

Madura



# Guano Gold

“Kwik Start” natural and available

## Phosphorus, Calcium and Silica Key Benefits of Guano Gold for pastures and crops

- Naturally occurring and available phosphorus and calcium
- Phosphorus is 50% prompt and 50% sustained release
- Calcium to improve plant strength
- Silica reduces the leaching of potassium
- Silica and calcium improves plant stress tolerance
- Silica maintains phosphorus in a plant available form
- Silica reduces the 'lock-up' of phosphorus by aluminium, iron and calcium
- Safe for soil ecology and soil microbes
- Good granulation for easy blending and spreading
- Complements conventional phosphorus fertilizers
- Analysis of 12% phosphorus, 29% calcium and 10% silica
- Certified input for organic production



AI no. 309MI

## ARE 20% OF YOUR SOILS GIVING YOU 80% OF YOUR PROBLEMS?

McGregor Gourlay's new range of blended fertilizers contain phosphorus in water and non-water soluble forms as well as silica. These unique blends are targeted at soils which are prone to phosphorus tie up.

### CHECKLIST: - DO I NEED THIS BLEND ?

- Do I have elevated levels of Calcium, Manganese, Aluminium or Iron
- Do my soils have rising levels of sodium?
- Am I applying or have I applied lime, gypsum or dolomite

If you answer yes to one or more of the above questions, then a blend containing silica and non water soluble phosphorus may be an agronomic option.

### WHAT IS IN THE BLENDS ?

The blends contain a majority of Incitec Pivot fertilizers. MAP, DAP, Granam, MOP, or SOP etc, or a mixture of these products, is blended with Madura Guano Gold Kwik Start Dicalcium Phosphate fertilizer.

### WHAT IS THE BENEFIT ?

Some soils are prone to phosphorus binding with other elements that then form compounds that are no longer plant-available. In these soils, using traditional water-soluble Phosphorus fertilizer can be inefficient. By blending the phosphorus types and adding silica these new blends drip feed P into the soil system, the presence of silica protects the soluble P by binding with Fe, Al, Mn or Ca and thus allows the P to be plant available.

## Split 'P' Blends

### EXAMPLES OF SPLIT P BLENDS

CROP	N	P	K	S	Ca	Zn	Si	OC*
Cotton	8	15	0	0	9	2	3	2.5
Pulse	5	11	4	5	12	2	4	3.5
Cereal	13	10	0	7	10	0	3	2.8
Sorghum	11	6	0	11	1	0	5	4.3
Lucerne	3	11	13	5	12	0	4	3.5
Organic**	0	7	7	9	17	0	6	5
Tree Crops	4	7	8	8	17	0	6	5

- Organic Carbon \*
- Certified Organic \*\*
- Trace Minerals can be added



## McGREGOR GOURLAY SUSTAINABLE COTTON OR BROADACRE ZINC BLENDS



This new blend contains three kinds of phosphate as well as Zinc. In a normal planting mix all the Phosphate is delivered via water-soluble MAP. This means that all the Phosphate floods into the soil at planting and has to remain in that state for all of the plant's life. If the soil contains Iron, Manganese or Calcium in elevated levels, these elements will bind with this Phosphorus to form compounds that are no longer available to the plant.

Blending MAP zinc coat with granulated Dicalcium Phosphate (Guano Gold) and Gran-am can help overcome this problem. The Phosphate component of the blend is now split into water-soluble, Citric-soluble and non-Citric-soluble. Basically, this means that the **Phosphate will be drip fed into the plant's root zone**, thus reducing the amount of Phosphate available to be tied up.

The blend will also contain silica. **Silica is a beneficial plant nutrient that increases the ability of a plant to resist insect and fungal attack as well as to increase the plants physical strength to reduce lodging and increase wilt point.** Silica also has a chemical function in the soil; Silica (mono silica acid) will bind with or displace Iron, Calcium, Aluminium and Manganese from Phosphorus.

### Analysis

N	P	K	S	Zn	Ca	Si
6.6	14.5	0	2.2	2.5	10.15	4.5

Application Rate: At 50 kg/ha to 100kg/ha

**The McGregor Gourlay Sustainable Cotton and/or Broadacre Zinc Blends offers farmers a tool previously unavailable to slow down Phosphorus release and improve Phosphate uptake.**

## SILICA

Silicon Fertilizers (Guano Gold - Kwik Start) increase the concentration of Monosilica acids in the soil solution and their absorption on soluble Phosphorus of Calcium (CaHPO<sub>4</sub>), aluminum (2Al (H<sub>2</sub>PO<sub>4</sub>)<sub>3</sub>) and Iron (2FePO<sub>4</sub>).

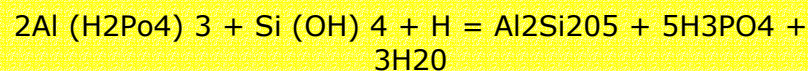
By this it means Silicon Fertilizers initiate the following processes.

1. Transformation of slightly soluble phosphates into mobile forms.
2. The physical absorption of mobile phosphates by silicon-rich surfaces.

**ALL FACTS SUGGEST** that Si-rich materials can be used for reducing - "P" - "LOCK UP", and keep applied PHOSPHORUS in **plant available form**



"Calcium/Phosphate + Silica Acid = Calciumsilicate + water + phosphate"



"Aluminum Phosphate + Silica Acid + Hydrogen = Aluminum Silicate + Phosphate + water"



Iron Phosphate + Silica acid + Hydrogen = Iron silicate + phosphate

### SILICA & K

Silicon Fertilizers exhibit very good absorption properties, owing to this, leaching of potassium from the surface horizon was reduced by application of silicon.

Therefore GUANO GOLD – Kwik Start blended with either MOP or SOP or K-MAG will allow for maximum availability of both P and K in soils that are high in Fe, Al or Ca. The interaction of Silica allows the blend to work in both acid and slightly alkaline soils.

## Thinking Organic?

**Combine Guano Gold with Granulated Magnesium sulphate and have**

**FIVE MAJOR ELEMENTS IN JUST TWO GRANULES  
IN A BLEND OF YOUR CHOICE**

Organic blend 1	0:4:13:15:9:8 plus 3% Silica
Organic blend 2	0:5:11:13:12:6 plus 4% Silica
Organic blend 3	0:6:9:11:15:5 plus 5% Silica