GRAIN BY GRAIN
A quest to revive ancient wheat, rural jobs, and healthy food

Bob Quinn – Organic Farmer – Big Sandy, Montana

WHAT HAVE WE DONE TO WHEAT?

The National Plant Board Meeting
Kalispell, Montana
13 August 2019
MY FIRST TRACTOR – WAY BEFORE MY FIRST CAR

QUINN FARM & RANCH
Big Sandy, Montana
3 Generations
Est. 1920
Today 3400 acres
My last combine – path back to the farm not a direct one
AFTER 10 YEARS OF COLLEGE...ENOUGH OF A LABORATORY

I didn’t come home to change the food system –
Everything is fine except....
“Can you get me organic grain?”

FOOD FOR LIFE  Summer 1984
THE FARM BECOMES MY LAB & GARDEN
FIRST ORGANIC EXPERIMENT 1986

Our Organic System...
Lowered Input Costs
Increased Value of Crops
Increased Agronomic & Economic Viability
Was More FUN
AFTER 30 YEARS OF RESEARCH...

PRINCIPLES OF
REGENERATIVE ORGANIC SYSTEMS

1. DIVERSITY
2. SOIL REGENERATION  (healthy soil = healthy plants = healthy people)
3. ROTATIONS – break disease, pest & weed cycles
QUINN FARM & RANCH
REGENERATIVE ORGANIC
THROUGH CROP ROTATION

Year 1  Winter Wheat (cash crop)
Year 2  Peas (soil regenerator, not harvested)
Year 3  Kamut Khorasan Spring Wheat (under seeded w/ sweet clover)
Year 4  Sweet Clover (soil regenerator, not harvested)
Year 5  Barley (cash crop, hull-less or purple)
Year 6  Lentils (soil regenerator, not harvested)
Year 7  Hi-oleic Safflower (cash crop, under seeded with alfalfa)
Year 8  Alfalfa Hay (cash crop)
Year 9  Alfalfa (soil regenerator, not harvested)
AFTER THE EXPERIMENTS ON MY FARM, I USED TO SAY...

REGENERATIVE ORGANIC HAS A FUTURE

AFTER VISITING ORGANIC FARMS ALL OVER THE WORLD, AND SEEING THE RESULTS OF INTENSIVE CHEMICAL AG, I NOW SAY...

REGENERATIVE ORGANIC IS THE FUTURE
AN UNEXPECTED RESULT OF MY CHANGE TO ORGANIC...

A “THANK YOU”
The Importance of Seeds and the Effect of Plant Breeding.

Lessons from Ancient Wheat

A NEW CROP FROM THE OLD WORLD
1ST FOOD SHOW
1986
<table>
<thead>
<tr>
<th>1986</th>
<th>AFTER 30 YRS</th>
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<tbody>
<tr>
<td>One Farm</td>
<td>250 Organic Farms</td>
</tr>
<tr>
<td>½ Acre</td>
<td>100,000 Acres</td>
</tr>
<tr>
<td>Zero Products</td>
<td>Over 3500 products</td>
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What is this stuff?
Laura Smith 1988

GREAT TASTE
NICE TEXTURE +
A BIG BONUS
THE KAMUT TRADEMARK
A CUSTOMER GUARANTEE

1. Organically grown
2. 100% ancient Khorasan wheat
3. High in protein and minerals
4. Claims supported by research
Irritable Bowel Syndrome (IBS)
Cardiovascular Disease
Diabetes
Non Alcoholic Fatty Liver Syndrome

RESULTS: Anti-inflammatory Properties (30-45%)
↑ Antioxidant Capacity
↓ Cholesterol, Blood Sugar, Insulin, Insulin Resistance
↑ Blood Mg, Zn and Ca

THESE NUTRITIONAL ADVANTAGES OF ANCIENT WHEAT TRADED FOR HIGH YIELDS & PRODUCTION EFFICIENCY OF MODERN WHEAT
PLANT BREEDING GOALS
High Yields for Farm – Low Prices for Bakery & Shoppers

UNINTENDED CONSEQUENCES
More Complex Gluten
Fast Rising Yeast
Glyphosate
CHANGE THE FUTURE OF OUR FOOD SYSTEM!

#1 Fix the problems of wheat sensitivity – 4 solutions

PRODUCTION 1. Shift to Regenerative Organic


SEEDS Select for Nutrition in future plant breeding – avoid sensitivity factors
Applying what I have learned about wheat to our food system in general – consider the high cost of cheap food

FARMERS  Pay by taking prices below cost of production – many go out of business

COMMUNITIES  Pay with the loss on Main Street

THE PLANET  Pays with pollution & climate change

HEALTH  The people pay with chronic disease
#2 Regenerative Organic Agriculture & Nutritious Food is the answer!

- **FARMERS** Pay a Fair Price & reduce cost of inputs
- **COMMUNITIES** Revitalize Main Street / Create Jobs
- **THE PLANET** Reduce Pollution / Mediate Climate Change / Sequester Carbon
- **HEALTH** Reduce Chronic Disease – Everyone wins
WHAT CAN WE ALL DO, TO HELP DRIVE THIS CHANGE?

1. Put one more organic item in your grocery basket.
2. Support or conduct more research to help farmers convert more acres to regenerative organic ag
3. Promote a food system where everyone wins

Thank you very much - ANY QUESTIONS?
THANK YOU
BUT THE STAFF OF LIFE IS BROKEN

20% OF PEOPLE NOW HAVE WHEAT SENSITIVITIES

WHY?
CONVERSION TO ORGANIC FOOD IN US - 10%/YR
CONVERSION OF ORGANIC FARMS IN US
15%/YR
Remember this...

You and I - ALL OF US - are co-producers.

For real change, we have to get to know each other and understand each other’s needs.
THE FOOD PYRAMID OF ILLUSIONS

Adapted from Grub, by Anna Lappé & Bryant Terry
REVITALIZING RURAL AMERICA
WHEAT SENSITIVITIES SIT ON A THREE LEGGED STOOL

PRODUCTION The Farm
PROCESSING The Mill & Bakery
SEEDS The Plant Breeders