

The Evolving History of Our Food

How we got here?

Where are we headed?

How Taste with Nutrition Shape our Future?

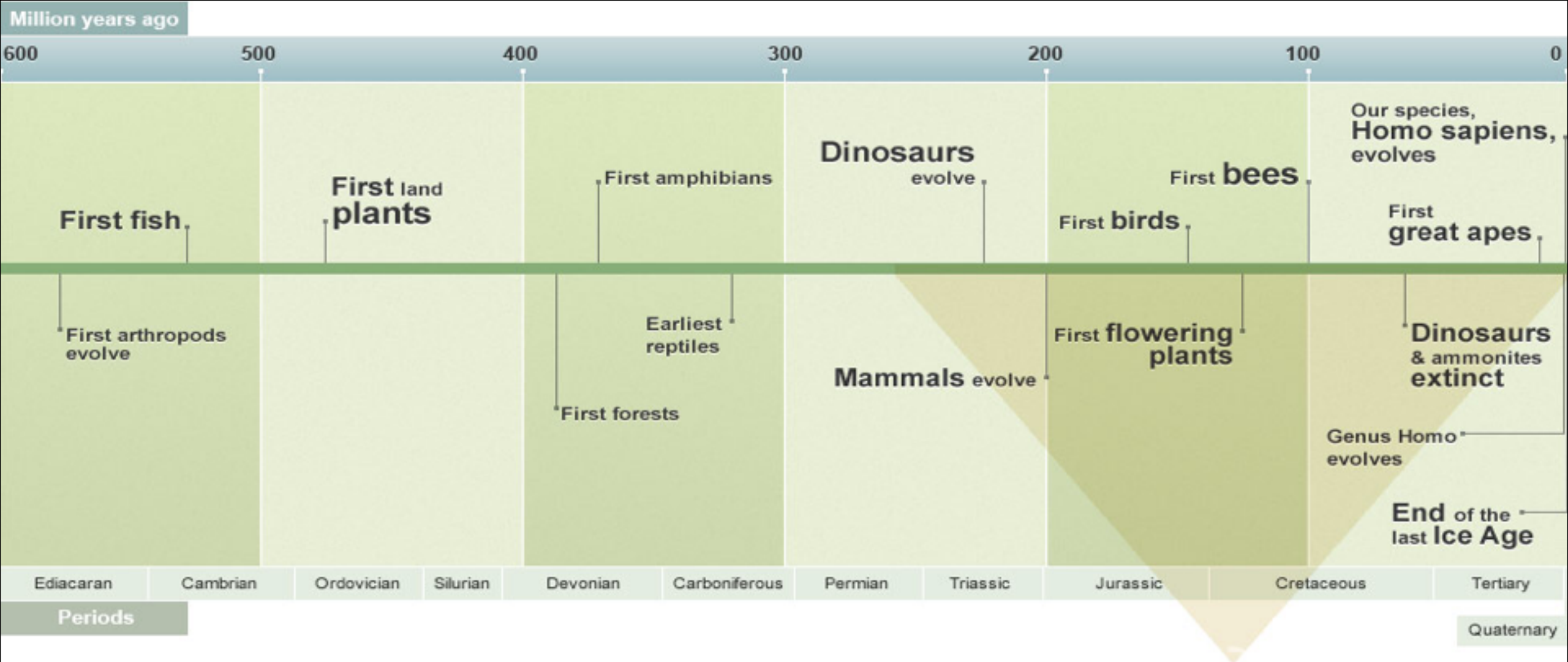




EARTH FORMS 4.6 BILLION YEARS AGO

FIRST LIFE ARISES 1.2 BILLION YEARS LATER





PLANTS GET THE HEAD START ON THE WORLD

AROUND 450 MILLION YEARS AGO (11.5)



ORDOVICIAN-SILURIAN
MASS EXTINCT
443 MILLION



LATE DEVONIAN
MASS EXTINCT
359 MILLION



PERMIAN MASS
EXTINCT
248 MILLION

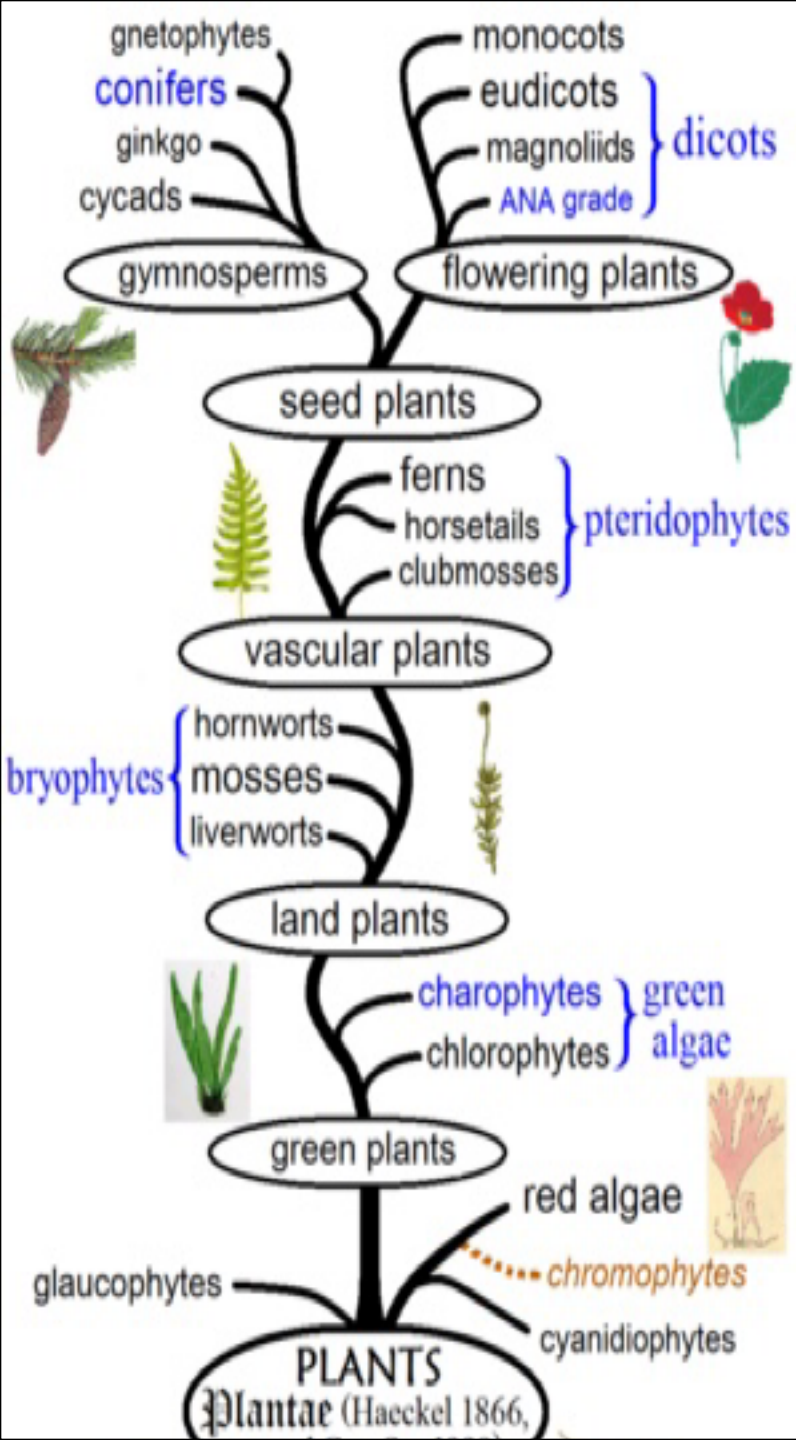


TRIASSIC-JURASSIC
MASS EXTINCT
200 MILLION



CRETACEOUS-TERTIARY
MASS EXTINCT
65 MILLION

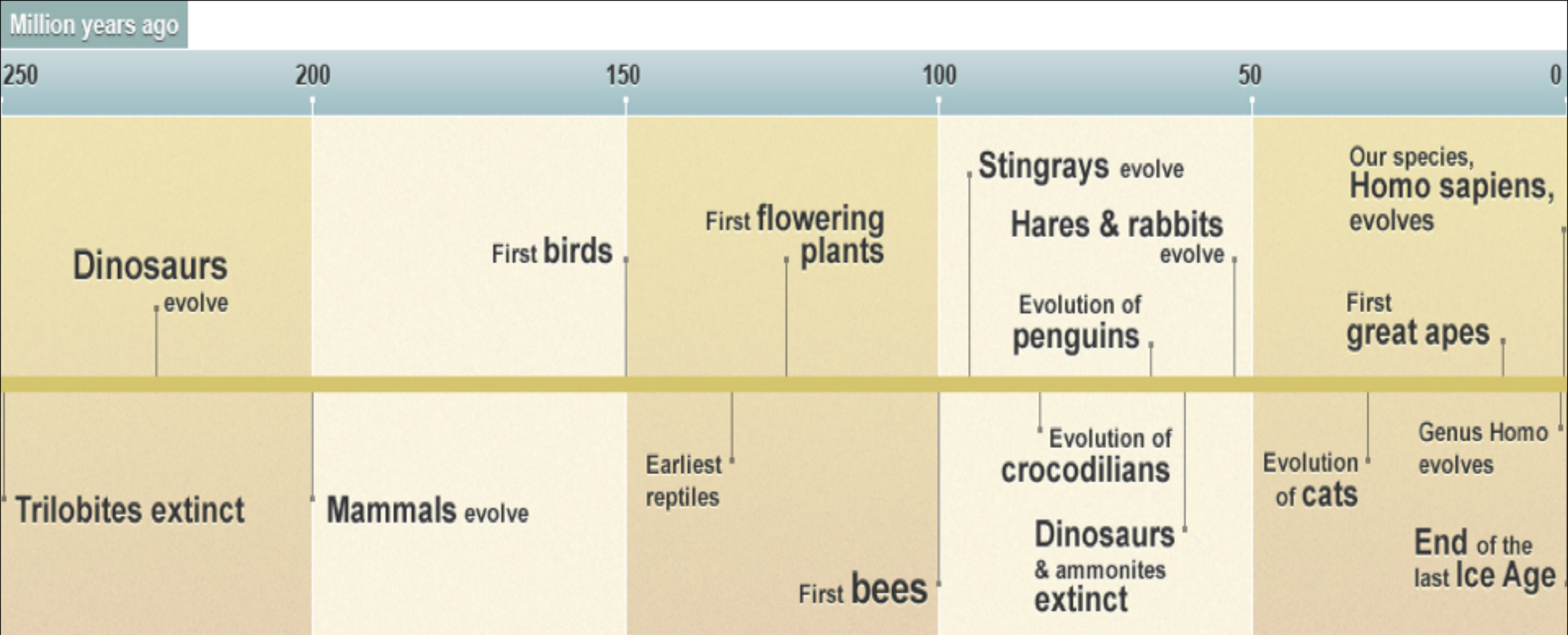
PLANTS SURVIVED THE BEST DURING
THE BIG FIVE MASS EXTINCTIONS
AND THE MINOR ONES TOO



PLANTS DEVELOP LECTINS TO PROTECT AGAINST PREDATORS TO INSURE THEIR FUTURE SURVIVAL

LECTINS ARE CARBOHYDRATE BINDING PROTEINS, MACROMOLECOLES THAT ARE HIGHLY SPECIFIC TO SUGAR MOLECULES

**EXAMPLE
RICIN IS A HIGHLY POISONOUS LECTIN FROM THE CASTOR OIL PLANT**



THEN CAME THE PLANT EATERS
NEANDERTHAL FORAGING 230,000 YEARS AGO
HOMO SAPIENS DINING STARTS 195,000 YEAR AGO



**HUMANS HAVE ARRIVED INTO AN AMAZING NATURAL ORGANIC
WORLDWIDE SUPERMARKET**

BUT

**WE HAD TO NAVIGATE WHAT TO EAT THAT WON'T KILL US
WE LEARN OVER TIME BY TRIAL AND ERROR HOW TO EXTRACT THE NUTRIENTS**

NO ALLERGEN WARNING LABELS INCLUDED!



**WHEAT FROM NORTHERN AFRICA (6.4 MC/A)
LECTINS IN HUSK & BRAN & THE GLUTIN PROTEINS
PHYTATES ANTI NUTRIENTS IN WHEAT GERM**

HUSK & BRAN CAN BE REMOVED BUT GLUTEN LECTINS REMAIN

**WHEAT ALLERGY GENERATES AN ALLERGY CAUSING ANTIBODY TO WHEAT
PROTEIN**

**CELIAC DISEASE IS ABNORMAL IMMUNE SYSTEM REACTION TO SPECIFIC
GLUTEN PROTEINS**

FLOUR MUST BE ENRICHED BY LAW SINCE 1940 DUE TO NUTRIENT LOSS



**RICE FROM CHINA (11 MC/A)
LECTINS HIDE IN THE HULL, HUSK
BRAN CONTAINS PHYTATES**

SOAK TO REMOVE HULL-HUSK

- **COOK WELL –NEVER RAW**
- **LECTINS LOWERED BUT THERE**

RICE ALLERGY

**ADVERSE REACTION BY BODY'S
AUTO IMMUNE SYSTEM**

**BYPRODUCTS FLOUR FOR GLUTEN
FREE STILL CONTAINS LECTINS
RICE MALT SYRUP SWEETENERS**





CORN FROM CENTRAL AMERICA (12.3 MC/A)

**PHYTATES ANTI NUTRIENTS THAT BINDS MINERALS IN THE DIGESTIVE TRACT,
RESULT IN B3 VITAMIN & MINERAL DEFICIENCY – PELLAGRA DISEASE**

**NIXTAMALIZATION OF CORN BY SOAKING WITH LIMESTONE OR WOOD ASH
WHICH ENHANCES THE PROTEIN AVAILABILITY RELEASING B3. THIS TECHNIQUE
GAVE RISE TO MESOAMERICAS**

**CORN ALLERGIES TRIGGERS THE IMMUNE SYSTEM TO RELEASE IMMUNOGLOBULIN
E TO NUETRALIZE WITH ALLERGY SYMPTONS**

**BYPRODUCTS CORN IS MOSTLY USED FOR HIGH FRUCTOSE CORN SYRUP
SWEETNERS, CORN OIL & ETHANOL PRODUCTION**



**POTATOES FROM SOUTH AMERICA - OVER 5000 VARIETIES
(17.8 MC/A)**

POTATOES CONTAIN LECTINS & PATATIN PRODUCING ALLERGIC REACTIONS..... LOW LEVELS PHYTATES

**PEEL, CUT & SOAK WELL
COOK WELL**

POTATO ALLERGIES MAY CONTINUE AFTER COOKING

BYPRODUCTS POTATO FLOUR AS BULKING-THICKENER AGENT



SOY BEANS FROM NORTHERN CHINA (2.1 MC/A)

**SOY CONTAINS PHYTATES & LECTINS WHICH MAY CAUSE ALLERGIC REACTIONS
EVEN SEVERE**

REMOVE HUSK & HULL

SOAK WELL

COOK WELL

BYPRODUCTS SOY BEAN OIL, SOY FLOUR, SOY MILK WITH HIGH LEVELS LECTINS



LEGUMES FROM AROUND THE WORLD - SPECIFICALLY DRIED BEANS

LEGUMES CONTAIN PHYTATES ANTI-NUTRIENTS & LECTINS

SOAK IN WATER TO REMOVE HUSK AND LEACH PHYTIC ACID & LECTINS

COOK WELL – NEVER RAW

LEGUME ALLERGIES STILL EXIST EVEN AFTER COOKING SIMILAR TO PEANUT

BYPRODUCTS OF PEANUT OIL, LEGUME FLOURS RICH IN PHYTATES & LECTINS



SUGAR CANE FROM SOUTH ASIA – MELANASIA

**SUGAR ALLERGY & SUGAR SENSITIVITY
INVADED OUR FOOD INDUSTRY AND DIET**

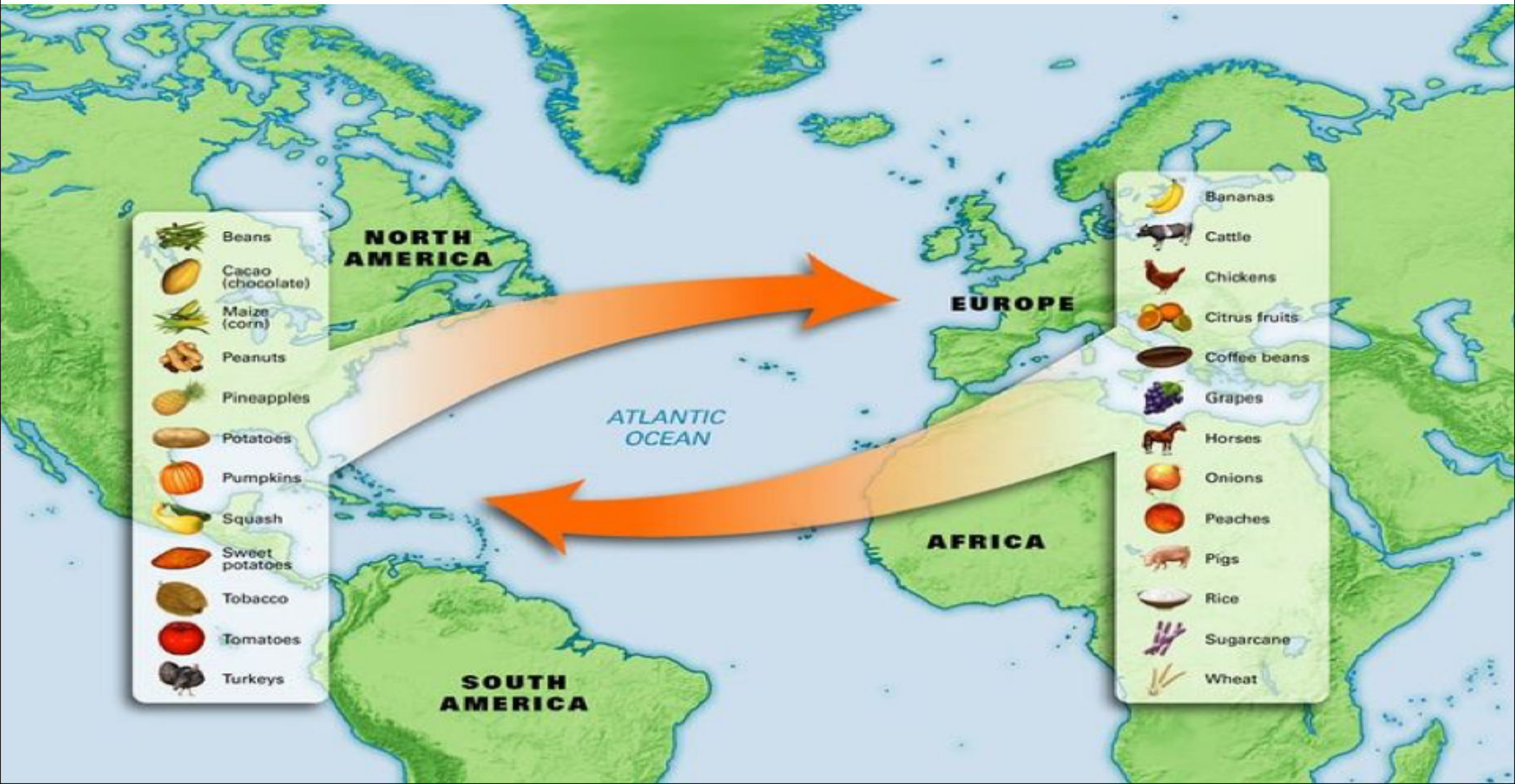
CONTRIBUTED TO OBESITY AND DIABETES



THE WINE PARTY STARTS 7400 BC



HUMANS & FOOD START TO TRAVEL



WHEN FOOD TRAVELING GOES WELL IT TURNS OUT GREAT

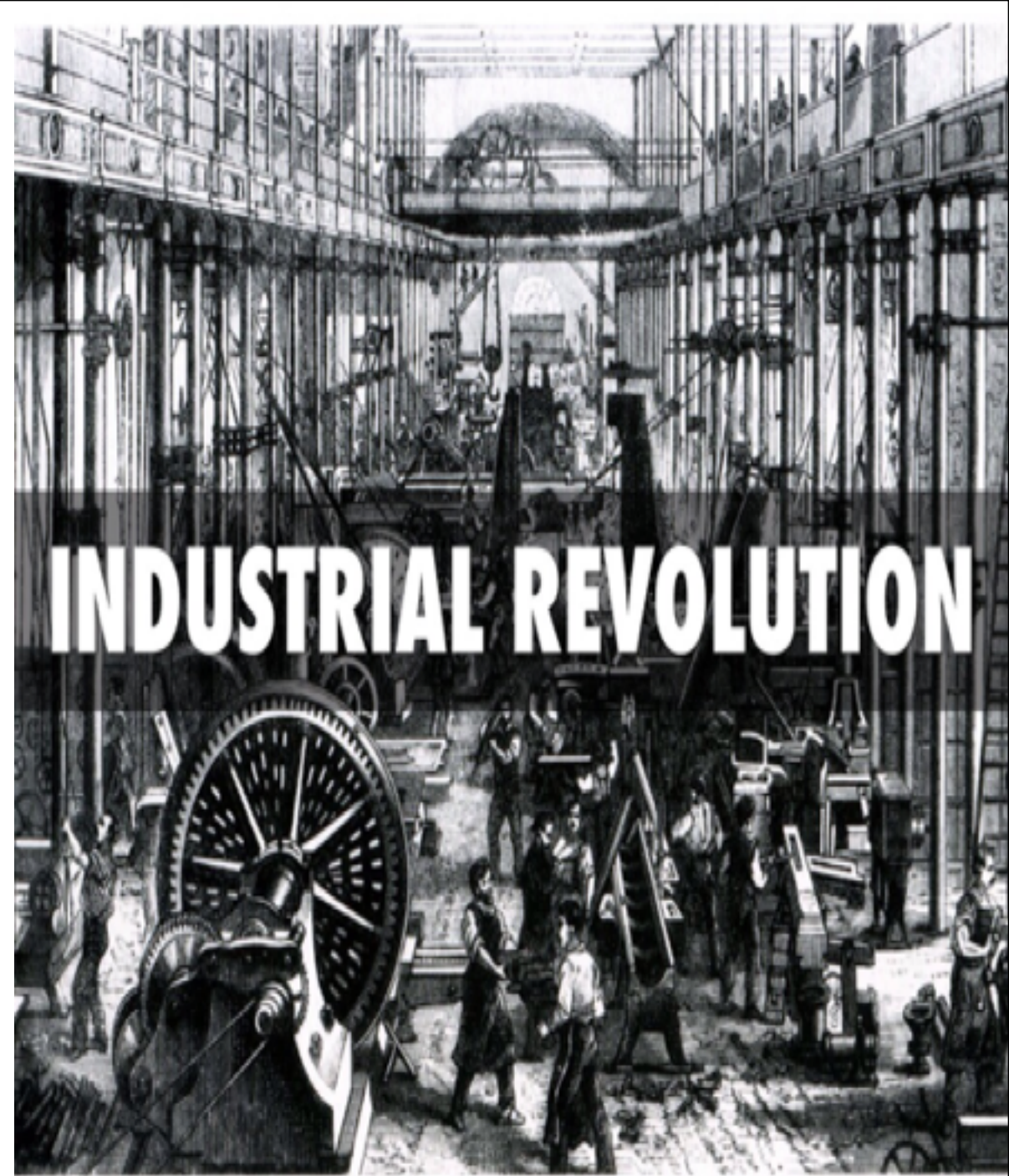


**WHEN FOOD & NUTRITION TRAVEL
SOMETIMES GREAT THINGS HAPPEN**

**POTATOES PROVIDED INCREASED
CALORIES, 17.8 M PER ACRE THAT
ALLOWED LESS FARMERS TO PROVIDE
MORE FOOD WHILE ALLOWING MORE
WORKERS TO THE NEW FACTORIES
HENCE POTATOES WERE GIVEN CREDIT
FOR FUELED THE INDUSTRIAL REVOLUTION**




IRISH LUMPER



INDUSTRIAL REVOLUTION

**IRISH POTATO FAMINE
CAUSED BY BLIGHT ON DEPENDENCY ON A
SINGLE POTATO VARIETY THE IRISH LUMPER**

**1 MILLIION DIED FROM STARVATION
1 MILLION EMIGRATED
IRELAND POPULATION FELL BY 25%**



DOOLOUGH TRAGEDY
1849
ERECTED TO THE MEMORY OF
THOSE WHO DIED IN
THE FAMINE OF 1845-49

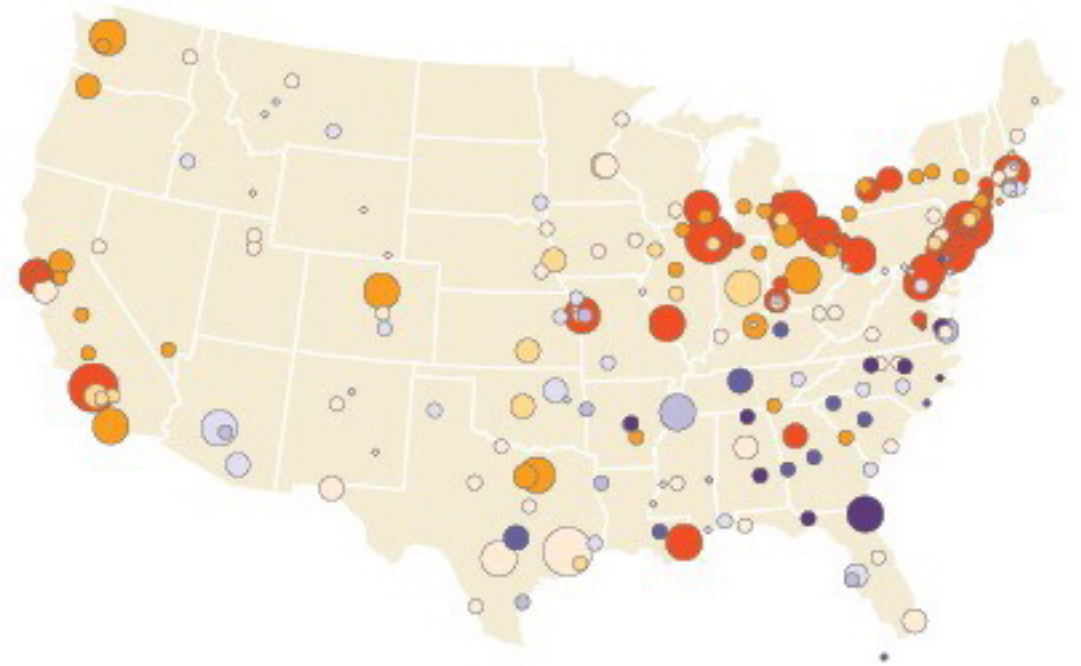
NEXT FOOD POWERED MIGRATION FROM RURAL TO URBAN POPULATIONS.

MODERN RAIL REFRIGERATION INTRODUCED IN 1940 ALLOWS HARVESTS FROM THE RURAL FARM TO REACH THE CITIES EFFICIENTLY WHILE STILL FRESH.

ADVANCEMENTS IN MECHANICAL AGRICULTURAL PROCESSES INCREASES YIELD WHILE REDUCING WORKFORCE.

WORKFORCE FOLLOWS JOBS TO THE CITIES NOW SUSTAINED BY MODERN TRANSPORT REFRIGERATION

The Second Great Migration:
1940-1970



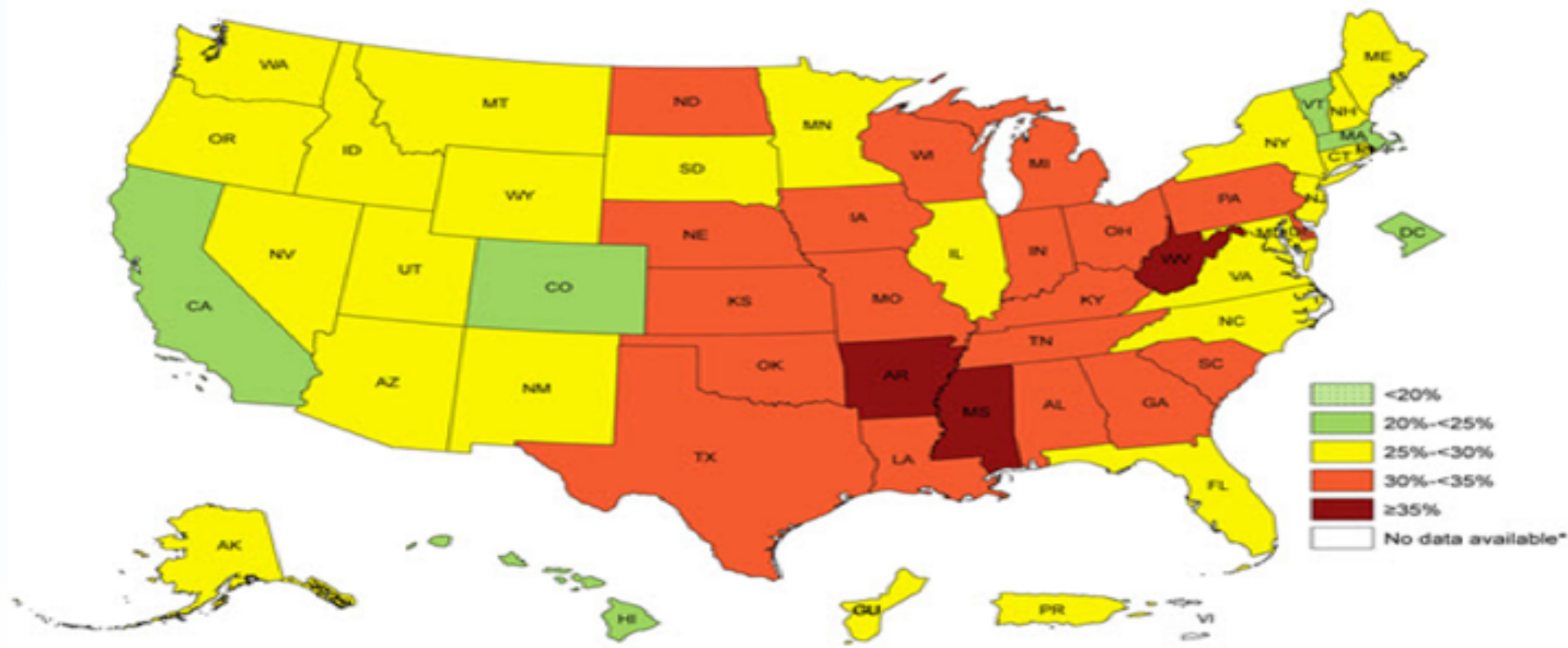
TRAVELING FOOD SHRUNK OUR CHOICES
ONLY THE APPLES THAT STORED WELL
WERE COMMERCIALY ACCEPTABLE

FROM 7,500 APPLE VARIETIES TO
15 VARIETIES THAT NOW ACCOUNT FOR
90% OF COMMODITY APPLES!

MASSIVE DECREASE IN BIODIVERSITY



Obesity in America



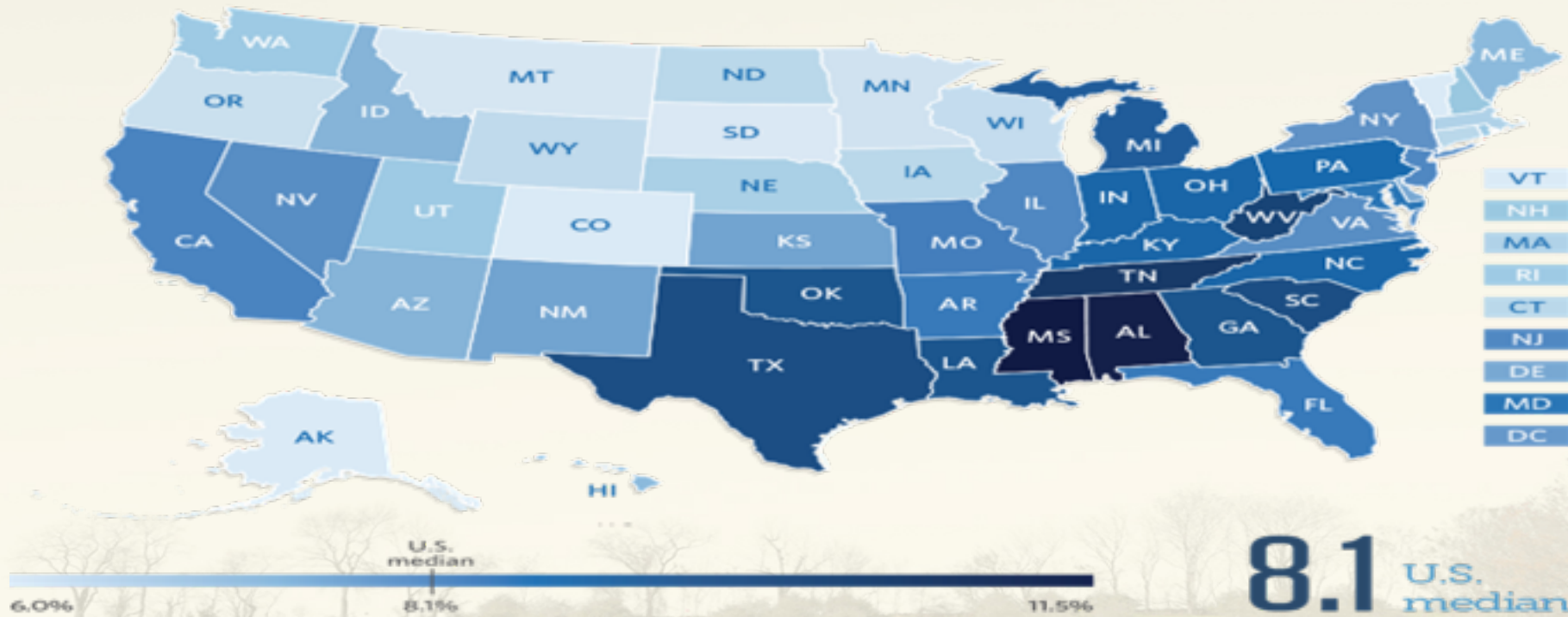
EAT BETTER FOOD = PRODUCES BETTER HEALTH OUTCOMES
EQUALS BETTER QUALITY OF LIFE

American Diabetes

5 of 5

Diabetes Rate Among Adults

Percentage of respondents age 18 and older who report being told they have diabetes, 2010



Note: These data were age-adjusted.

Source: Centers for Disease Control and Prevention

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USA HAS THE HIGHEST FOOD WASTE IN WORLD
50% OF PRODUCE = 60 MILLION TONS = \$160 B
1/3 OF ALL FOODS ENDS UP HERE
\$3 TRILLION IN WASTED FOOD WORLDWIDE



LUCKILY FARMERS MARKETS ARE SURGING

NAME
LO
ONE

IGNITES EXPLODING FOOD SCENE







INCREDIBLE PERIOD FOR CREATIVE CHEFS, FOOD & WINE





The Challenges for the FUTURE

How do we feed the growing world population now & in the future?
How do we cure the world's growing waistline & declining health?

The world needs a safe sustainable protein and nutrient delivery system

World Population Growth Estimates

Year	USA	World
2016	324 Million	7.45 Billion
2020	333 Million	7.75 Billion
2025	345 Million	8.15 Billion
2050	388 Million	9.73 Billion

USA 2014 Health Statistics

- 40 Million Diagnosed Diabetics
- 86 Million Pre Diabetics
- 2 out of 3 Americans avoid or limit pizza & other high carb food consumption due to weight and obesity challenges

Population Growth Requires Increased Sustainable Protein Delivery From Plant Based Sources



THE NEW FRONTIER

DNA – Genes in our bodies

Human 25,000 genes = 7%

Biome 3.3 million genes = 93%

Biome bacterial cells outnumber human cells by a factor of 10 to 1.

Human DNA is 99.9% identical, yet no 2 people share the same microbial makeup, even identical twins.

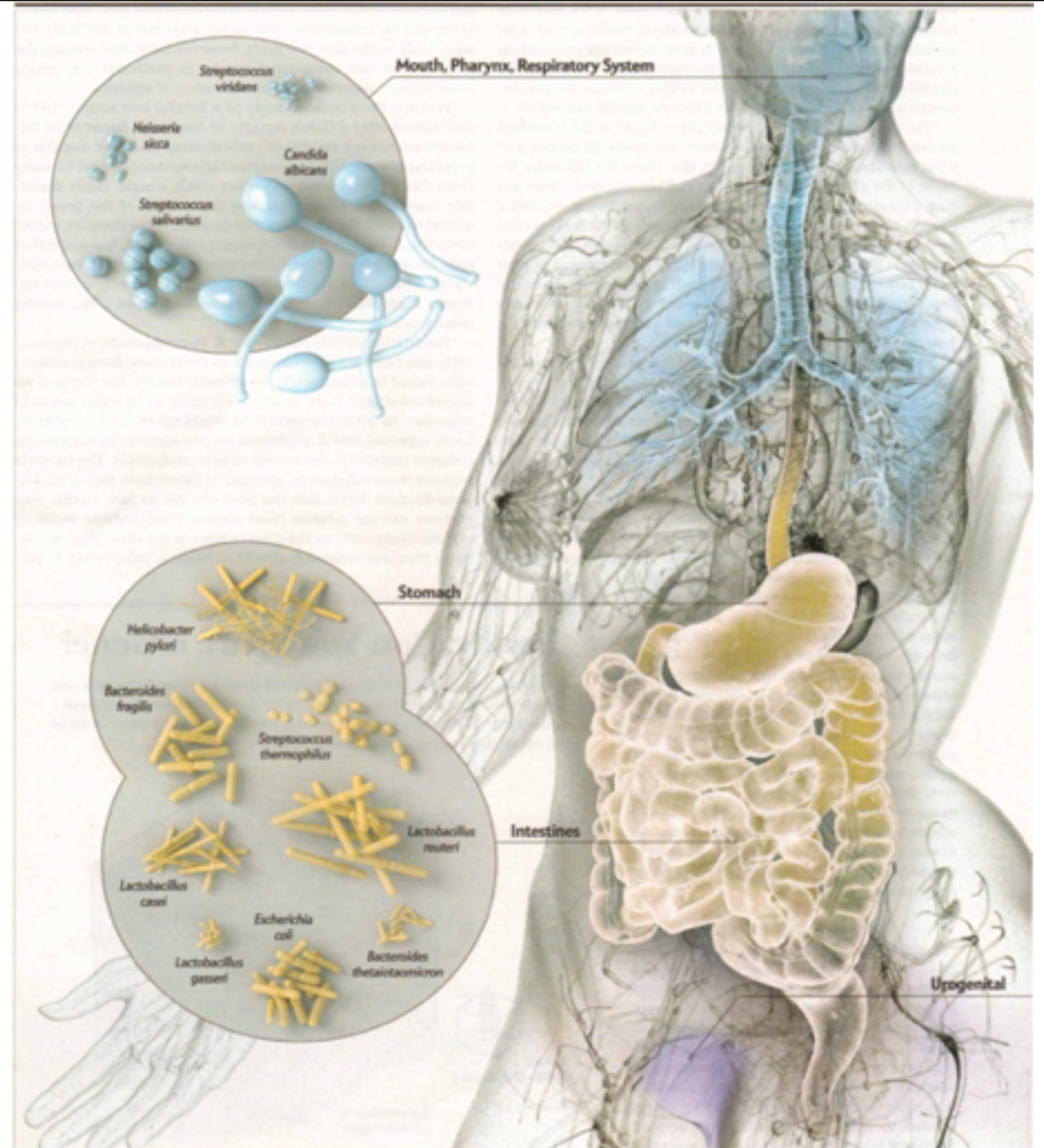
Humans are not a self sufficient island but a complex ecosystem, that has aligned the interests of the human host and the biome bugs. In exchange for raw materials and shelter in our bodies, the microbes that live in our gut feed and protect us as an integral component of our human well being.

This Biome bacteria may also cause or effect diseases beyond acute infections to play a crucial role in chronic illnesses such as obesity, diabetes, heart disease, asthma, MS, autoimmune and neurological conditions.

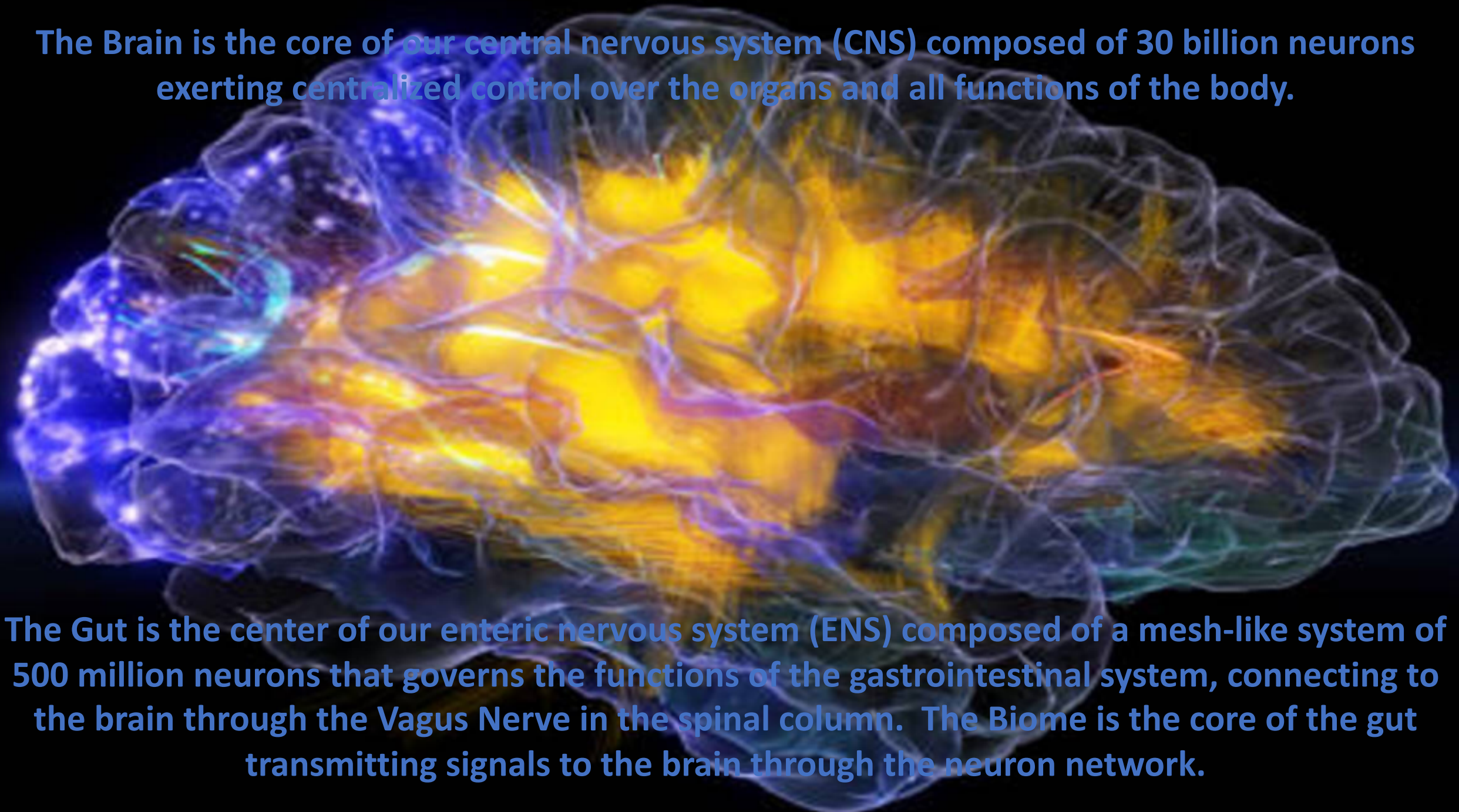
How does the Biome cause these effects?

The human biome is organized into 4 large groups of bacteria known as phyla, that each have a different repertoire of specialized biochemical capabilities that are crucial to our nutrition. An off balance biome can effect the body by causing overfeeding or underfeeding it, which has been connected to obesity, heart disease and type-2 diabetes.

Immune system cells live in the gut wall where they have the unenviable task of distinguishing friendly bacteria from hostile ones, by the basis of molecules on the bacteria surface (generally proteins and carbs). The resemblance between the suspicious looking bacteria marker and one from a human cell lead to an attack of the like human cells. Certain biome components also seem to be confusing the immune system to the detriment of body cells elsewhere. These include type-1 diabetes, asthma, eczema, MS, Alzheimer's, and Parkinson's diseases.



The Brain is the core of our central nervous system (CNS) composed of 30 billion neurons exerting centralized control over the organs and all functions of the body.



The Gut is the center of our enteric nervous system (ENS) composed of a mesh-like system of 500 million neurons that governs the functions of the gastrointestinal system, connecting to the brain through the Vagus Nerve in the spinal column. The Biome is the core of the gut transmitting signals to the brain through the neuron network.



YOU ARE WHAT YOUR BIOME EATS!

Food Choices

Eating a nutritious wholesome balanced diet is believed to provide good health. But the foods that you eat directly effect your Biome as they enable the digestion and conversion to nutritional elements to be absorbed into the blood system by the body.

This Direct Nutritional value has been the core of our belief on health, but we now know it is more complicated as it effects the prosperity of the Biome. Modern chemically enhanced farming techniques, food processing and additives all have negative effects on the Biome. Sustainably grown and directly cooked is better but the foods you eat and their components play a more important role.

Recent research has identified Lectins, which are principally plant based proteins, have a significant detrimental effect on the Biome and health. They play numerous roles in biological recognition phenomena involving cells, carbohydrates and proteins. Some lectins are powerful toxins such as ricin related to the plant's defensive resistance to pests, and to a plant humans are just a big pest. (Gluten is a Lectin)

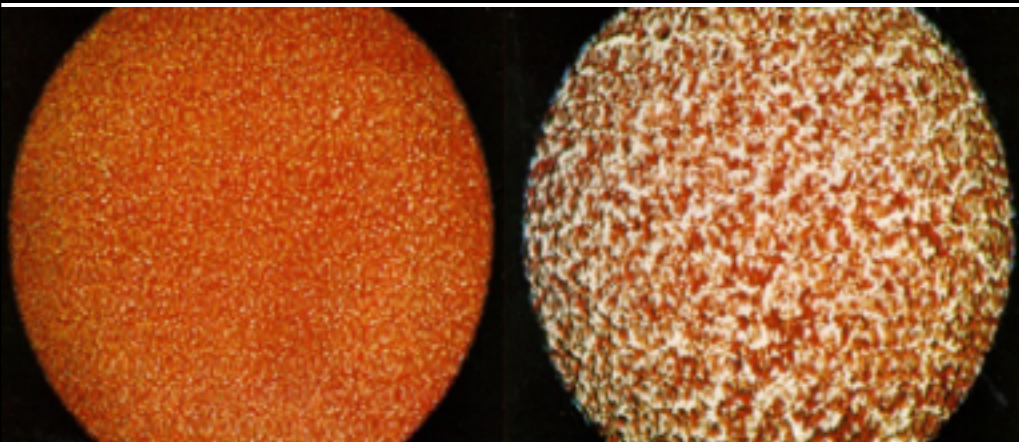
LECTINS

LECTINS ARE CARBOHYDRATE-BINDING PROTEINS, MACRO MOLECULES THAT ARE HIGHLY SPECIFIC FOR SUGAR MOLECULES

LIKE Molecular velcro, causing inflammation & mimicking allergenic – invasive organisms

Some cases highly poisonous such as Ricin from seeds of Castor Oil Plant.

Gluten is a Lectin....



Normal Cell - Agglutinated cell

NON PLANT LECTINS

Holstein story:

Around 100 BC the Hesse tribe with Black cattle migrated to the North Sea no Holland near the Fresii tribe with White cattle. They cross bred the cattle to produce the Holstein-Friesian Breed. This caused a natural mutation of the casein protein from A2 to A1 lectin protein.

The Holstein cattle went on to milk production fame taking over modern dairy production. Other breeds such as Gernsey, Belgians and Swiss produce A2 – lectin free milk and milk products.



SO WHAT HAVE WE LEARNED?

**IN THE PLANT WORLD NUTRITIONAL & TASTE COMPONENTS DEVELOP IN UNISON - THE BETTER THE TASTE THE BETTER THE NUTRITION
NATURAL, ORGANIC, SUSTAINABLE FARMING STIMULATES THESE RESULTS**

**PLANTS WANT TO LIVE ON & ARE PREPARED TO FIGHT OFF PREDATORS (US)
WE NEED TO NAVIGATE INGREDIENTS FOR THE BEST HEALTH OUTCOMES
UTILIZE ETHNIC DIVERSITY FOR TECHNIQUES TO NEUTRALIZE THE EFFECTS OF
SOME OF OUR FOOD CHOICES**

**BIODIVERSITY IS GREAT FOR DINING & SECURING OUR FUTURE FOOD SUPPLY
EFFICIENT TIMELY FOOD DISTRIBUTION WILL ENHANCE OUR WELL BEING
FOR THE FUTURE...**

**EXPLORE NEW FRONTIERS OF NUTRIENT DELIVERY SYSTEMS IN THE FOODS
WE LOVE...TO FEED OUR GROWING POPULATIONS, WITH IMPROVED HEALTH**



Know your Farmer Know your Food

Know your Plant know your Fate

Eat like it matters

As you & the world depend on it

**NEW DEFINITION OF MEMORABLE DINING
ACTIVATE ALL OF THE SENSES FROM TASTE, SCENT, TOUCH, SOUND &
NOW.....WELL BEING FROM NATURE'S NUTURING BOUNTY**





Connecting sustainable farmers to sustaining chefs

CHEFS' ULTIMATE FOOD SOURCE

FOODSHED EXCHANGE - HEALTH

Local Sustainable Available

FoodShed Exchange virtually connects sustainable farmers, and other producers with sustaining chefs and restaurateurs, empowering them with the information they need to make smart nutritious purchasing decisions and the ability to order on the spot.

FSX also keeps its members informed on the latest developments in the world of food - both domestically and internationally.


Alternate Protein Delivery Technology

Proteins are positively charged naturally repelling each other when combined. We have discovered a natural way to get them to work together to create the crust, breads and other products that deliver high protein, low carbs and lower calories without harmful lectins-glutens and grain allergens. The proprietary ingredients and technique is protected by a secure licensed supply chain.

THE SCIENCE

THE TECHNOLOGY | DELIVERING AFFORDABLE NUTRITION

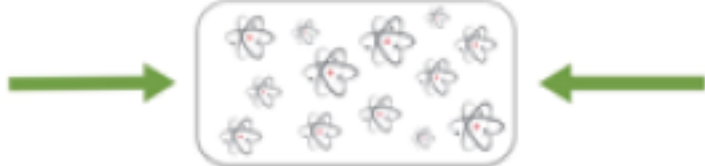
The technology is simple: Getting proteins from different sources to work together. Typically proteins are all positively charged and as we know like charges repel.




TYPICALLY PROTEINS
REPEL

We have discovered a natural way to get these proteins to work together to form substances which become the crust, bread and other products and deliver them with high protein, low carbs, low calories, lectin free (gluten is a lectin) in foods you love.

OUR PROTEINS WORK TOGETHER





*** Technology in use since 2000 in many popular retail foods*

- ★ We Can't Change what 7.5B people want to eat!
- ★ We Can Enable the foods that people love to nourish not cripple!

Foods that you love THAT love you back!





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[Http://www.FoodShed Exchange.com](http://www.FoodShedExchange.com)



Bibliography & Research Sources



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