Sequester more Carbon Dioxide (CO_2)
Increase Soil Organic Carbon
Reduce Greenhouse Emissions

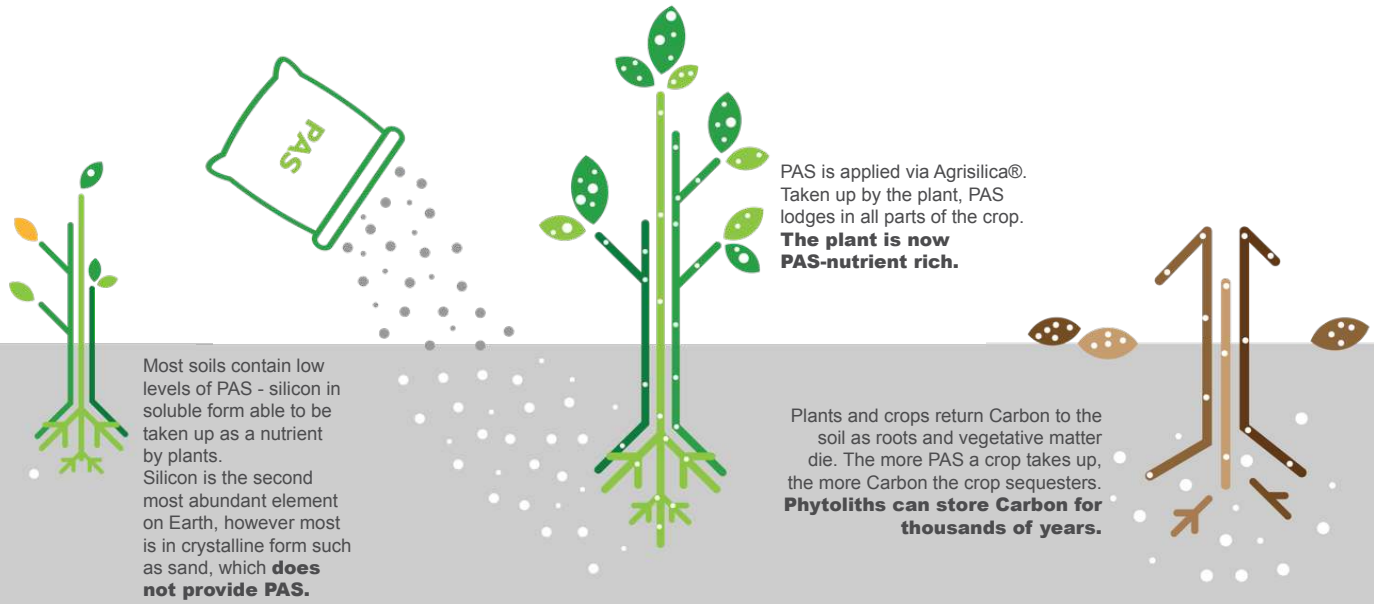
While increasing crop yield & quality?
It's as simple as...

Getting your 'plant available silicon' (PAS) right !

Applying a 'plant available silicon' (PAS) fertiliser such as Agrisilica® will:

1. *Increase plant uptake of all nutrients such as N:P:K, MAP, DAP etc., with better utilisation of those nutrients within the plant.*
2. *PAS makes plants more erect, increasing photosynthesis, which in turn, increases plant energy.*
3. *Due to increased photosynthesis, more atmospheric CO_2 is aborbed by plants, which in turn exude more clean oxygen (O_2) back into the atmosphere.*
4. *Due to increased PAS the plant will have more phytoliths. The more phytyoiths, the more carbon is occluded by the plant through the root zone into the soil, creating increased soil carbon.*
5. *When plant leaves fall, or the plant dies or is harvested, the carbon-rich phytoliths (holding captured carbon) return to the soil, which further...*
6. *Increases soil organic carbon.*
7. *Phytoliths remain intact, storing the carbon. It is a natural process that has been going on for millennia.*

The difference today, with an abundant supply of PAS now available for the first time globally, is that much more carbon can be sequestered than ever before and soil carbon replenished.



Most soils contain low levels of PAS - silicon in soluble form able to be taken up as a nutrient by plants.
Silicon is the second most abundant element on Earth, however most is in crystalline form such as sand, which **does not provide PAS.**

PAS is applied via Agrisilica®. Taken up by the plant, PAS lodges in all parts of the crop. **The plant is now PAS-nutrient rich.**

Plants and crops return Carbon to the soil as roots and vegetative matter die. The more PAS a crop takes up, the more Carbon the crop sequesters. **Phytoliths can store Carbon for thousands of years.**

agrisilica® GRANULAR

Agriculture faces 6 key challenges:

Food Security

Crop Loss from abiotic/biotic stress

Soil Health

Environmental Damage

Toxicity

Emissions

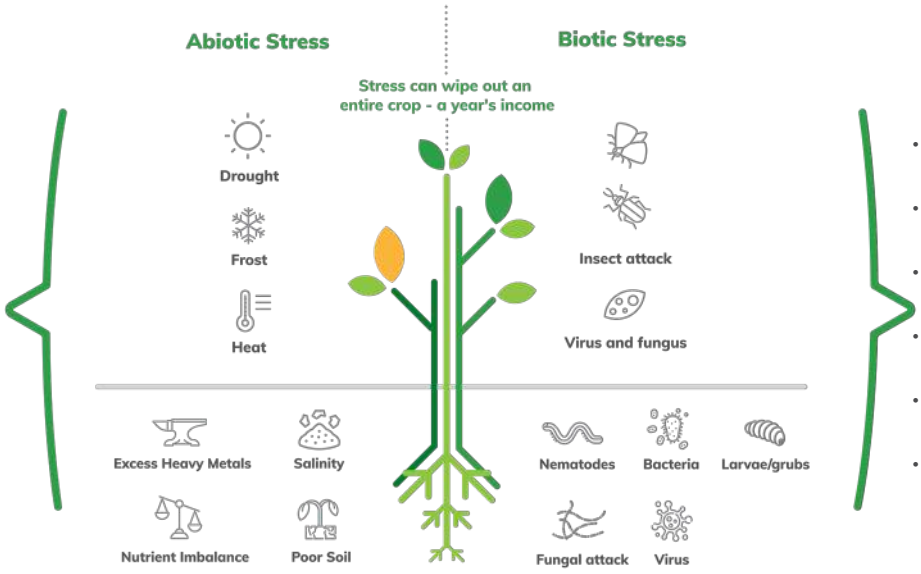
Agrisilica® helps farmers achieve the FAO's 3 Pillars of Climate Smart Agriculture (CSA):

1. sustainable intensification
2. resilience to climate change
3. reducing, mitigating and/or removing harmful greenhouse gas emissions and environmental pollution

The many benefits of PAS you will read about here is not new science, its part of life itself!

See Agripower's Climate Smart Agriculture brochure to learn more about how Agrisilica® makes positive differences to agriculture.

- Total crop failure
- Reduced growth
- Reduced productivity
- Premature senescence
- Reduced water uptake
- Reduced photosynthesis
- Altered transpiration
- Decreased nitorgen assimilation
- Metabolic toxicity
- Altered gene expression
- Disorganisation of membrane systems
- Altered protein synthesis



- Total crop failure
- Reduced growth
- Reduced productivity
- Reduce crop quality
- Reduced immunity
- Reduced resilience

Agrisilica® proven mitigator against devastating crop stress

Reduce N_2O and CH_4 agri-emissions

Reduce plant uptake of Heavy Metals

- Reduces fertiliser run-off and leaching
- Fixates N_2O (nitrous oxide) and CH_4 (methane). N_2O is caused by nitrification from nitrogenous fertilisers, and natural CH_4 emissions arise from microbial decomposition of organic material (for example, decaying plants) in anaerobic ('lacking oxygen') conditions in wetlands. It has been estimated that global rice production is responsible for 11% of total anthropogenic CH_4 emissions.
- Reduces heavy metal uptake by plants including reductions of harmful Cadmium (Cd) and Arsenic (As) from the food chain by up to 40%

The power of PAS-rich Agrisilica®

Agrisilica® is 100% naturally derived, non-toxic, approved for organic farming and suitable for all types of farming and horticulture.

1. **reduces GHG emissions**
2. **reduces land & marine pollution via fertilizer run-off**
3. **reduces the need for further land clearance**
4. **reduces crop losses (pests, drought, frost etc)**
5. **reduces water usage**
6. **reduces pesticide usage**
7. **increases crop size, quality, shelf life, market value**
8. **increases farmer revenue**
9. **increases soil health & moisture**
10. **increases uptake of nutrients (e.g. NPK etc)**
11. **increases CO_2 sequestration**
12. **increases soil carbon**

agripower®
GROWING OUR FUTURE

Agripower, the worlds largest supplier of PAS-rich fertilizers brings farmers a fertiliser that increases crop results and is 100% climate and ecosystem positive.

More information: www.agripower.com.au