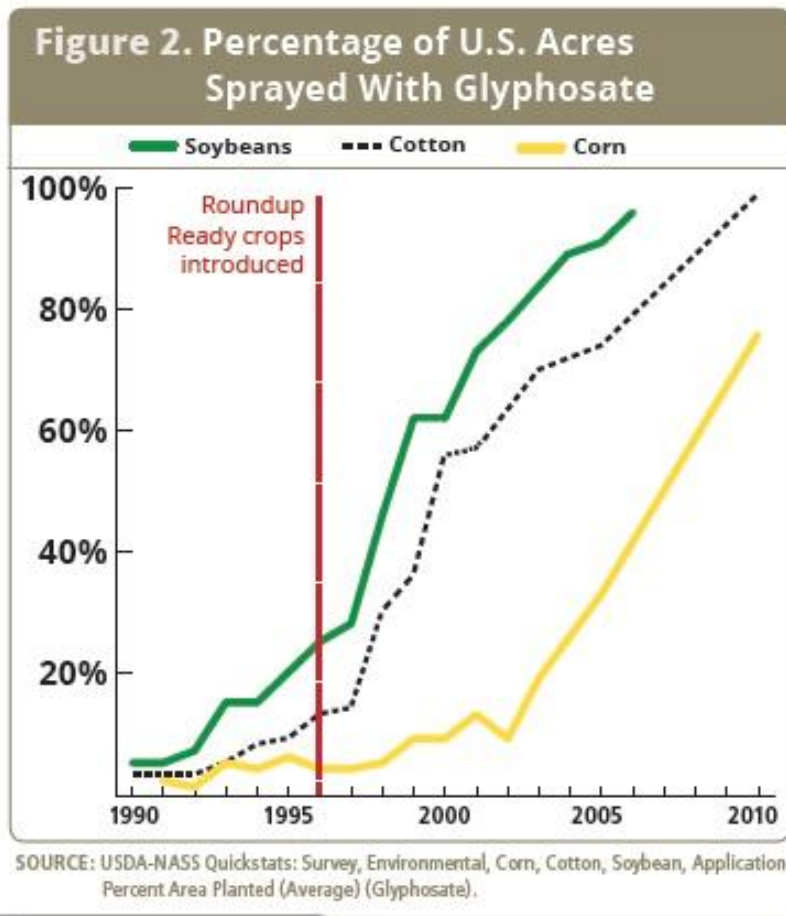
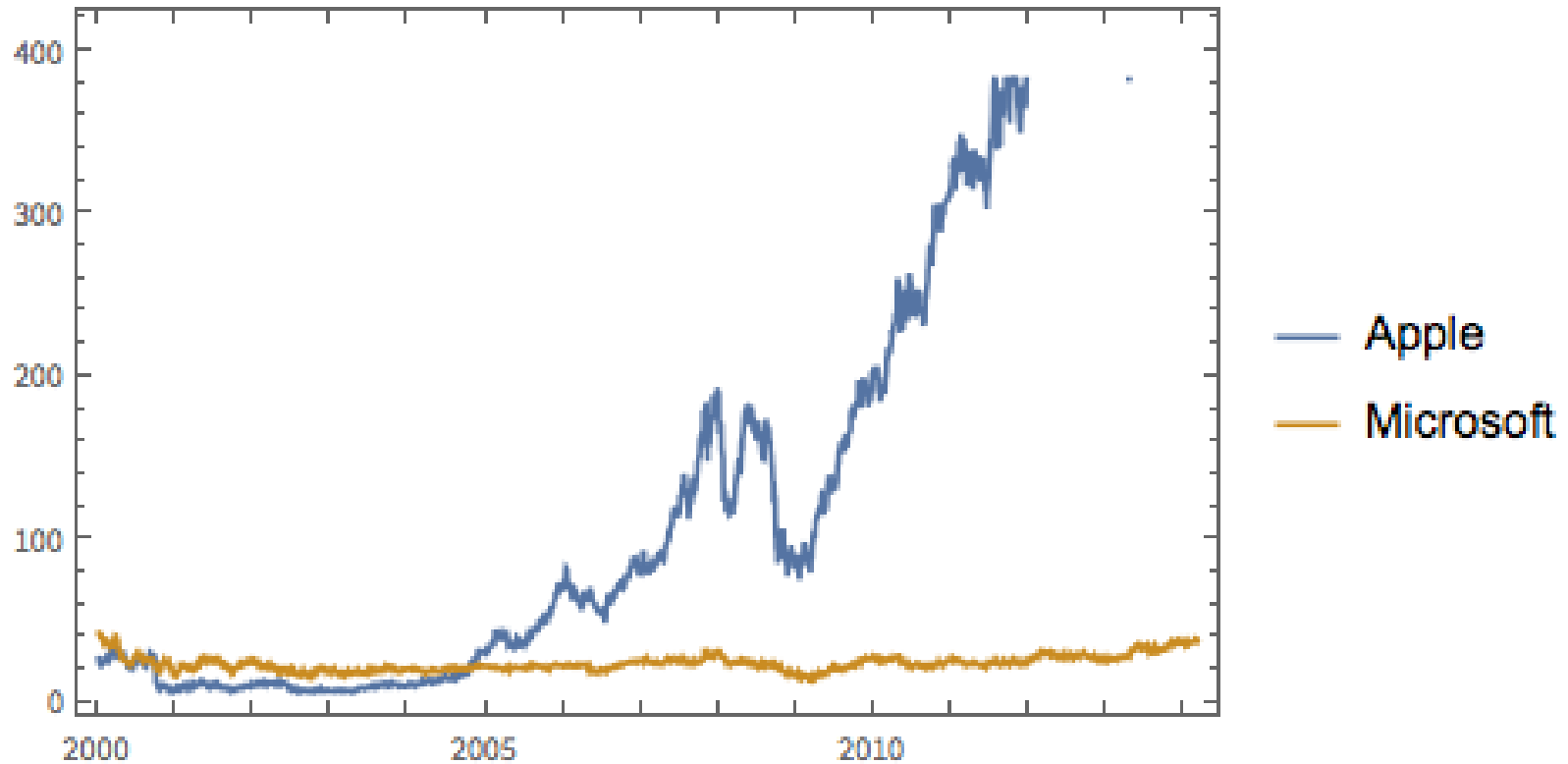


Figure 4. Heads of (left to right) *T. urartu* (A genome), *T. speltoides* (B genome), and *T. tauschii* (D genome).

# L'aumento della prevalenza di "intolleranze al glutine" è legata alle moderne tecniche di coltivazione dei grani ?



# L'aumento della prevalenza di celiachia è legata alle moderne tecniche di coltivazione dei grani ?



***GRAZIE PER  
L'ATTENZIONE***