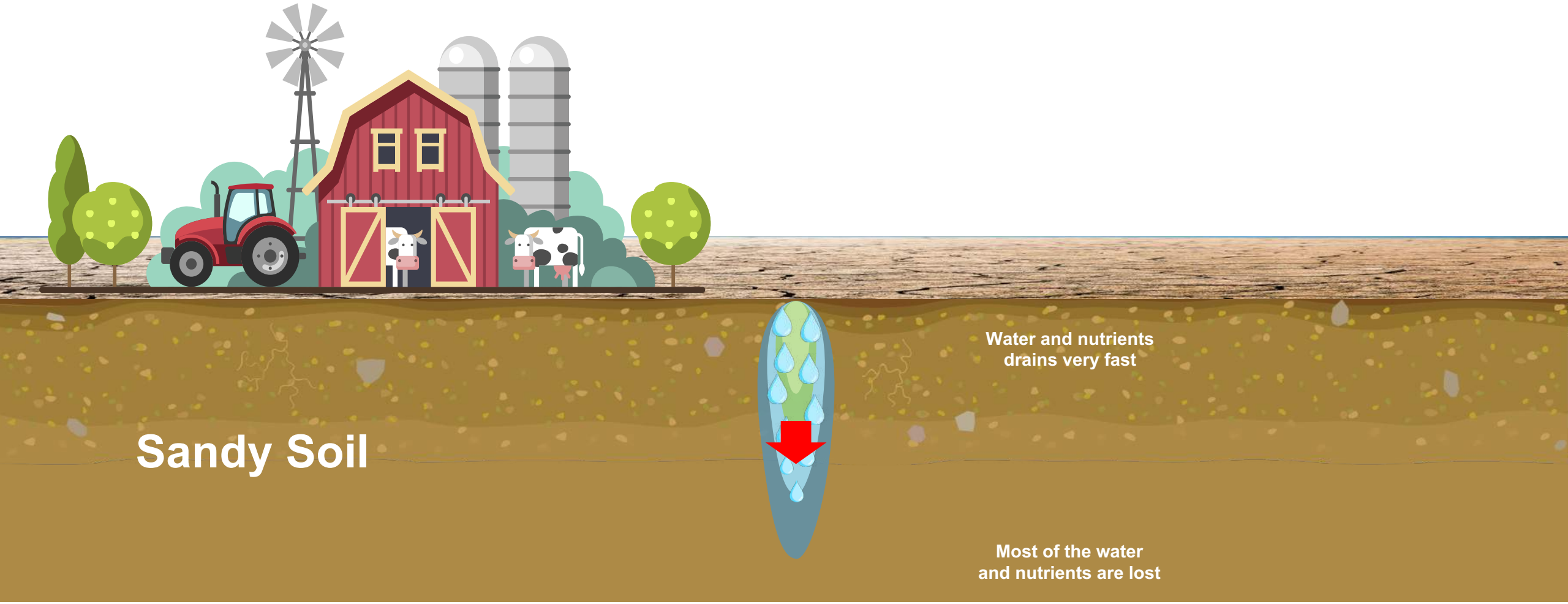
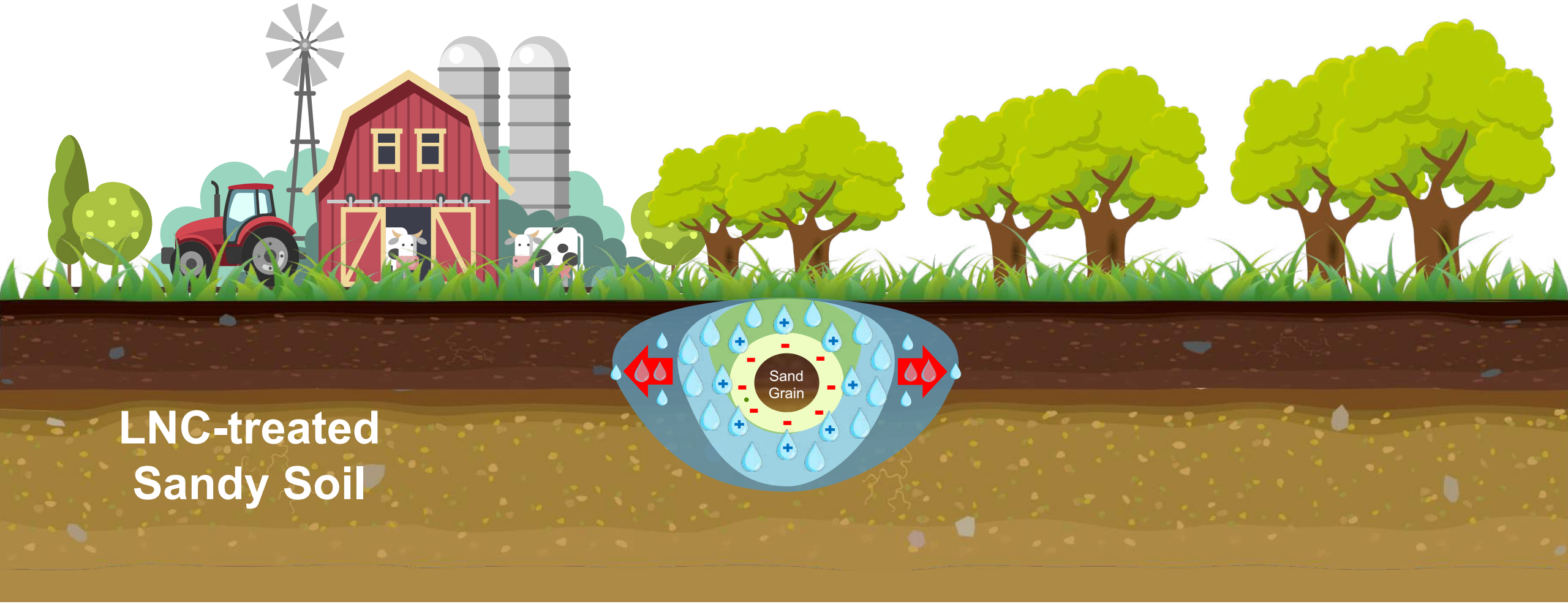

DESERT
CONTROL
MAKING EARTH GREEN AGAIN

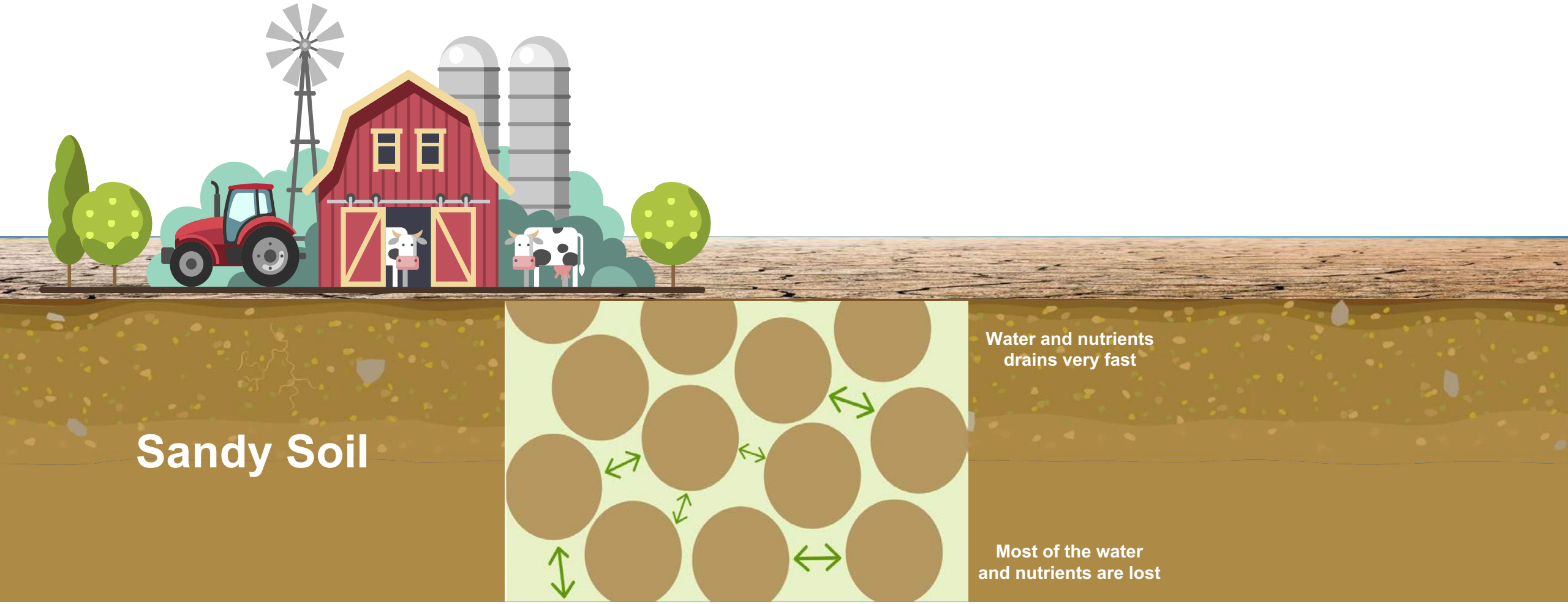
THE PROBLEM WE SOLVE



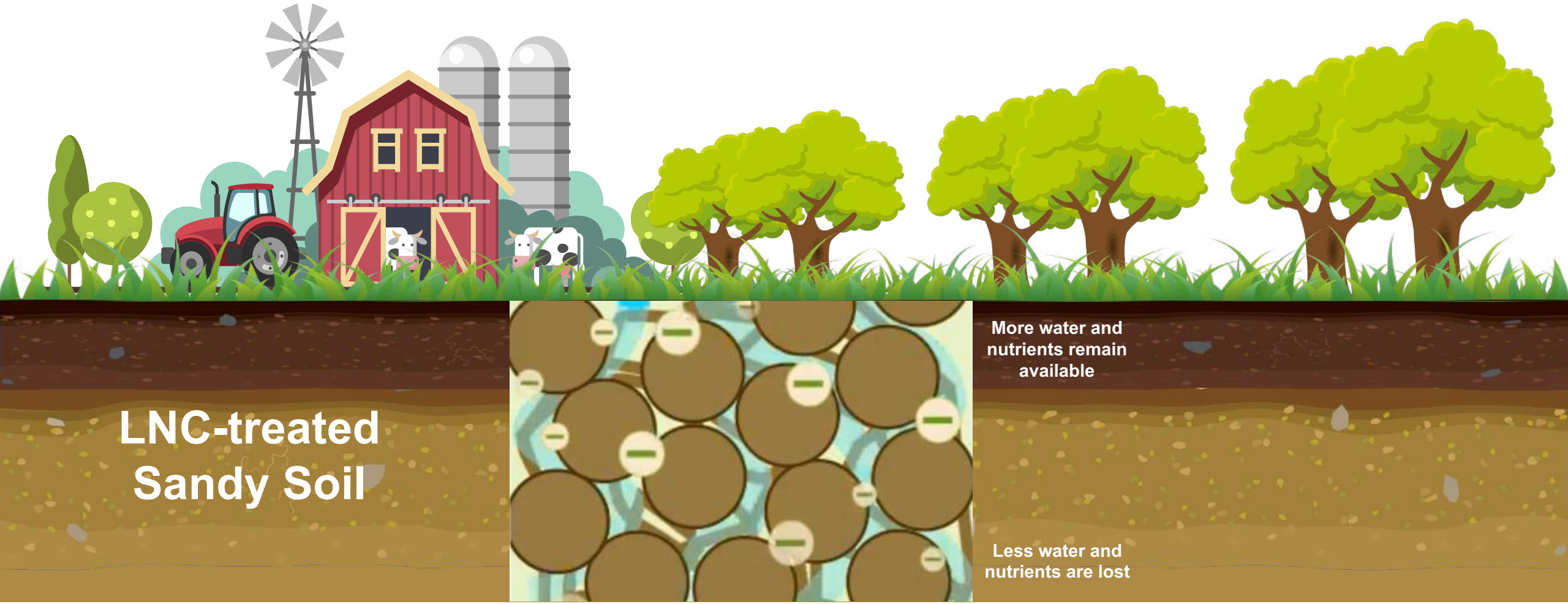
OUR SOLUTION – LIQUID NATURAL CLAY (LNC)



HOW LNC SOLVES THE PROBLEM OF SANDY SOILS



HOW LNC SOLVES THE PROBLEM OF SANDY SOILS



TREATMENT OVERVIEW

Our product is combined with advanced data analytics, end-to-end services, and customized formulations to produce outstanding & scalable results.

01 Data Services & Advanced Analytics

- Each location has highly specific soil needs.
- Our soil sampling and sensors monitor soil health KPIs and LNC performance, including water use, soil moisture, soil temperature, etc.

02 Customized Formulations LNC Produced On-Site

- By combining our analytics with proprietary algorithms, we customize each formulation to match local soil.
- LNC is then produced onsite with mobile factories.

03 Easy Application

- LNC can be sprayed directly onto the ground surface or applied via established irrigation methods.
- LNC percolates down by the force of gravity to form a soil structure in the plant root zone that retains water and nutrients like s sponge.

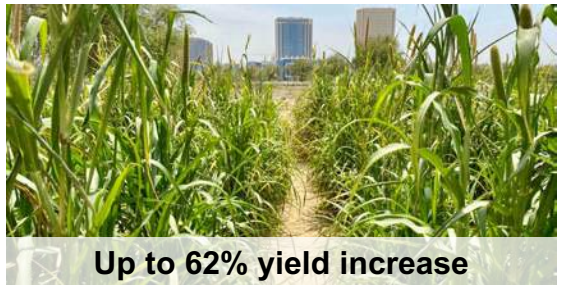
RESULTS

Savings

- Water
- Energy
- Fertilizers

Increased Returns

- Yield
- Quality
- Profit

Before	After
 Silicon Oasis, Dubai, UAE	 **47% water savings**
 The University of Arizona, Yuma, U.S.	 **21-53% yield increase**
 ICBA, Dubai, UAE	 **Up to 62% yield increase**

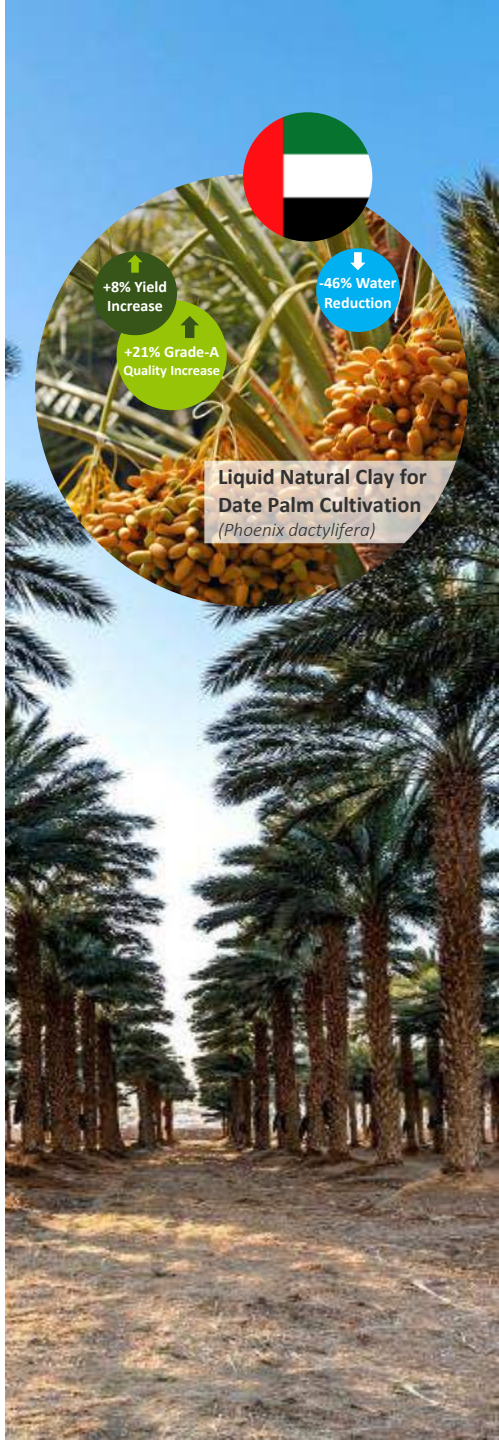
DESERT CONTROL

RESULTS AND IMPACT OF LNC

SAMPLE OF REFERENCE RESULTS FROM THE UAE

CROPS/VEGETATION	WATER SAVINGS	SEGMENT	LOCATION
Pearl Millet, Zucchini and Watermelon	40%	Agriculture	ICBA* in Dubai (Independent validation)
Carrots, Cauliflower, Green Pepper and Lady Fingers	40%	Agriculture	Private farm in Al Ain, Abu Dhabi
Cucumber, Basil, and Beetroot (Greenhouse)	46%	Agriculture	Research farm in Al Ain, Abu Dhabi
Sweet Corn	35%	Agriculture	Private farm in Dubai
Date Palms (1st harvest: Increase of 8% on yield and 21% for grade A)	46%	Agriculture	Mawarid Project – Al Ain, Abu Dhabi
Fruit Trees (Pomegranate, Guava, Rose apples, Mango, Citrus, ++)	50%	Agriculture	Fruit farm – Jabal Hafeeet
Date Palms	50%	Agriculture	Private farm – Al Ain, Abu Dhabi
Salvadora, Ghaf, and Ziziphus (Native forest trees)	51%	Forest/trees	Forest in Al Khazna, Abu Dhabi
Salvadora (Native forest trees irrigated with saline treated water)	57%	Forest/trees	Forest in Al Faya, Abu Dhabi
Ghaf (New plantation – first 4 months)	35%	Forest/trees	Forest in Sweihan, Abu Dhabi
Bermuda Grass	47%	Landscaping	ICBA* in Dubai (Independent validation)
Palm Trees	50%	Landscaping	Luxury residential resort in Dubai
Paspalum Grass	40%	Landscaping	Luxury residential resort in Dubai
Paspalum Grass & Decorative trees	40%	Landscaping	In5 Tech (Tecom) – Dubai
Mixed native groundcover & trees	50%	Landscaping	Sports park – Abu Dhabi
Lawn Area	35%	Landscaping	VIP area in Abu Dhabi
Turf Grass / Lawn Area	36%	Landscaping	Public park in Abu Dhabi

** ICBA – International Center for Biosaline Agriculture*



DESERT CONTROL

PATENTED, PROVEN, AND VALIDATED

- 12+ years of R&D, 5+ years of field validation and pilots
- Independent validation by ICBA & University of Arizona
- Patents achieved in 48 countries

LNC Achieved Documented Results in 40+ Field Implementations & Data-Driven Pilots in UAE & USA:

Before

After

Partnerships & Validations:

ICBA AGRICULTURE FOR TOMORROW · THE UNIVERSITY OF ARIZONA · LIMONEIRA SINCE 1893

Supported by:

EXPO LIVE · BILL & MELINDA GATES foundation · mastercard · Lighthouse MASSIV

35-50%
Water Savings

8-62%
Increased Yield (crop-dependent)

2-4X
ROI per investment cycle (with applications lasting ~5 years)

DESERT CONTROL

TREE PLANTING

“Reduction of water requirements and increased survival rates of trees”

DESERT CONTROL

FOREST MANAGEMENT

“>50% reduction of water usage and increased time between irrigations”

DESERT CONTROL

LANDSCAPING

“40% reduction of irrigation water usage while maintaining healthier and greener grass”

DESERT CONTROL

PERMANENT CROPS (DATES & FRUIT TREES)

“8% yield increase and
21% increase in Grade-A
while using 46% less water”

ROW CROPS (LEAFY GREENS & VEGETABLES)

"53% increase in yield and water use efficiency combined with higher survival rate of seedlings"

DESERT CONTROL

BROAD CROPS (WHEAT, MILLETS, CORN, ETC.)

"40% yield increase and larger grains with higher nutritional value while using 50% less water"

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GREENHOUSES

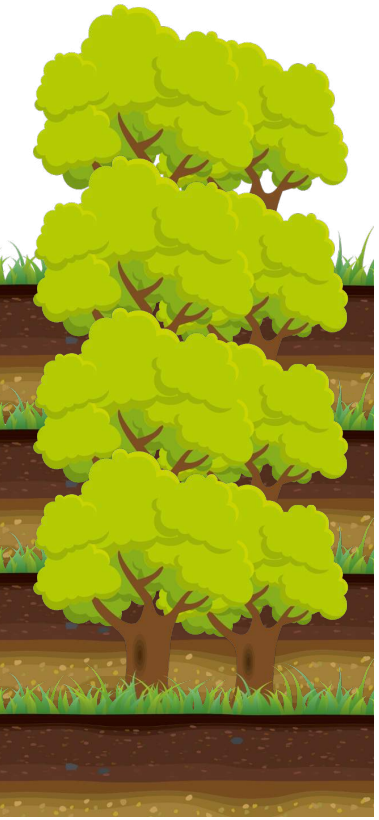
“46% reduction of water usage while maintaining crop yields”

DESERT CONTROL

TRANSFORMING DESERT TO FERTILE ARABLE LAND

THE VALUE OF WATER

10 Billion trees requires **>55 Trillion liter of water** yearly



- Most drought-resilient native desert trees need more than **15 liters** of water per day.
- 10Bn trees = >**55 Trillion liters** of water per year.
- LNC treatment has proven >**50% water savings** for native trees in desert environments.

LNC can save >27,5 Tn liters of water per year

- Additional benefits are reduced irrigation frequency, operational savings, and cultivation of a healthy soil ecosystem that, over time can enable the trees to be self-sustained.

50% water use reduction = **27,5 Tn liters of water yearly**

…which could be used to produce:

15M
Metric tons of wheat
(annual production)

40Bn
Liters of dairy milk
(annual production)

115M
Tons of watermelons
(annual production)

10Bn
Additional trees
(supported by LNC)

DESERT CONTROL

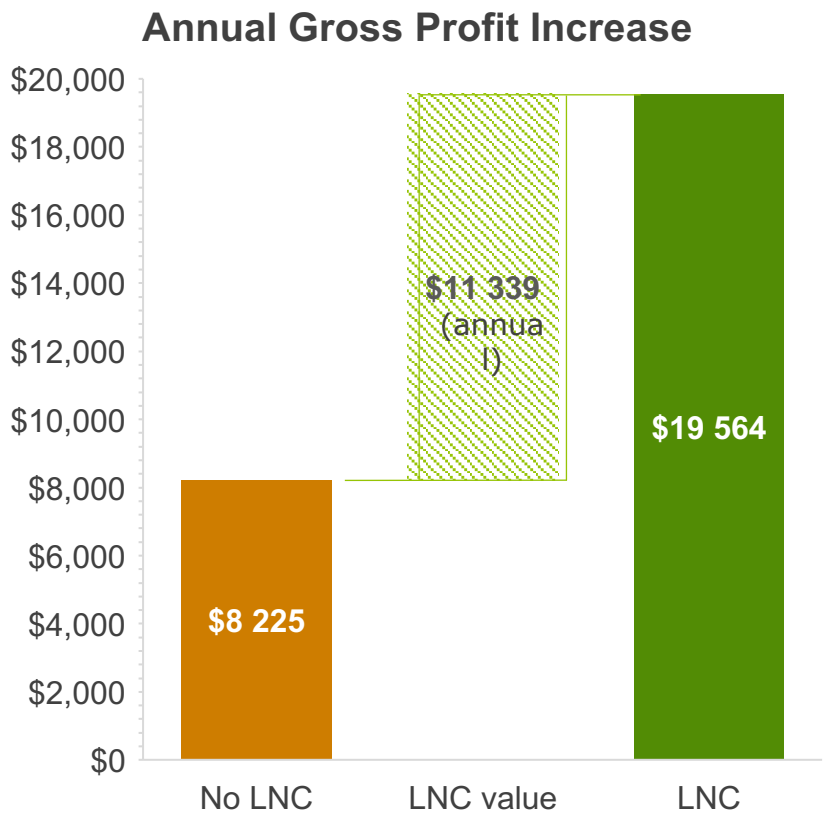
VALUE FOR AGRICULTURE

LNC example for date farms:

Achieved 8% yield increase with 21% more Grade-A production (quality) while using 46% less water.

- **5-acre Date Farm** (250 trees)
- **LNC investment: $11,500** ($46/tree est. duration ~5 years)
- **Payback period: 1 year**
- **ROI: 99%**

Annual metrics	No LNC	LNC
Yield revenue	$27,675	$30,854
Water costs	($13,700)	($7,398)
Fertilizer costs	($3,750)	($2,813)
Energy costs	($2,000)	($1,080)
Gross profit	**$8,225**	**$19,564**



3,9X **ROI over a ~5 years investment scenario**

Reduce Input Costs

- Less water use
- Lower energy consumption
- Improved fertilizer efficiency
- Preserve carbon and organic matter

Increase Crop Value

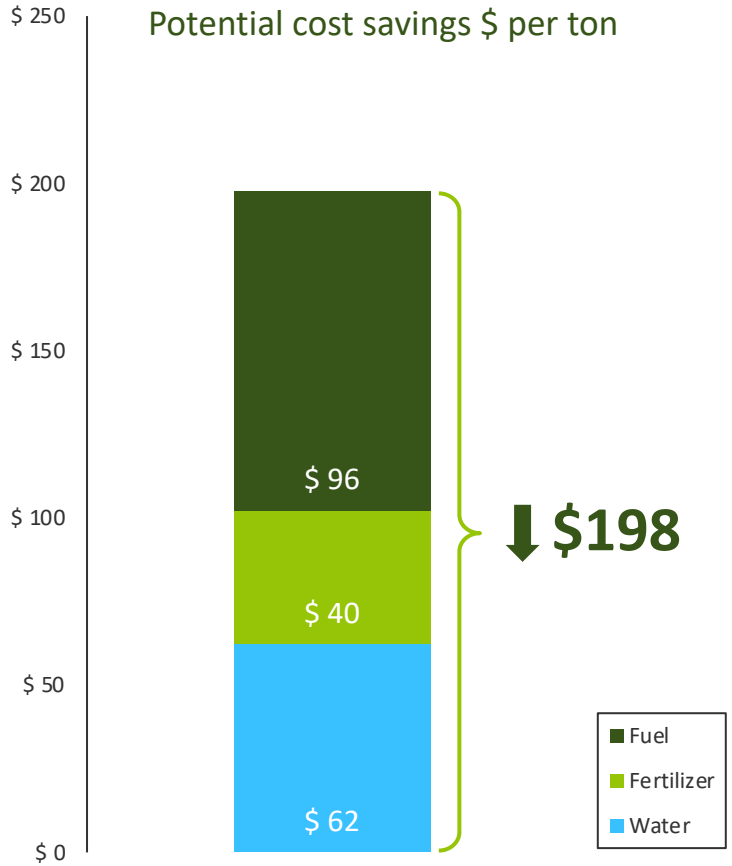
- Better soil fertility
- Larger yields
- Higher quality

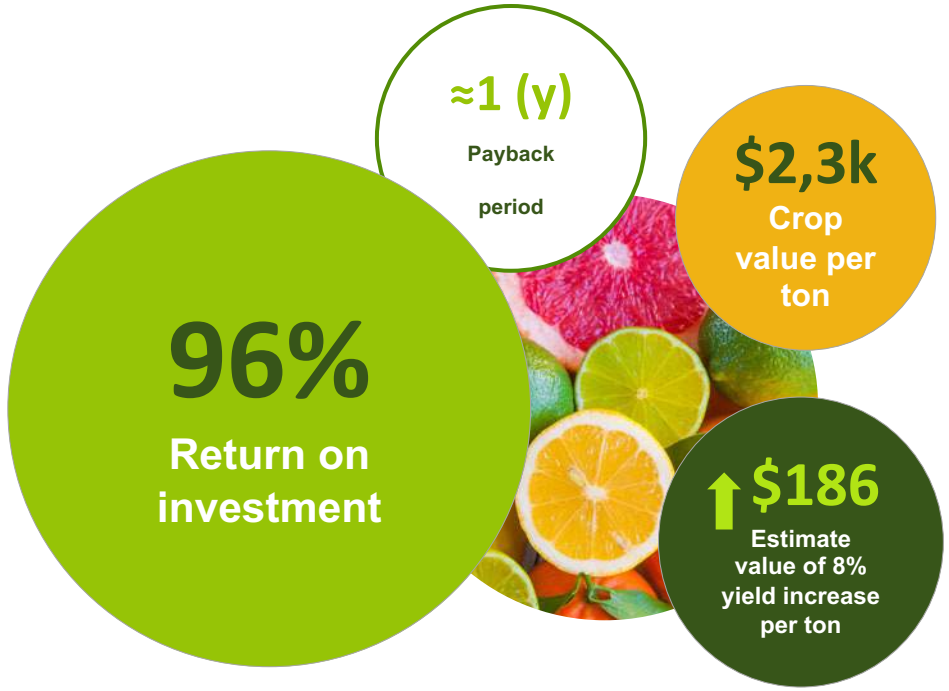
Solid Value for both the Environment & the Bottom Line

DESERT CONTROL

BUSINESS CASE – CITRUS SCENARIO

(Based on findings from pilots)





ROI is based on water, fertilizer, fuel/energy savings (40% reduction) and 8% yield increase
– Additional value potential from fruit quality, crop resilience and sustainability –

DESERT CONTROL

VALUE FOR LANDSCAPING

>$2/m2 savings on Irrigation systems ($10/m2)

New projects

LNC example for 50 hectare landscape:

Achieved 47% reduction of water use while improving soil and plant health (ROI based on water savings only)

COST SAVINGS

Business case for UAE landscaping customer (example scenario)

Landscape size	**50 Hectares**
Watering costs (p.a.) (before LNC treatment)	**$1.25m**
LNC impact on water savings ⬇	**$600k** (-47%)
LNC est. Durability	**3-5 year**
LNC treatment cost (estimated at $2/m2)	**$1.0m**

Reduce Input Costs

- Less water use
- Lower energy consumption
- Improved fertilizer efficiency
- Preserve carbon and organic matter

Increase Land Value

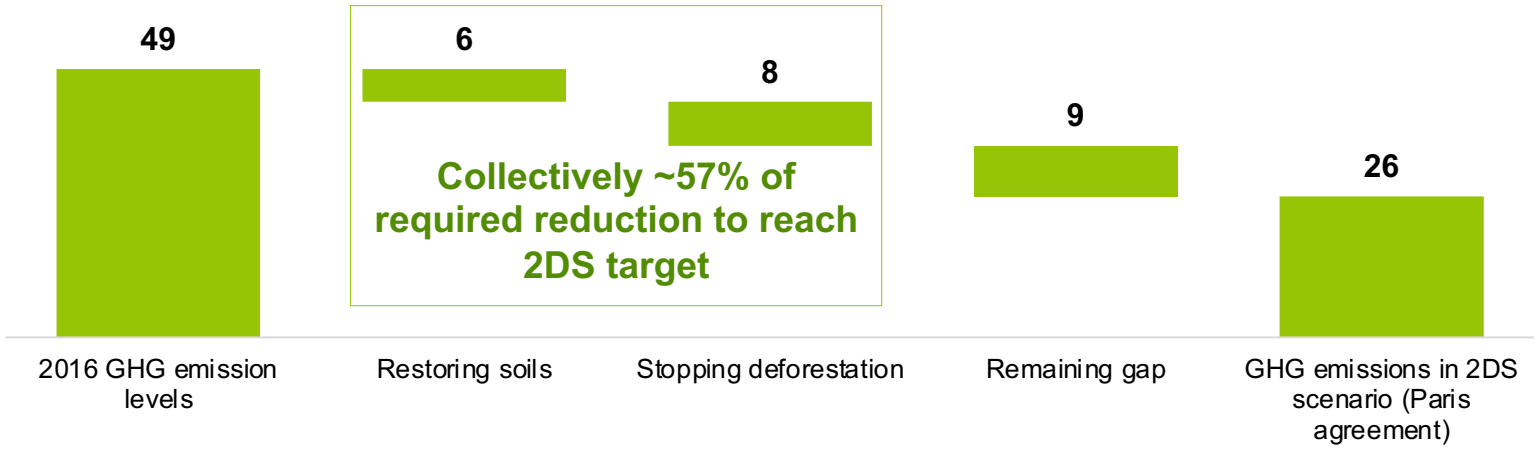
- Better soil fertility
- Strengthened resilience
- Better plant & land health

Solid Value for both the Environment & the Bottom Line

DESERT CONTROL

VALUE FOR CLIMATE IMPACT

In a conservative estimate of $20 / ton, nature-based solutions represent $280Bn of carbon value



Restoring degraded soils, stopping deforestation, restoring forests, and improving forestry practices could cost-effectively remove:

14bn
Metric tons of carbon dioxide annually

=

3bn
Cars eliminated

> *More than 2X*

All cars in the world today

Source: World Research Institute, UN, Carbon brief, Climate Interactive

ADDRESSING MULTIPLE KEY UN SUSTAINABLE DEVELOPMENT GOALS

DESERT CONTROL

Impact of innovation

Some of our project results – before and after

Lawn areas, public park – Abu Dhabi

PLANTS/CROPS

- Tuff grass

RESULTS

- 40% water preserved

Lawn areas, luxury residential resort – Dubai

PLANTS/CROPS

- Paspalum grass

RESULTS

- 40% water preserved

Mangifera indica trees, fruit farm – Abu Dhabi

PLANTS/CROPS

- Mango trees

RESULTS

- 50% water preserved
- Healthy trees
- On-going monitoring of tree growth

Punica granatum trees, fruit tree farm – Abu Dhabi

PLANTS/CROPS

- Pomegranate trees

RESULTS

- 50% water preserved
- Healthy trees
- On-going monitoring of tree growth

Citrus trees, fruit tree farm – Abu Dhabi

PLANTS/CROPS

- Mixed varieties of citrus trees

RESULTS

- 50% water preserved
- Healthy trees
- On-going monitoring of tree growth

Date palm production, private farm – Abu Dhabi

PLANTS/CROPS

- Date palms

RESULTS

- 50% water preserved
- Healthy trees
- On-going monitoring of fruit yield

Salvadora persica trees, afforestation project – Abu Dhabi

PLANTS/CROPS

- Tooth brush trees

RESULTS

- 40% water preserved
- Healthy trees
- Preserved organic matter, reduced salinity, and improved overall soil health

Ziziphus spina Christi trees, afforestation project – Abu Dhabi

PLANTS/CROPS

- Christ’s thorn jujube trees

RESULTS

- 40% water preserved
- Healthy trees
- Preserved organic matter, reduced salinity, and improved overall soil health

Prosopis cineraria, afforestation project – Abu Dhabi

PLANTS/CROPS

- Ghaf tree

RESULTS

- 40% water preserved
- Healthy trees
- Preserved organic matter, reduced salinity, and improved overall soil health

Lawn areas, investment and real estate firm – Dubai

PLANTS/CROPS

- Paspalum grass

RESULTS

- 45% water preserved

Washington filifera, landscaping area – Dubai

PLANTS/CROPS

- Washington fan palm

RESULTS

- 50% water preserved
- Healthy trees

Bismarckia palm, landscaping area – Dubai

PLANTS/CROPS

- Silver Bismarck Palm

RESULTS

- 50% water preserved
- Healthy trees

Callistemon viminalis tree, landscaping area – Dubai

PLANTS/CROPS

- Weeping bottlebrush tree

RESULTS

- 50% water preserved
- Healthy trees

Delonix regia tree, landscaping area – Dubai

PLANTS/CROPS

- Flame tree

RESULTS

- 50% water preserved
- Healthy trees

Ficus Amstel king tree, landscaping area – Dubai

PLANTS/CROPS

- Ficus Alii tree

RESULTS

- 50% water preserved
- Healthy trees

FICUS NITIDA TREE IN LANDSCAPE - DUBAI

PLANTS/CROPS

- Indian laurel fig tree

RESULTS

- 50% water preserved
- Healthy trees

Ficus religiosa tree, landscaping area - Dubai

PLANTS/CROPS

- Sacred fig trees

RESULTS

- 50% water preserved
- Healthy trees

Tamarindus indica tree, landscaping area – Dubai

PLANTS/CROPS

- Tamarind trees

RESULTS

- 50% water preserved
- Healthy trees

Ficus benghalensis tree, landscaping area – Dubai

PLANTS/CROPS

- Banyan trees

RESULTS

- 50% water preserved
- Healthy trees

Azadirachta indica tree, landscaping area – Dubai

PLANTS/CROPS

- Neem trees

RESULTS

- 50% water preserved
- Healthy trees

Prosopis Cineraria tree planting for afforestation, desert location – Abu Dhabi

PLANTS/CROPS

- Ghaf tree

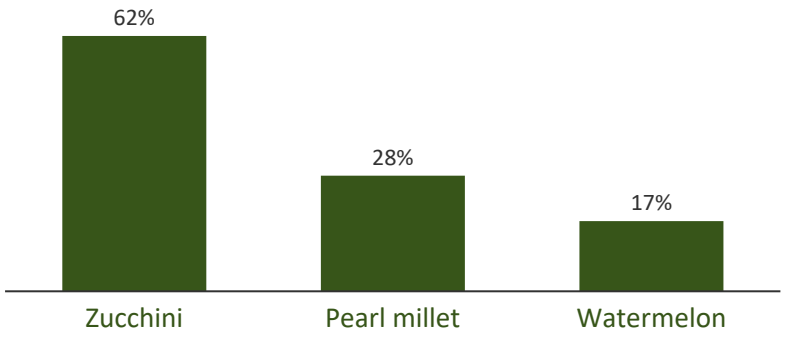
RESULTS

- On-going project

UAE adaptive agriculture reference validation

- ✓ **Less than 1kg of minerals per m²**
- ✓ **Water and fertilizer savings (20-50%)**
- ✓ **Increased crop yields (17-62%)**
- ✓ **Preserved organic matter, reduced salinity, and improved overall soil health**

CROP YIELD INCREASE



Vegetable production in controlled environment, research farm – Abu Dhabi

PLANTS/CROPS

- Cucumber
- Basil
- Beetroot

RESULTS

- 50% water preserved
- No significant difference in yield compared with control plots

Sweet corn production in open field, private farm – Dubai

PLANTS/CROPS

- Sweet corn

RESULTS

- 35% water preserved
- No significant difference in yield compared with control plots

Watermelon production, research station – Yuma

THE UNIVERSITY OF ARIZONA

PLANTS/CROPS

- Watermelon

RESULTS

- Active project in progress

Bell pepper production, research station – Yuma

THE UNIVERSITY OF ARIZONA

PLANTS/CROPS

- Bell peppers

RESULTS

- Active project in progress

Panicum maximum production, animal feed farm – Abu Dhabi

PLANTS/CROPS

- Panicum grass

RESULTS

- On-going trial

Alfalfa production, animal feed farm – Abu Dhabi

PLANTS/CROPS

- Alfalfa production

RESULTS

- On-going trial

Wheat production, experimental farm – Sinai project

Increased cation exchange capacity in the soil by 54%
Improved nutrient uptake N, P, and K in the wheat plant by 27%, 33%, and 77%

PLANTS/CROPS

- Wheat

RESULTS

- 50% water savings
- > 1,4x yield increase
- Larger grain size
- 158% reduced plant stress
- 24% higher carbohydrate and increased protein

Moringa trees, private farm – Pakistan

PLANTS/CROPS

- Moringa trees

RESULTS

- Up to 50 % water savings
- Higher germination rate
- Higher tree survival rate

Wheat production, private farm – Pakistan

PLANTS/CROPS

- Wheat

RESULTS

- > 50% water savings
- Increased yield

UAE climate resilient landscaping reference validation (Bermuda grass)

- ✓ Less than 1kg of minerals per m^2
- ✓ Water savings (47%)
- ✓ Increased grass growth (52%)
- ✓ Preserved organic matter, reduced salinity, and improved overall soil health
- ✓ Increase in available P and K in the soil
- ✓ Increased mycorrhizae filament growth

Vegetable production in open field, private farm – Al Ain

PLANTS/CROPS

- Cauliflower
- Carrots
- Ladyfinger
- Peppers

RESULTS

- 38.5% water preserved

Cauliflower production in open field, private farm – Al Ain

PLANTS/CROPS

- Cauliflower

RESULTS

- 38.5% water savings
- Increase soil surface temperature in winter season

Green peppers production in open field, private farm – Al Ain

PLANTS/CROPS

- Bell peppers

RESULTS

- 38.5% water savings
- Increase soil surface temperature in winter season

Carrots production in open field, private farm – Al Ain

PLANTS/CROPS

- Carrots

RESULTS

- 38.5% water savings
- Increase soil surface temperature in winter season

Ladyfinger production in open field, private farm – Al Ain

PLANTS/CROPS

- Ladyfinger

RESULTS

- 38.5% water savings
- Increase soil surface temperature in winter season