



THIS
WATER
CAME FROM
MANURE

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Biohacking Biosolids



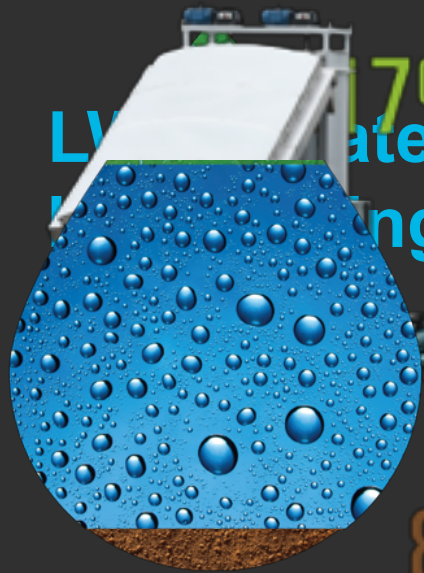


Livestock animals produce
335 million tons
of manure annually in the U.S



A 2,500 cow dairy will spend
\$700,000+
getting manure from the
cow to the field.

Source: Hoards Dairyman



77%

75%

8%

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- DRY SOLIDS
- NUTRIENT CONCENTRATION
- CLEAN, REUSABLE WATER

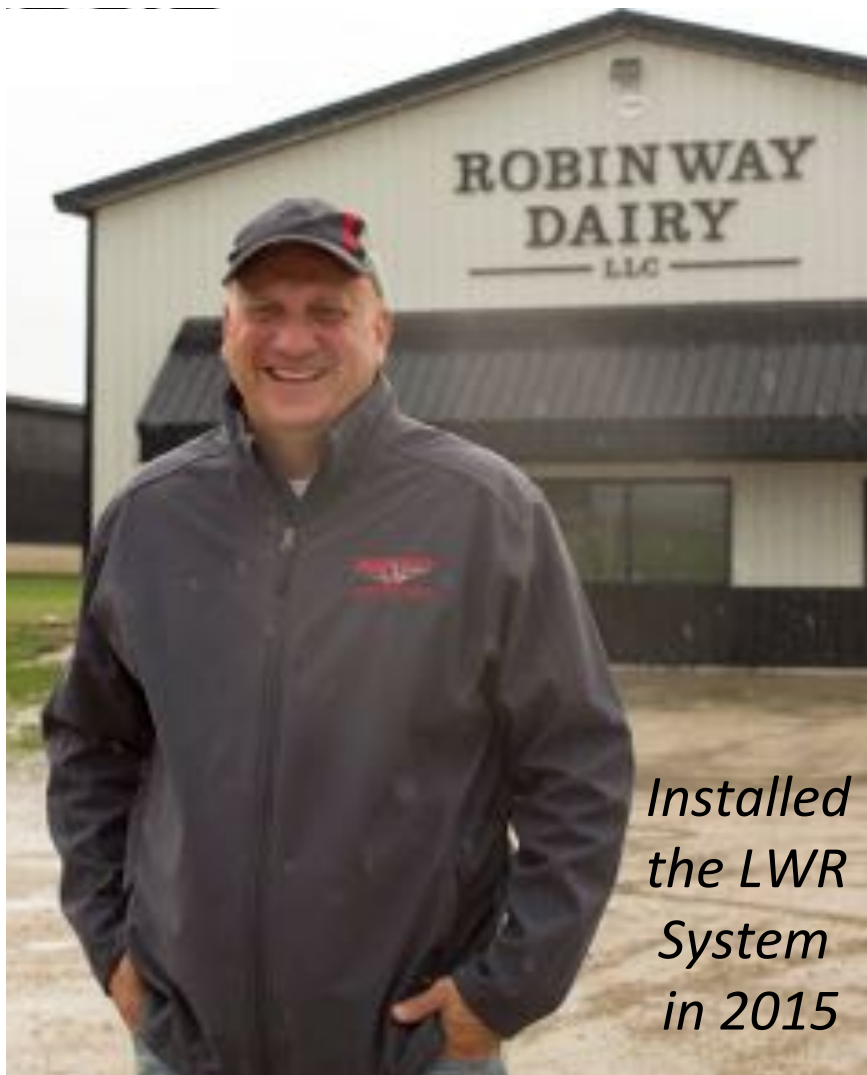
*PATENTED TECHNOLOGY





By LWR





*Installed
the LWR
System
in 2015*

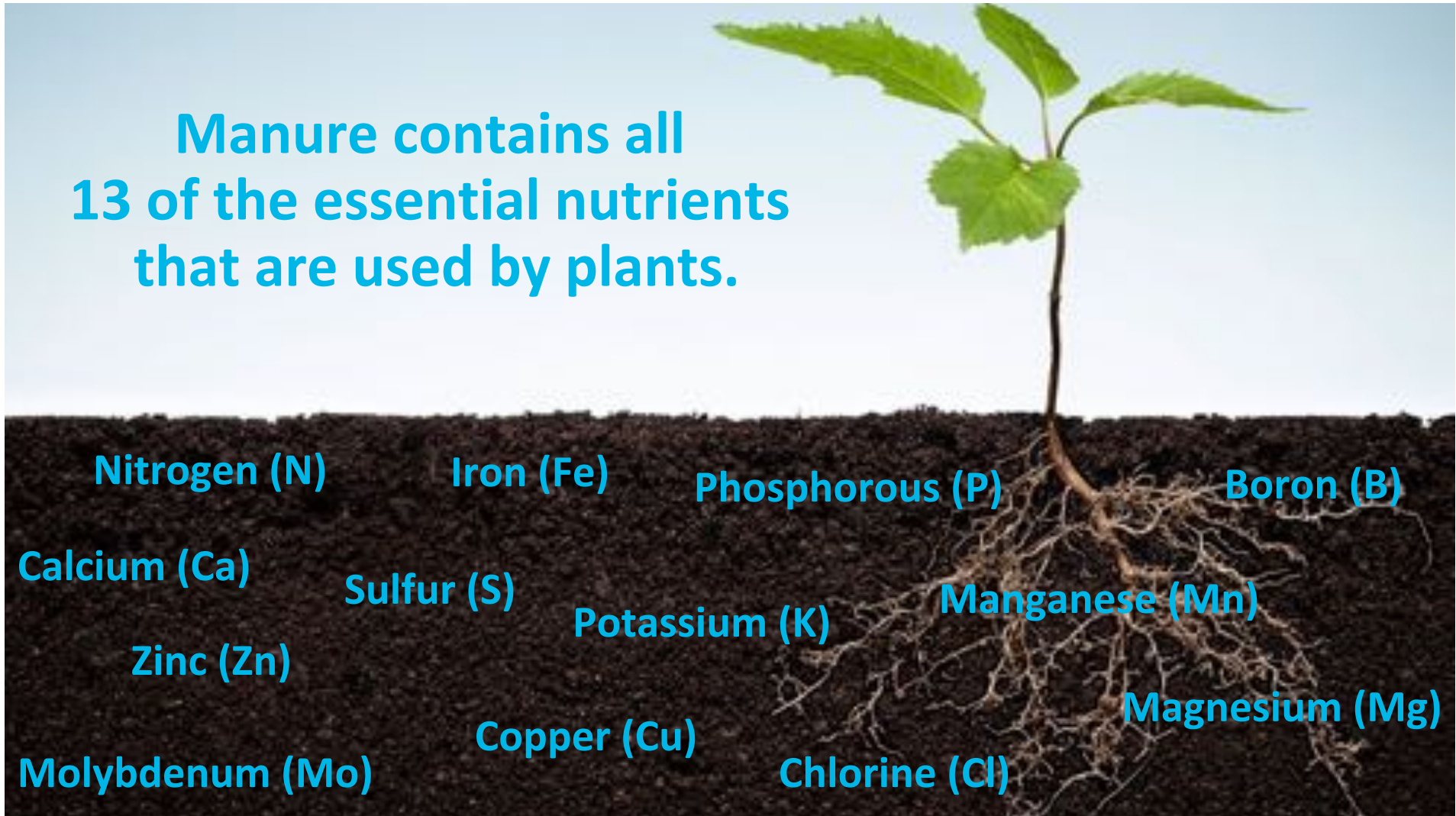
RESULTS:

1. ↓ Manure expenses
2. ↑ Productivity
3. ↑ Corn yields 3-5 tons/acre
4. ↑ Haylage yields 1 ton/acre
5. ↑ Cow health



- **Original cost: \$548,264 annually**
- **Installed LWR System in 2015**
- **Doubled herd size**
- **Increased crop yields worth \$153,000**
- **Now saves \$168,000 a year on manure**

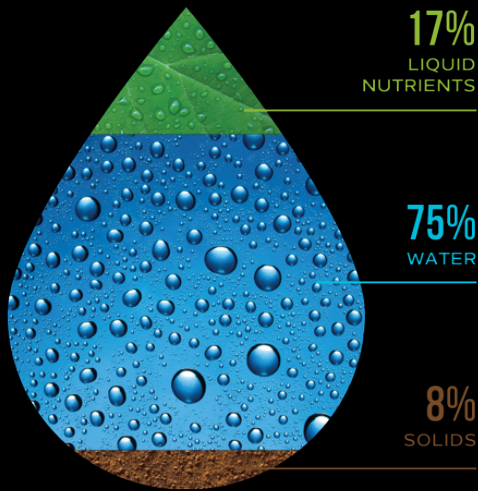
**Manure contains all
13 of the essential nutrients
that are used by plants.**



Nitrogen (N) **Iron (Fe)** **Phosphorous (P)** **Boron (B)**
Calcium (Ca) **Sulfur (S)** **Potassium (K)** **Manganese (Mn)**
Zinc (Zn) **Copper (Cu)** **Chlorine (Cl)** **Magnesium (Mg)**
Molybdenum (Mo)







- First, we biohacked manure
- Then we re-branded manure as fertilizer
- Now we must establish manure as a vital part of the circular economy

Dairy Digester Co-Benefits: Protecting the Climate While Cleaning the Air

Dairy digesters represent not only a proven source of significant GHG reduction, but also provide tremendous air quality benefits (reduction of NOx) through the replacement of diesel in heavy-duty freight with clean renewable natural gas.



Renewable Natural Gas (RNG) produced from dairy biogas is considered a negative-carbon transportation fuel that is

10 X
More Efficient
at Reducing GHGs

than even
Electric
Vehicles



Each year,
1 Cow
can
produce

100
Gallons
of fuel

(Diesel Gallon
Equivalents,
or DGE)

Roughly

500,000
Cows

will soon
enable the

annual production of

50 Million Gallons
(DGE), which will provide

1,100 tons of
NOx Reduction

MANURE

DIGITIZED

...analog manure is so last year!



When we talk about manure,
we say things like:

Soil regenerative nutrients

Renewable natural gas

Organic carbon

Fertilizer

Manure



This is our
CHALLENGE
!

**There is no such thing as a waste,
only a resource out of place.**



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