

Changing the Game RICE & CORN



We help growers maximize
the potential of crops,
sustainably...



FARMING Mindsets

Progressive / Precision - Driven

- How much % of Nitrogen is in my plants per KG of leaf tissue samples?
- From my leaf samplings, xxx% increase in %N/KG leaf samples from planting to growing and reproductive stages correlates to an increase in tonnage between xxx% to xxx%
- Which fields or stages will require more steady, sustained supplementation?

Traditional / Conventional

- I put xxxKG Nitrogen per hectare in 3-5 split application timings
- For the last 3 seasons, xxxKG of NPK equates to more or less XXX tons per hectare
- Fertilization application rate will be uniform across fields for a more stable yield

Why Smart-Release Foliar Fertilizers?

Plant Analysis Guide Nutrient Sufficiency Guide Ranges*

Crop		Percentage (%)							Parts Per Million (ppm)					
		N	S	P	K	Mg	Ca	Na	B	Zn	Mn	Fe	Cu	Al
Corn	From	2.80	0.20	0.25	1.80	0.20	0.30	0.01	6	25	30	50	6	20
	To	3.50	0.50	0.40	3.00	0.50	0.70	0.03	20	50	100	250	20	300
Rice	From	2.20	0.20	0.30	1.80	0.20	0.25	0.01	8	20	30	35	6	20
	To	3.50	0.30	0.50	3.00	0.40	0.45	0.03	20	50	60	120	15	300
Sorghum	From	2.50	0.20	0.30	1.70	0.20	0.30	0.01	6	25	30	50	6	20
	To	3.50	0.50	0.50	3.00	0.50	0.60	0.03	20	50	100	250	20	300



What happens to granular **NITROGEN**

- 30 - 45%** ▶ Plant Uptake
- 10 - 35%** ▶ Soil Organic N
- 5 - 25%** ▶ Denitrified
- 10%** ▶ Leached

Source: Plant Analysis - A Diagnostic Tool, University of Wisconsin, Bulletin A2289, Agronomy Handbook 2015 Edition, Don Ankerman, B.S. & Richard Large, Ph.D.

UNDERSTANDING NPK + TE

NUTRIENT	FUNCTIONAL VALUE	NUTRIENT	
NITROGEN (1-6%)*	• Primary building block for amino acids, protein, protoplasm and chlorophyll • Critical for rapid shoot growth, bud vigor, flower differentiation and fruit set • Drives tillering, stem and leaf area development	COPPER (2-50ppm)*	• Essential for flowering, heading and overall crop development • Promotes grain filling in cereals and biomass translocation from the stem • Critical for photosynthesis
PHOSPHORUS (0.05-1%)*	• Restores the vital energy production of the plant to increase root and shoot growth • Promotes roots, flower and seed development • Hastens maturity and fruit development	MANGANESE (5-500ppm)*	• Aids in Nitrogen utilization and assimilation essential for growth • Stimulates enzymes required in photosynthesis • Aids in the absorption of Phosphorus and synthesis of chlorophyll
POTASSIUM (0.3-6%)*	• Promotes biosynthesis of sugars and starches leading to higher yield and brix • Restores vital crop water balance • Regulates stomatal opening to improve photosynthesis • Enzymatic activator for biomass/volume production	BORON (2-75ppm)*	• Aids in Calcium translocation (roots, cell wall) • Shoot lignification, root growth • Transport of water, potassium and sulfur • Sugar translocation to canes and fruits
IRON (10-1000ppm)*	• Helps in chlorophyll formation giving the plant oxygenated and healthy green color • Assists in plant energy production • Helps reduce nitrates and sulfates	ZINC (5-100ppm)*	• Synthesis of proteins and auxins • Calcium translocation • Regulates nutrient uptake • Early root growth, rapid crop response • Uniform maturity, crop yield quality

NITROBOOST®

"The Growth & Yield Booster"

N P K
30.75 - 0 - 0

Chelated
Micronutrients

Zinc (3,070 mg/L)
Boron (3,070 mg/L)

SMART RELEASE
Nitrogen Series

- 21 to 30 Days Smart-Release NITROGEN
- NanoTech: efficient absorption & translocation
- Superior growth & yield performance

Nitrogen for leaf, stem & tiller development

Boron for growth and translocation of sugar, calcium, water, potassium & sulfur

Zinc for rapid crop response against stress, while promoting reproductive development, flowering, fruit setting and fruit quality

Methanal component serves as sticker during foliar spray

Technical grade, no chlorides, no burn

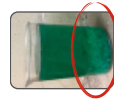
Low salt index, no phytotoxicity

NITROBOOST®

Other Brands



Homogenous Neon Liquid



Coagulated Precipitates

SEEDLING BOOSTER®

"For Crop Development, Vigour & Recovery"

N P K
2 - 4 - 6.7

Chelated
Micronutrients

Zinc (2,000ppm)
Boron (500ppm)

Benefits

DEVELOPMENT

VIGOUR

RECOVERY

Flowers

Buds

Fruits



Heat Stress

Water Stress

Pest Infestation Stress



Getting the Right Balance!!!

SUGARS	FULVIC ACID	LEUCINE	METHIONINE	KELP
CARBOHYDRATES	HUMIC ACID	CELLULOSE	TYROSINE	
RIBOFLAVIN (VITAMIN B2)	PYRIDOXINE (VITAMIN B6)	ALANINE	VALINE	
PHENYLALANINE	SERINE	ASPARTIC ACID	ASH	
CYSTEINE	PROLINE	THREONINE	HISTIDINE	ZINC
GLUTAMIC ACID	ISOLEUCINE	GLYCINE	TRYPTOPHAIN	
NITROGEN	PHOSPHORUS	POTASSIUM	BORON	

COMPLETO+®

"Enhancing Crop Quality, Volume Plus BRIX"

N P K
19 - 9 - 19

Chelated Trace Elements

Iron (1,300mg/L)
Zinc (630mg/L)
Boron (200mg/L)
Copper (630mg/L)
Manganese (700mg/L)

SMART RELEASE
Nitrogen Series

- 14 Days Smart-Release Fertilizer
- 4x to 30x plant absorption efficiency
- Enhances crop quality & performance

Nitrogen essential for leaf development and photosynthesis

Phosphorous promotes root growth, flowering and fruit setting

Potassium serves as activator for biomass production, biosynthesis of sugars and starches for bigger and better fruits

Boron for growth and translocation of sugar, calcium, water, potassium & sulfur

Copper aids in pollen formation crucial for effective pollination and fruit setting

Iron converts nutrients into energy, supporting the tree's vitality and productivity

Manganese aids in pollen germination and growth of pollen tubes for successful fruit setting

Zinc for rapid crop response against stress, while promoting reproductive development, flowering, fruit setting and fruit quality

SUGARBLASTER®

"Bigger & Sweeter!"

N P K
0 - 0 - 43.2

with
Sulfur (as
Thiosulfate) **9.7**

SMART RELEASE
Nitrogen Series

Potassium (as Potassium oxide) - 43.2% w/v
Sulfur (as Thiosulfate) - 9.7% w/v

Promotes biosynthesis of sugars and starches leading to higher yield and BRIX levels

Restores vital crop water balance

Regulates stomatal opening to improve photosynthesis

Activates enzymes for biomass production

Foliar spray facilitates improvement in fruit quality and size as well as sugar content & BRIX

Contains thiosulfate sulfur that releases sulfuric acid to activate root zone for better nutrient uptake

Contains a high concentration of potassium in liquid form that promotes plant growth and volume

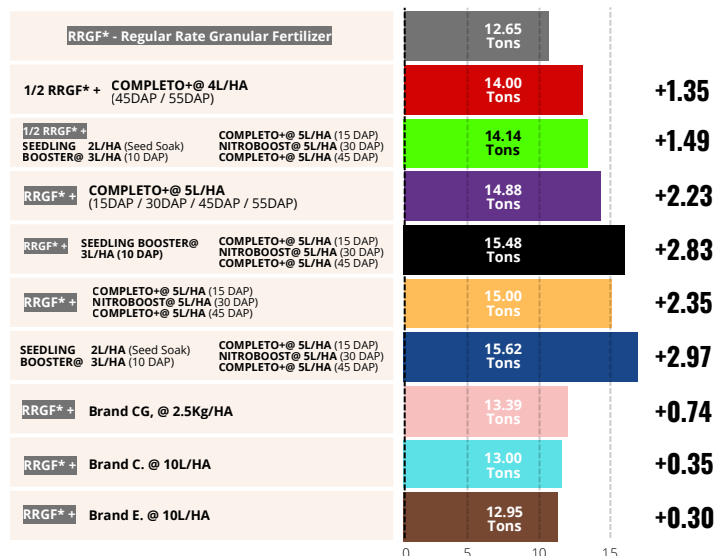
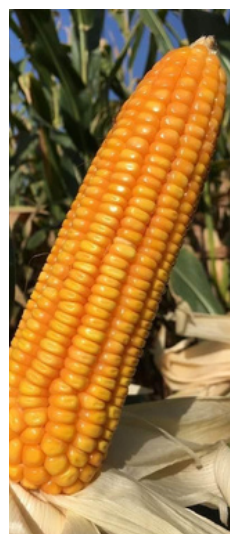
Pre-dissolved potassium and sulfur source that readily mix with water for more efficient leaf or root absorption

Provides optimum availability of potassium in heavily leached sands

Conveniently applied through the drippers without blockages

Can be easily blended with ammonium polyphosphate to facilitate NPK absorption

Farm Performance of **SEEDLING BOOSTER** **COMPLETO+** and **NITROBOOST** in CORN



METHODOLOGY

- Trial site: Sta. Maria, Sto. Tomas, Batangas
- Variety: Pioneer P 4097 YHR
- Planting distance: 0.2m x 0.7m
- Planting date: 1 February 2020
- Harvesting: 22 May 2020
- Treatment Application:
 - 1st 19 March 2020 (45 DAP , Booting stage)
 - 2nd 30 March 2020 (56 DAP , Flowering stage)
- Researcher: Doc Nap Saavedra

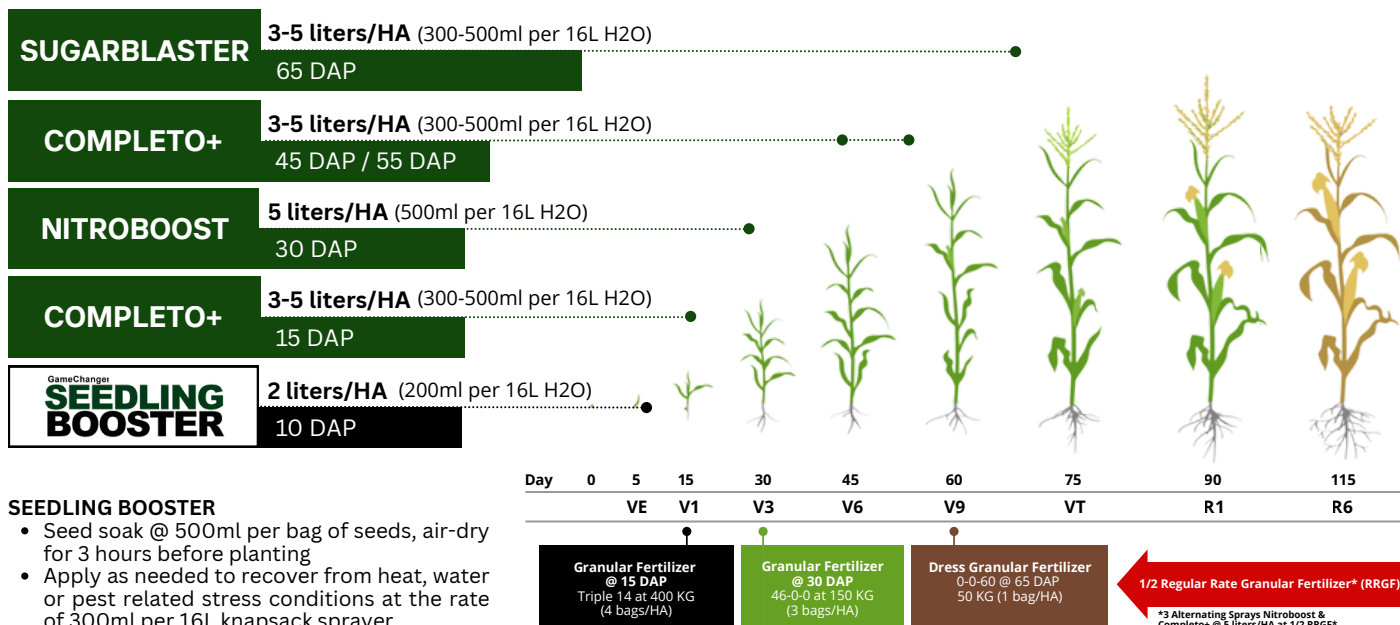


GameChanger Protocol VS Farmer's Practice

CORN at 50% Granular Fertilizer Reduction

Cost/Value Points	SEEDLING BOOSTER NITROBOOST/COMPLETO+	Farmers Practice	GameChanger Advantage
Price per Liter / KG(Foliar)	Php750*	0	(Php750)
Rate per Hectare (HA)	5L (3,750) x 4 Application = Php15,000	0	(Php15,000)
Frequency	4x (0-7 / 15 / 30 / 50DAP)	0	
Spraying-Labor Cost	Php400x 4(Php1,600)*	0	(Php1,600)
RRGF* Regular Rate Granular Fertilizer Cost	46-0-0 (4 bags) = Php6,400 0-0-60 (1 bag) = Php2,000 14-14-14 (2.5 bags) = Php4,000 Subtotal =Php12,400	46-0-0 (8 bags) = Php12,400 0-0-60 (2 bags) = Php4,000 14-14-14 (5 bags) = Php8,000 Subtotal = Php24,800	
Total Fertilization Cost/ Hectare (HA)	Php29,000	Php24,800	(Php4,200)
Total Yield (Tonnage)	14.14	12.65	1.49 (plus12%)
Total Yield (Php)	Php282,800	Php253,000	Php29,800
Savings-Total Fertilizer	(4,200)	0	0
Net Value Advantage			Php25,600
>Spray Volume: 12 x 16L - Tank *20L Pack Prices	• Seedling Booster @ 0DAP (Seed Soak) & 10DAP • Nitroboost @ 30DAP • Completo+ @ 15DAP & 50DAP • *Drone spraying cost @ Php850/HA		Farm Gate Price of Corn @ Php20/KG

GameChanger Foliar Feeding Program

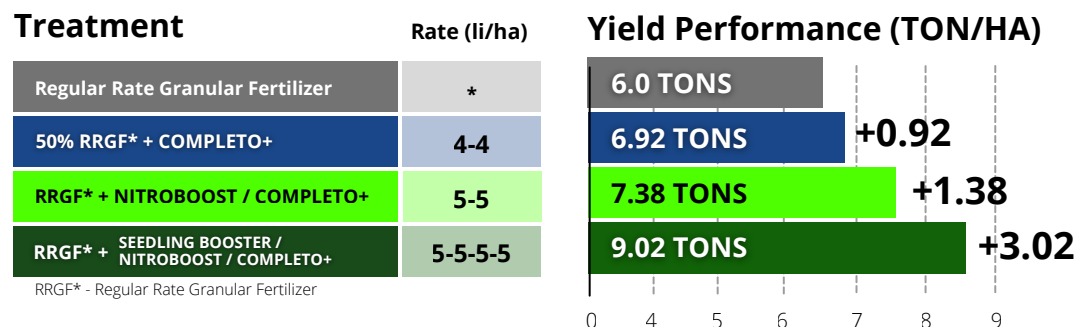


SEEDLING BOOSTER

- Seed soak @ 500ml per bag of seeds, air-dry for 3 hours before planting
- Apply as needed to recover from heat, water or pest related stress conditions at the rate of 300ml per 16L knapsack sprayer

Increasing Tonnage in Rice

SEEDLING BOOSTER, NITROBOOST & COMPLETEO+



Trial Details

- Variety - LP 937
- Planting Distance - 20cm x 20cm
- Planting Date - 13 December 2019
- Harvesting - 16 March 2020 (104 DAT)
- Treatment application - 35 DAT and 50DAT
- Spray volume per HA: 12 x 16L tank loads
- Trial site: Puyupuy, Bay, Laguna
- Researcher: Doc Nap Saavedra

Conclusions

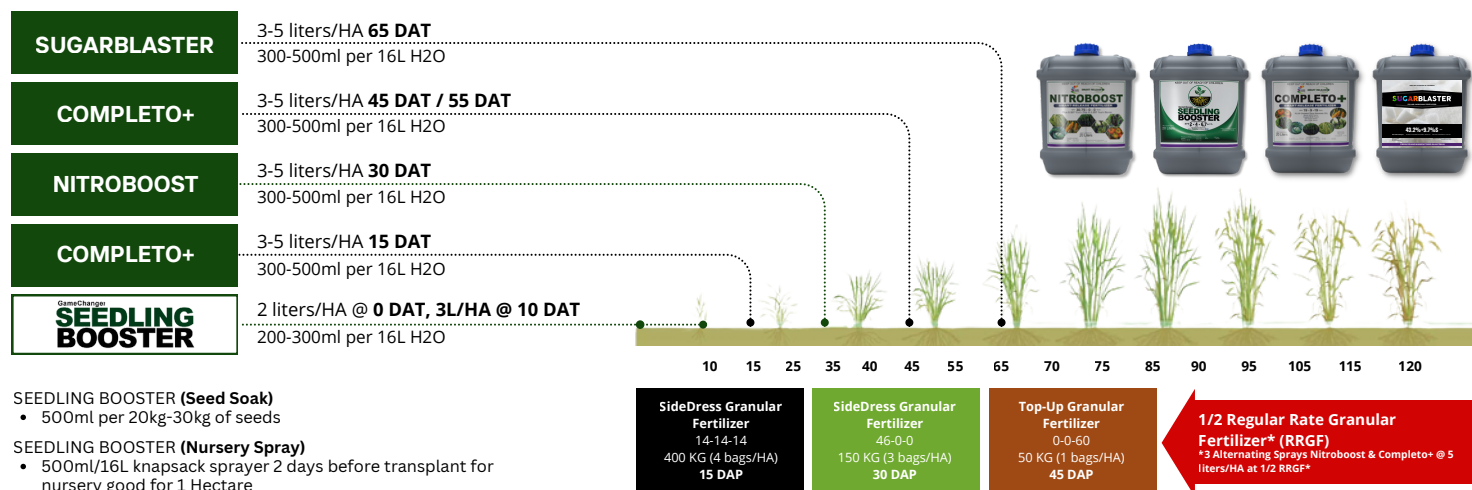
- COMPLETEO+** applied twice at 35 and 50 DAT at 4 liters/ha equivalent to 15.3% increase over the standard fertilization
- Tandem application of **NITROBOOST** 5li/ha at 35 DAT and **COMPLETEO+** at 50 DAT significantly above farmer's practice by +1.38 tons
- Best results in terms of yield producing 9.02 tons/HA with 5 applications @ 2L/HA **SEEDLING BOOSTER** @ nursery (Spray or Seed Soak), 3L/HA **SEEDLING BOOSTER** @ 10DAT, 5L/HA **COMPLETEO+** @ 15DAT, followed by 5L/HA **NITROBOOST** @ 30 DAT then capped by 5L/HA **COMPLETEO+** @ 50 DAT

Cost/Value Points	SEEDLING BOOSTER NITROBOOST/COMPLETE+	Farmers Practice	GameChanger Advantage
Price per Liter / KG(Foliar)	Php750*	N/A	
Rate per Hectare (HA)	5L (3,750) x 4 Application = Php15,000	N/A	(Php15,000)
Frequency	4x (10/15/30/45DAP)	N/A	
Spraying-Labor Cost	Php400 x 3(Php1,200)	N/A	(Php1200)
RRGF* Regular Rate Granular Fertilizer Cost	Basal: 46-0-0 (4 bags) = Php6,400 Basal: 0-0-60 (1 bag) = Php2,400 30DAT: 14-14-14 (4 bags) = Php6,000 Subtotal = Php14,800	Basal: 46-0-0 (8 bags) = Php12,800 Basal: 0-0-60 (2 bag) = Php4,800 30DAT: 14-14-14 (8 bags) = Php12,000 Subtotal = Php29,600	
Total Fertilization Cost/ Hectare (HA)	Php29,800	Php29,600	(Php200)
Total Yield (Tonnage)	9.02	6.0	3.02 MT (+50%)
Total Yield (Php)	Php180,400	Php120,000	Php60,400
Gross Value Advantage			Php60,400
Net Value Advantage			Php60,200
>Spray Volume: 12 x 16L - Spray Tank	• Seedling Booster 2L @ Nursery (Seed Soak) and 3L @ 7-10DAT (Spray) • Complete+@ 15DAP & 45/55DAP • Nitroboost @30DAP		Farm Gate Price of Palay - Php20/KG



RICE GameChanger

Foliar Feeding Program



NITROBOOST®

"The Growth & Yield Booster"

Crop	Foliar Rate (Liters/Ha)	Recommendations
Vegetables	3-6	Apply every 21-30 days from mid-crop
Brassicas	3-10	- Apply at early head development - Repeat every 21-30 days
Onions	2-10	- Apply from when sufficient leaf exists to intercept spray - Apply at bulb development at intervals of 21-30 days
Sugarcane	2-10	- Apply at 60 DAP, 80 DAP and 100 DAP (Days After Planting) - Option to apply at intervals of 21-30 days as needed from 120 DAP to 200 DAP via drone to further push yield volume - Alternating application with COMPLETO+ as needed especially with ratoon crop
Corn	3-10	- As Urea Booster (in addition to granular side dress) spray 3-5 liters per hectare at 25-30 DAT (Days After Transplant) to maximize yield - As Side Dress Urea Replacement, spray 10 liters per hectare at 25-30 DAT - Follow-up spray at 50 DAT with COMPLETO+ at the rate of 3-5 liters per hectare to maximize yield increase
Rice	3-10	- As Urea Booster (in addition to granular side dress) apply 3-5 liters per hectare at 25-35 DAT (Days After Transplant) to maximize yield - As Side Dress Urea Replacement, spray 10 liters per hectare at 35 DAT - Follow-up spray at 50 DAT with COMPLETO+ at the rate of 3-5 liters per hectare to maximize yield increase
Fruit Trees	3-10	- Apply from early bloom through fruit set - Repeat application after 30 days - Double spray rate at post-harvest - Spray volume at 2,500 liters per hectare or 2-6 tank loads per tree
Banana	2-10	- Repeat every 21-30 days until 4 weeks before harvest - Triple the rate per hectare when applied via fertigation
Pineapple	2-10	- Apply every 21-30 days from fruit set up to 4 weeks before harvest - Triple the rate per hectare when applied via fertigation
Cutflowers	2-10	- Do not apply as foliar spray when plants are already in bloom - To apply as foliar, use lower rate (5 liters) at 1:100 dilution; as drench or via fertigation use higher rate (10 liters) at 1:100 dilution

COMPLETO+®

"Enhancing Crop Quality, Volume Plus BRIX"

Crop	Foliar Rate (Liters/Ha)	Recommendations
Vegetables	3-6	Apply every 14 days from mid-crop or when flowering starts
Brassicas	3-6	- Apply at early head development - Repeat spray every 14 days or as follow-up to NITROBOOST
Onions	3-10	- Apply from when sufficient leaf exists to intercept spray - Apply at bulb development
Sugarcane	2-10	- Apply at 100 DAP and 115 DAP (Days After Planting) - Option to apply at intervals of 14 days as needed from 130 DAP to 250 DAP via drone to further push yield volume and sweetness (Brix/PSTC) - Best to apply after NITROBOOST when canopy closes and up to 2.5 to 4 months before harvest for higher brix factor or sugar content
Corn	3-10	Apply at 45 DAP and follow-up spray at 55 DAP to maximize yield advantage
Rice	3-10	- Apply at panicle initiation - Apply at 35 DAT (Days After Transplant) - Follow-up at 50 DAT to maximize yield and grain quality
Fruit Trees	5-10	- Apply from early bloom through fruit set - Repeat application after 30 days - Double rate of application per hectare at post-harvest - Spray volume at 2,500 liters per hectare or 2-6 tank loads per tree
Banana	2-10	- Apply every 14 days from fruit set to harvest - Triple the rate per hectare when applying via fertigation
Pineapple	2-5	- Apply every 15 days early in season and from fruit set to harvest - Triple the rate per hectare when applying via fertigation
Mango	10-50	- Apply at the minimum rate at Bud Swell and Panicle Emergence - Double the rate of application per hectare at Pre-flowering - At flowering stage, apply minimum rate per hectare - Spray volume at 2,500 liters water per hectare or 2-6 tank loads per tree
Cutflowers	2-10	- Do not apply as foliar spray when plants are already in bloom - To apply as foliar, use lower rate (5 liters) at 1:100 dilution; as drench or via fertigation, use higher rate (10 liters) at 1:100 dilution



SUGARBLASTER®

"Bigger & Sweeter!"

- Apply at the reproductive stages of corn (60-65 days after planting) and rice (65 days after planting) at the rate of 3-5 L/ha
- Rice: Promotes long, well-filled panicles and a higher number of grains, leading to increased tonnage
- Corn: Results in bigger cobs, high number of kernels and increased tonnage



SEEDLING BOOSTER

- Seed soak @ 500ml per bag of seeds, air-dry for 3 hours before planting
- Apply at 3-5 leaf stage or as needed to recover from heat, water or pest related stress conditions at the rate of 300ml per 16L knapsack sprayer

"For Crop Development, Vigour & Recovery"

BIG TIME HARVEST, BIG TIME PLANTER



"Nadagdagan ang ani ko ng 3 tons (+36% increase) per hectare at netong dagdag kita na Php70k per hectare dahil sa **SEEDLING BOOSTER**, **NITROBOOST** at **COMPLETO+** sa nakaraang season!...nabawasan na ang gastos ko sa granular fertilizer (from 12 bags to 8 bags) at naalagaan din ang pH ng lupa para di maging acidic!"

Isagani Dela Cruz

40-Hectares RICE Grower
General Natividad, Nueva Ecija



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