



LONTRA
Keep It Pure

Transforming Agriculture with Innovative Mineral Solutions Sustainable Growth and Ecological Balance



GEN21 MINERAL SOLUTION
A COMPANY OF GEN21 GROUP

What does “LONTRA” mean?

LONTRA is the Italian name for otters, animals that thrive only in pristine waters.

Our mission is to create an environment where otters and other wildlife can thrive, reflecting the purity and safety of our products.

EXCLUSIVE TECHNOLOGY

- We possess the world’s leading mineral extraction and synthesis technology.
- Our proprietary method ensures that our products cannot be replicated, maintaining their exclusivity and effectiveness.
- Our natural mineral products enhance plant and animal growth and immunity without side effects, outperforming traditional fertilizers and pesticides.



Problem in Agriculture



Land Degradation

Reduced soil resilience, nutrient deficiency, loss of beneficial microorganisms, and decreased mineral content.

Environmental Destruction

Overuse of chemical fertilizers leading to river pollution, ecosystem damage, and increased diseases.

Quality and Safety

Declining flavor and sweetness in crops, higher pesticide dependency, and potential health risks.

Our Solution

Enhancing Sustainability

Banning chemical fertilizers and pesticides, providing natural nutrient supplies, and optimizing beneficial microorganism environments

Environmental Protection

Implementing chemical-free pest management and reducing livestock waste, thus minimizing ecological damage.





How We Solve Agricultural Problems:

- Utilizing LONTRA's innovative mineral synthesis technology, we offer natural fertilizers, pesticides, and growth promoters that are safe for human consumption and provide powerful effects, stronger growth, and increased pest resistance.
- Our products are competitively priced but deliver superior crop quality and yield, significantly boosting farmer income.



Vitalizer spray

- An eco-friendly product made from three minerals and ionized water, extracted using patented food additive methods.
- Free from microorganisms and chemicals, ensuring safe application on crops and livestock.

Benefits:

Enhances crop sweetness, promotes firm tissue for long-term storage, protects against diseases and pests, and extends the harvest period

Volume:

1 Gallon, 2.5 Gallon, 1.25ton (IBC bulk type)

It is in a concentrated form and needs to be diluted before use

Usage Instructions:

Dilute 1,000 to 2,000 times for soil injection and 3,000 times for direct crop application. Apply five times periodically for optimal results.



Additional Benefits

Even with the most powerful herbicides, weeds often persist and regrow. When used with LONTRA Vitalizer, weeds are completely eradicated down to their roots, preventing regrowth and maximizing the herbicide's effectiveness.



Benefits:

- **Effective with Any Herbicide:** Maximizes herbicide efficacy when mixed with LONTRA Vitalizer.
- **Deep Absorption:** Ensures deep root absorption for strong weed eradication.
- **Reduced Application Frequency:** Prevents weed regrowth, significantly reducing herbicide application frequency.
- **Safe and Natural:** Made with only natural minerals, safe for humans.
- **Nutrient Supply for Grass:** Provides essential nutrients for a healthy lawn.
- **Cost-Effective:** Much more affordable compared to standard herbicides.

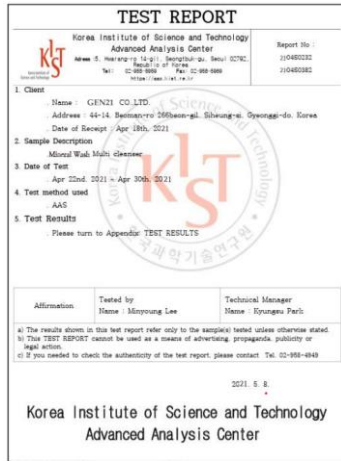
Usage Instructions:

- **Mix 1:1 with Herbicide:** Apply a 1:1 mixture of LONTRA Vitalizer and any herbicide.
- **Compatible with All Brands:** Effective regardless of the herbicide brand used

“The perfect green lawn requires LONTRA Vitalizer”

Certification & Test Results

The LONTRA brand is composed solely of natural minerals, providing essential nutrients to crops, increasing yield, and preventing pests and diseases. These results are derived from precise tests conducted by accredited institutions.



Ingredient Analysis

Contains only three natural minerals

Pesticide decomposition

Gluster measurement

(water molecule size)

Self-quality inspection



Top 10 harmful substances

All 10 indicators of water pollution were undetectable

Korea Testing & Research Institute

Korea Advanced Institute of Science and Technology

Seoul Health and Environment Research Institute



ISO 9001

Decomposition ability to remove approximately 80% of the top 10 pesticides with high detection frequency

When 3 drops are added to 100ml of water, the frequency measures 52.06Hz

LONTRA OH Radical Water (Type: 2 different Detergents)
For use in automatic dishwashers and industrial dishwashing.



ISO 14001

Test results of Agriculture

Experimental field	Chili pepper farming	Apple farming
Company name	Self-testing cultivation	Bonghwa farm Inc (KOREA)
Crop name	Chili pepper	Apple
Application frequency	T times / periodically	5 times / periodically
Application method	Direct spraying on soil and crops	Direct spraying on soil and crops
Result	<ul style="list-style-type: none"> • Twice the harvest yield with LONTRA products • No pests and diseases 	<ul style="list-style-type: none"> • Enhances the sour and sweet taste of fruit • The tissue becomes stronger and the storage period becomes longer • Flower buds grow thicker and faster



Division	Sweetness			
	①Control group (not applied)	11.7	12.3	12.2
②Root irrigation 5 times	14.3	14.5	14.2	14.33
③Spray 3 times with mixed nutrients	13.5	13.0	13.8	13.43
④Spray 2.5 times once just before picking	13.6	13.2	12.9	13.23

PoC Process and Outcome Cases for Pepper Farming

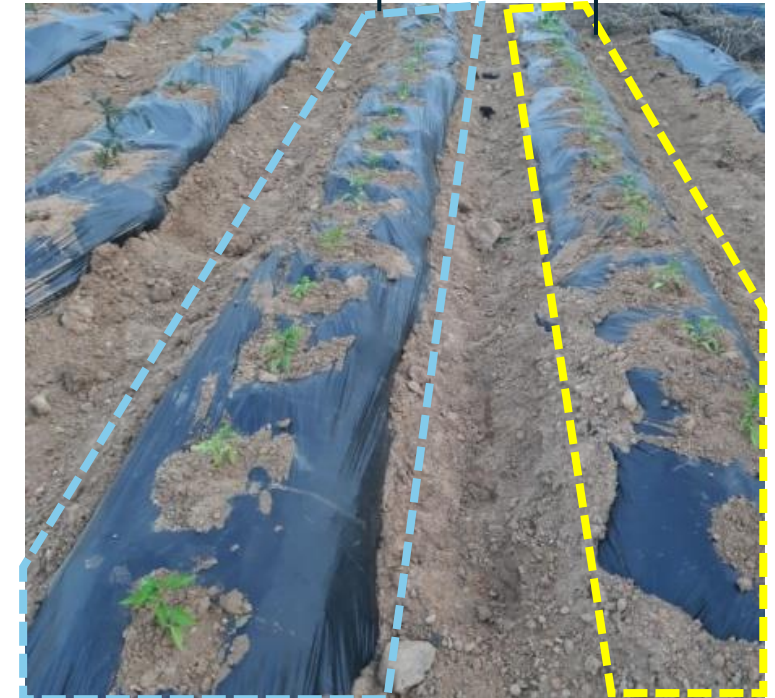
Applying the LONTRA AgriVet Vitalizer to pepper farming resulted in significantly innovative and improved outcomes compared to traditional farming methods. Notably, the best results were achieved by tailoring the application method to each growth stage of the peppers

Preparation Phase

Date	Application Method	LONTRA Vitalizer	Water	Remarks
April.22	<ul style="list-style-type: none"> • Compost Application • Ridge Formation • Seeding Watering & Irrigation • Mulching 	pH11.5	pH8.7	Testing Conducted Separately for Each Ridge
May.07	Chili peppers and standard peppers are sown separately.	pH10.9	pH8.7	
May.16	Water Spraying Included	pH10.0		
May.31	Water Spraying Included	pH10.5		
June.28	Water Spraying Included	pH9.9		
August.08	Size and texture were compared after harvest.			

Ridges Treated with LONTRA Vitalizer

Watered Ridge




PoC Process and Outcome Cases for Pepper Farming

Growth Process Comparison

Date	Water	LONTRA Vitalizer	Explanation
May.20			Both methods showed no significant difference in growth
May.28			Both methods showed no significant difference in growth

PoC Process and Outcome Cases for Pepper Farming

Growth Process Comparison

Date	Water	LONTRA Vitalizer	Explanation
June.17			The peppers treated with LONTRA Vitalizer had 1-2 more branches and exhibited more growth compared to those treated with water
July.23			Peppers Grown with LONTRA Vitalizer: Faster Growth, Larger Size, and Double Yield




PoC Process and Outcome Cases for Pepper Farming

Growth Process Comparison

Date	Water	LONTRA Vitalizer	Explanation
August.30			<p>Peppers grown with LONTRA Vitalizer are very fresh and a deep green, while those grown with plain water lack nutrients, turn yellow, and are prone to anthracnose and soft rot.</p>
September.02			<p>LONTRA Vitalizer Peppers: Healthy and Vibrant, Unlike Water-Grown Peppers with Yellowing and Diseases (Water-Grown Peppers: Severe Yellowing, Soft Rot, and Anthracnose)</p>

PoC Process and Outcome Cases for Pepper Farming

Final Evaluation: Yield from Three Pepper Plants

Item	Water	LONTRA Vitalizer	Explanation
Regular Peppers			<p>Peppers grown with LONTRA Vitalizer are vibrant and glossy, yielding 1,455g. In contrast, water-grown peppers, though mostly ripe, suffered significant losses due to anthracnose and soft rot, yielding only 735g.</p>
Cheongyang Peppers (Very Spicy Peppers)			<p>Both samples are disease-free. Water-grown peppers are mostly ripe, yielding 1,165g. Peppers grown with LONTRA Vitalizer have many still green, yielding 1,845g.</p>

PoC Process and Outcome Cases for Watermelon Farming

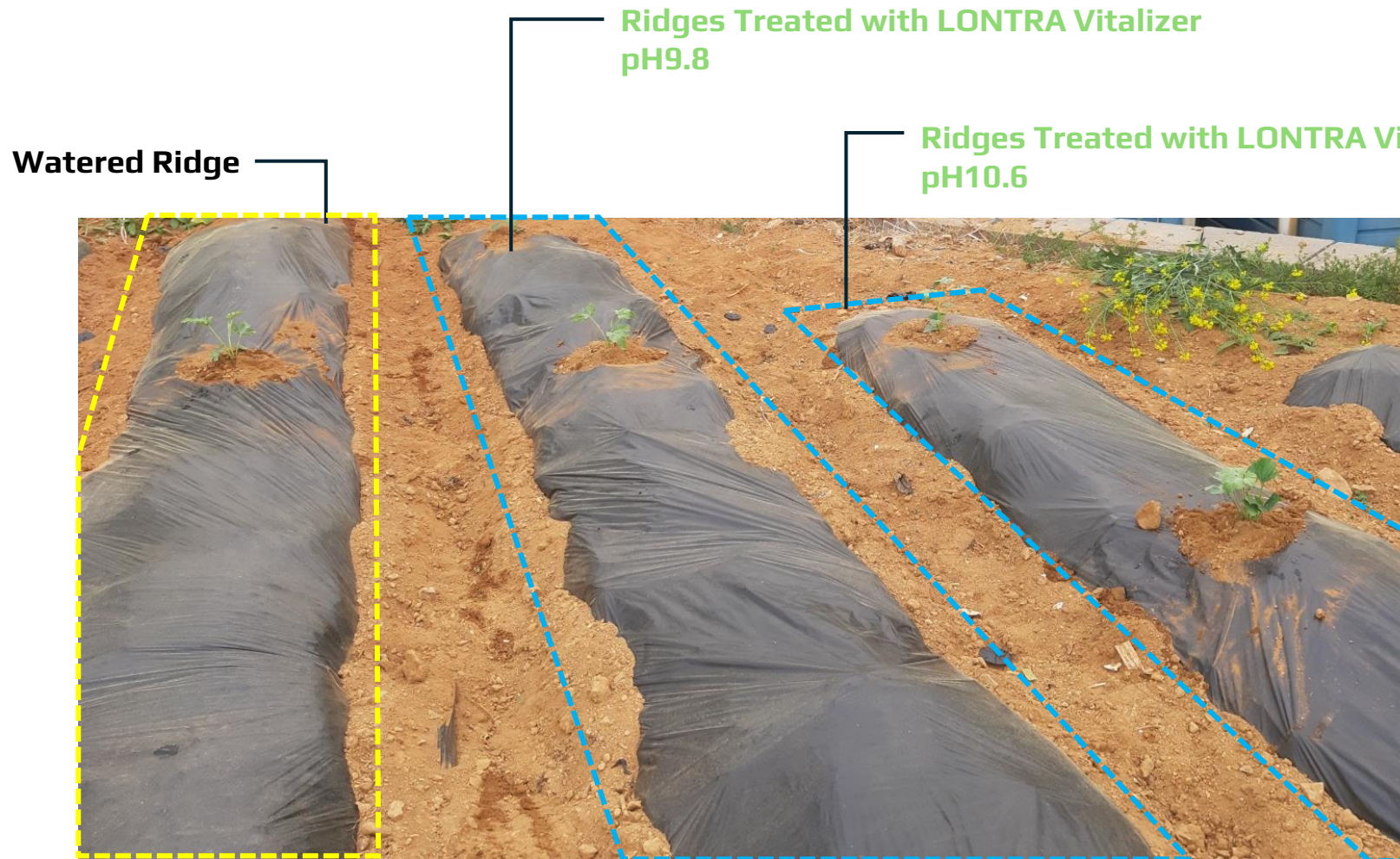
Watermelons grown with LONTRA Vitalizer exhibit high sweetness, pronounced natural aroma, and firm texture. Additionally, the size of the watermelons increased by more than 1.5 times.

Preparation Phase

Date	Application Method	LONTRA Vitalizer 01	LONTRA Vitalizer 02	Water
April.16	<ul style="list-style-type: none">• Incorporating compost• applying LONTRA Vitalizer, and irrigating	pH9.8	pH10.6	pH8.7
May.04	Six watermelon plants were divided into groups of two and sown in three separate rows.	pH9.8	pH10.6	pH8.7
May.13	Water Spraying Included	pH9.8	pH10.6	pH8.7
May.24	Water Spraying Included	pH9.8	pH10.6	pH8.7
June.01	Water Spraying Included	pH9.8	pH10.6	pH8.7
June.19	Water Spraying Included	pH9.8	pH10.6	pH8.7
July.09	Water Spraying Included	pH9.8	pH10.6	pH8.7
July.24	Check the yield, size, sweetness, and quality.			

PoC Process and Outcome Cases for Watermelon Farming

Preparation Phase









PoC Process and Outcome Cases for Watermelon Farming

Growth Process Comparison

Date	Water	LONTRA Vitalizer 01(pH9.8)	LONTRA Vitalizer 02(pH10.6)	Explanation
June.01				<p>The plants given only water seemed to be dying after one week, while those treated with Vitalizer showed strong growth. Growth was similar for Vitalizer pH9.8 and pH10.6</p>
May.28				<p>Plants given only water exhibited slow establishment and poor new shoot growth. Vitalizer pH9.8 resulted in faster establishment compared to pH10.6.</p>







PoC Process and Outcome Cases for Watermelon Farming

Growth Process Comparison

Date	Water	LONTRA Vitalizer 01 (pH9.8)	LONTRA Vitalizer 02 (pH10.6)	Explanation
June.29				<p>Watered plants yielded small watermelons with only one of two growing. LONTRA Vitalizer plants produced two watermelons of similar size.</p>
July.09				<p>Watered plants showed slow growth and small size. LONTRA pH9.8 and pH10.6 plants grew larger, with distinct lines and faster growth.</p>

PoC Process and Outcome Cases for Watermelon Farming

Growth Process Comparison

Date	Water	LONTRA Vitalizer 01 (pH9.8)	LONTRA Vitalizer 02 (pH10.6)	Explanation
June.29				<p>Watered plants yielded small watermelons with only one of two growing. LONTRA Vitalizer plants produced two watermelons of similar size.</p>
July.09				<p>Watered plants showed slow growth and small size. LONTRA pH9.8 and pH10.6 plants grew larger, with distinct lines and faster growth.</p>


PoC Process and Outcome Cases for Watermelon Farming

Final Evaluation: Sugar content measurement results

Date	Water	LONTRA Vitalizer 01 (pH10.6)	Explanation
August.09			<p>Watermelons grown with LONTRA Vitalizer exhibited 20% higher sugar content, increased juiciness, and significantly better texture. Notably, Vitalizer pH 10.6 resulted in higher sugar content compared to pH 9.8.</p>

PoC Process and Outcome Cases for Watermelon Farming

Final Evaluation: Size

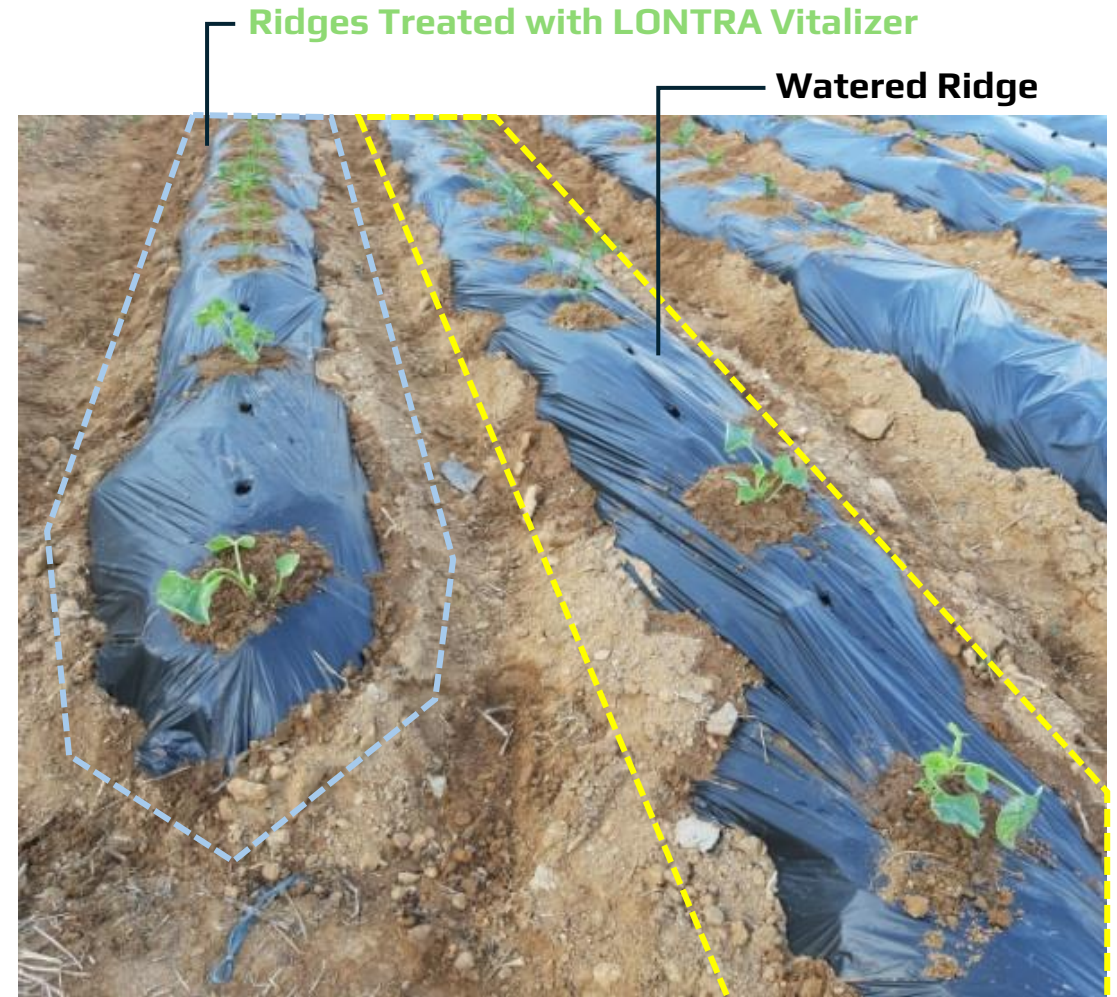
Date	Water	LONTRA Vitalizer 01 (pH9.8)	Explanation
August.09	 <p>The image is a composite of four photographs. The top row shows two watermelons on digital scales. The scale on the left displays '4090' and the scale on the right displays '8775'. Red boxes highlight the digital displays. The text '무게 비교' (Weight Comparison) is written in the center between the two scales. The bottom row shows two watermelons growing in a field, one on the left and one on the right, illustrating the size difference between the two groups.</p>		<p>Watermelons grown with LONTRA Vitalizer (pH 9.8) are more than twice as heavy, with vivid line colors and larger sizes. This is due to the sufficient supply of essential minerals required by the crops, leading to superior results.</p> <p>Additionally, there is a noticeable difference in taste and freshness.</p>

PoC Process and Outcome Cases for Korean Melon Farming

Korean Melons grown with LONTRA Vitalizer showed a 22.4% increase in sugar content and approximately 48% increase in weight and size. Additionally, the texture became firmer, and the fragrance intensified, significantly enhancing marketability.




Preparation Phase

Date	Application Method	LONTRA Vitalizer	Water
April.22	<ul style="list-style-type: none">• Compost Application• Ridge Formation• Seeding Watering & Irrigation• Mulching	pH11.5	pH8.7
April.29	Planted four Korean melon seedlings, two in each group.	pH10.9	pH8.7
May.07	Water Spraying Included	pH10.0	
May.16	Water Spraying Included	pH10.0	
May.31	Water Spraying Included	pH10.5	
June.28	Water Spraying Included	pH9.9	
July.10	Check the yield, size, sweetness, and quality.		



PoC Process and Outcome Cases for Korean Melon Farming

Growth Process Comparison

Date	Water	LONTRA Vitalizer	Explanation
May.20			The group treated with LONTRA Vitalizer exhibited slightly faster growth.
May.28			The group treated with LONTRA Vitalizer exhibited slightly faster growth.

PoC Process and Outcome Cases for Korean Melon Farming

Growth Process Comparison

Date	Water	LONTRA Vitalizer	Explanation
June.17			<p>The leaves of the plants treated with LONTRA Vitalizer are broader, and the Korean melons are more than twice as large.</p>
July.10			<p>The plants treated with LONTRA Vitalizer grew about one week earlier and were significantly larger compared to those given only water.</p> <p>The Korean melons treated with LONTRA Vitalizer were larger in size and had a stronger fragrance.</p>

PoC Process and Outcome Cases for Korean Melon Farming

Final Evaluation:

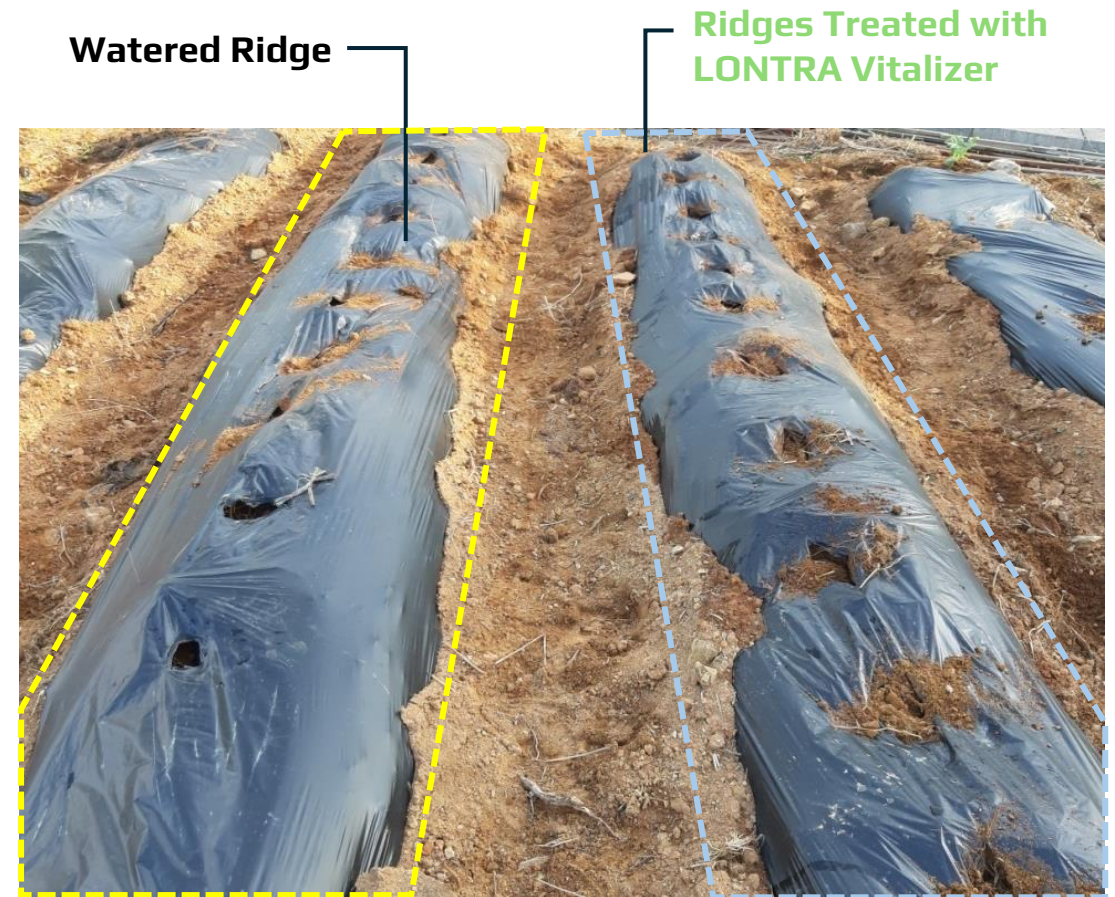
Date	Water	LONTRA Vitalizer 01 (pH10.6)	Explanation
July.24			<ul style="list-style-type: none">• Weight: Four Korean melons treated with LONTRA Vitalizer weighed 2.115 kg, while four Korean melons given only water weighed 1.545 kg, indicating a 48% increase.• Sugar Content: Melons treated with LONTRA Vitalizer had a sugar content of 16.5 Brix, compared to 12.8 Brix for the water-treated Korean melons, a 22.4% increase.• Texture and Fragrance: The Korean melons treated with LONTRA Vitalizer were firmer and had a stronger fragrance

PoC Process and Outcome Cases for Potato Farming

Potatoes treated with LONTRA Vitalizer have exhibited a 62.5% increase in growth compared to standard potatoes. They also retain their distinct potato aroma and superior quality when boiled, without any bitter taste.

Preparation Phase

Date	Application Method	LONTRA Vitalizer	Water
April.22	<ul style="list-style-type: none">• Compost Application• Ridge Formation• Seeding Watering & Irrigation• Mulching	pH11.5	pH8.7
April.29	Planted 22 potato pieces, divided into two groups of 11 each.	pH10.9	pH8.7
May.07	Water Spraying Included	pH10.0	
May.16	Water Spraying Included	pH10.0	
May.31	Water Spraying Included	pH10.5	
June.28	Water Spraying Included	pH9.9	
July.19	Quality, and weight have been verified and compared		







PoC Process and Outcome Cases for Potato Farming

Growth Process Comparison

Date	Water	LONTRA Vitalizer	Explanation
May.28			<p>The potato seeds have significantly degenerated, resulting in poor growth. Both water and LONTRA Vitalizer show similar growth results.</p>
May.31			<p>Potatoes treated with LONTRA Vitalizer exhibit faster growth, with stronger leaves and stems.</p>



PoC Process and Outcome Cases for Potato Farming

Growth Process Comparison

Date	Water	LONTRA Vitalizer	Explanation
July.03			Potatoes treated with LONTRA Vitalizer show significantly accelerated growth.
July.12			While the potatoes are maturing and turning yellow, those treated with LONTRA Vitalizer maintain much fresher leaves and stems.

PoC Process and Outcome Cases for Potato Farming

Final Evaluation:

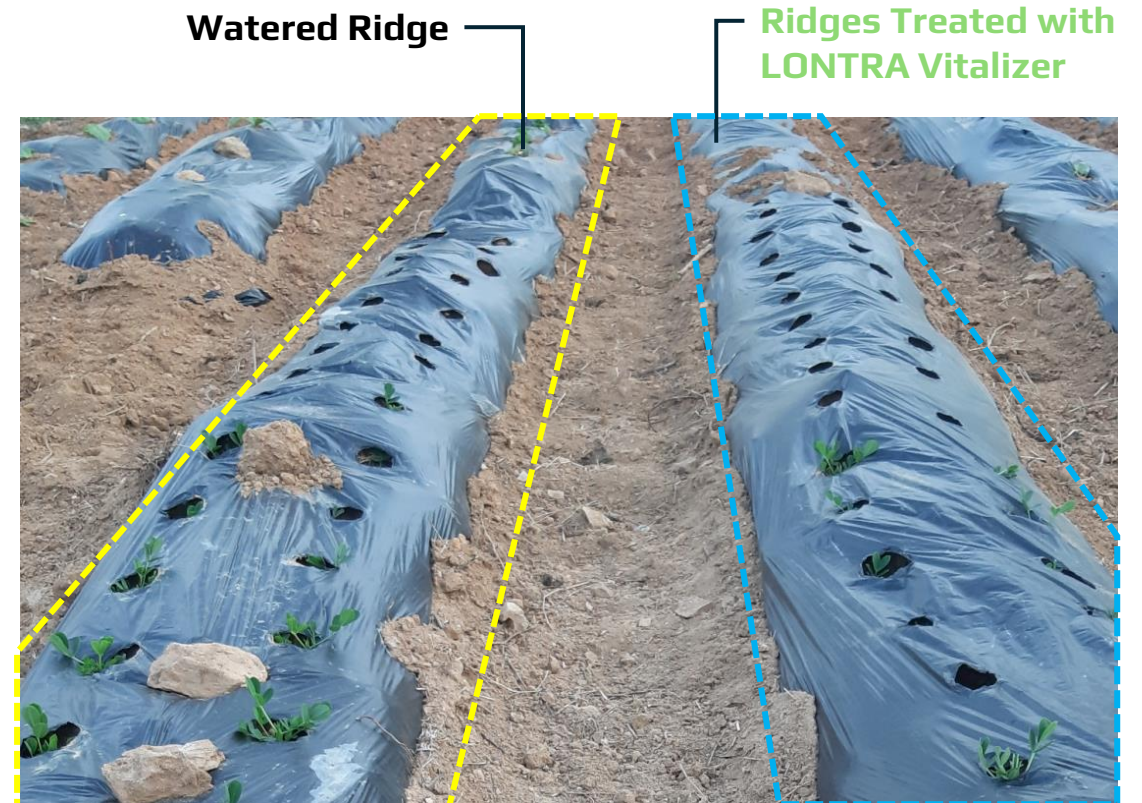
Date	Water	LONTRA Vitalizer 01 (pH10.6)	Explanation
July.19		 <p data-bbox="749 1172 1523 1203">Results from planting and harvesting 11 potato plants</p>	<ul style="list-style-type: none"><li data-bbox="1921 519 2384 772">• Weight: Potatoes treated with LONTRA Vitalizer yielded 6.5 kg, compared to 4 kg from those treated with water, showing a 62.5% increase.<li data-bbox="1921 862 2384 1172">• Taste and Aroma: When boiled, potatoes treated with LONTRA Vitalizer had no bitter taste and retained a strong, distinctive potato aroma, indicating superior quality.

PoC Process and Outcome Cases for Corn Farming

Potatoes treated with LONTRA Vitalizer have exhibited a 62.5% increase in growth compared to standard potatoes. They also retain their distinct potato aroma and superior quality when boiled, without any bitter taste.

Preparation Phase

Date	Application Method	LONTRA Vitalizer	Water
April.22	<ul style="list-style-type: none">• Compost Application• Ridge Formation• Seeding Watering & Irrigation• Mulching	pH11.5	pH8.7
May.07	Planted 40 corn seeds, divided into two groups of 20 each	pH10.9	pH8.7
May.16	Water Spraying Included	pH10.0	
May.31	Water Spraying Included	pH10.5	
June.28	Water Spraying Included	pH9.9	
August.08	Quality, and weight have been verified and compared		



PoC Process and Outcome Cases for Corn Farming

Growth Process Comparison

Date	Water	LONTRA Vitalizer	Explanation
May.20			Corn treated with LONTRA Vitalizer germinated faster and grew more quickly and healthily.
May.31			Corn treated with LONTRA Vitalizer shows superior growth and better development, with larger, healthier leaves.

PoC Process and Outcome Cases for Corn Farming

Growth Process Comparison

Date	Water	LONTRA Vitalizer	Explanation
June.17			<p>Corn treated with LONTRA Vitalizer shows superior growth and better development, with larger, healthier leaves.</p>
June.24			<p>Corn treated with LONTRA Vitalizer excels in leaf size, fullness, and health.</p>

PoC Process and Outcome Cases for Corn Farming

Final Evaluation:

Date	Water	LONTRA Vitalizer 01 (pH10.6)	Explanation
August.08	 	 	<ul style="list-style-type: none">• Appearance: Corn treated with LONTRA Vitalizer has uniform kernels.• Size: Corn treated with LONTRA Vitalizer is larger and uniformly sized, leading to increased yield and production.• Taste and Aroma: When boiled, corn treated with LONTRA Vitalizer exhibits a strong, characteristic sweetness, indicating superior quality.



LONTRA
Keep It Pure



 **GEN21 MINERAL SOLUTION INC**

**4F, Technology Innovation Center, 1036, Jungang-ro, Ilsandong-gu, Goyang-si,
Gyeonggi-do, Republic of Korea**

<http://www.gen21mineralsolution.com>

Technical inquires: annie.kim@gen21group.com

Sales inquires: dr.eswar@gen21group.com