

Bio-Chel[®] Fe Liquid

Bio-Chel Fe Liquid is an advanced micronutrient solution, organically chelated, to provide a new source of iron for both root and foliar application.

The ratio of soluble lignin to iron in Bio-Chel Fe Liquid has been optimised to ensure full stability and availability over a pH range of 2-9.

Bio-Chel Fe Liquid is easy to use, non-phytotoxic and provides high levels of chelated iron when used in foliar and/or fertigation systems.

In addition, soluble lignin present in Bio-Chel Fe Liquid is a source of added organic carbon and soluble sulphur, which are necessary nutrients for good soil microbiology and healthy plant growth.

Bio-Chel Fe Liquid is safe to use and does not cause leaf burn when used at recommended rates.

CROPS

- | | |
|--|---|
|  Asparagus |  Fruiting Vegetables |
|  Legumes |  Ornamentals |
|  Sugar Beet |  Top Fruit |
|  Broccoli |  Soft Fruit |
|  Brassicas |  Sports Turf |
|  Celery | |
|  Citrus | |

Guaranteed analysis

Liquid Iron 5% w/v Fe

Bio-Chel Fe Liquid is plant derived

Engage Bio-Chel Fe Liquid is derived from one of nature's most renewable resources - living trees.

Bio-Chel Fe Liquid meets all the requirements of sustainable agriculture and offers growers an efficient source of 'naturally' chelated iron for both foliar and soil application.



Benefits of Bio-Chel Fe Liquid

- Provides higher levels of available and chelated iron than other chelated competitor products.
- Contains > 90% chelated iron.
- Penetration of leaves and roots are at higher rates
- Will not cause leaf burn.

- Extensive research and grower trials in US and Europe have proven that Bio-Chel Fe Liquid has greater assimilation than EDTA or amino acid trace elements and is comparable in assimilation to all other leading iron chelates.
- Environmentally sustainable as from a renewable resource.
- Can be used in irrigation systems or as a foliar spray.
- Cost effective in use compared to other chelated iron sources.

The role of Iron

- Iron plays a major role in chlorophyll (green pigment plants) development and its function.
- It plays a role in energy transfer within plants; it is a constituent of certain enzymes and proteins.
- Iron functions in plant restoration and plant metabolism.
- Soils with a high pH will reduce the availability of iron. Excessive amounts of soluble phosphate or high rates of phosphate fertiliser can inhibit iron uptake by many crops.
- Increased nitrate uptake can reduce iron uptake by causing an anion-cation imbalance in plants.
- Iron deficiencies can also be induced by the presence of bicarbonate ion in the soil (in both saline and alkaline conditions).





Foliar Bio-Chel Fe Liquid

Bio-Chel Fe Liquid contains surface active polymers. This ensures even iron distribution over the leaf surface without the need for additional adjuvants. Another advantage to using Bio-Chel Fe Liquid is that the soluble component remains hygroscopic. This helps keep the iron in a water soluble form on the leaf so that it can diffuse and penetrate into the leaf even after the spray application has dried. Standard chelate spray solutions dry out in a low humidity environment while Bio-Chel Fe Liquid remains moist and active.

Bio-Chel Fe Liquid use in irrigation systems

When used in fertigation systems Bio-Chel Fe Liquid provides a highly available and complexed iron source to provide available nutrient for an extended period. Bio-Chel Fe Liquid can be used singly or in blends and added to existing feed mixes.

Crop timings and application rates

Crops	Liquid rate per Ha (foliar)	Liquid rate per Ha (irrigated)	Application timings
Tree fruit	2.0-3.0lts	2.0-5.0lts	As required for all crops
Stone fruit	2.0-3.0lts	2.0-5.0lts	As required for all crops
Berry fruits	1.0-2.0lts	2.0-4.0lts	Apply from after planting and as required from analysis
Fruiting Vegetables	1.0-2.0lts	1.5-5.0lts	Apply from planting and supplement as required
Vegetable crops	2.0-3.0lts	N/A	Apply as required from analysis
Grapes	2.0-3.0lts	4.0-5.0lts	Apply as required from signs of deficiency or as required
Sports turf	2.0-4.0lts	4.0-5.0lts	Apply as required from signs of deficiency or as required
Ornamentals	1.0-2.0lts	4.0-5.0lts	Apply as required from signs of deficiency or regularly as iron source every feeding

Bio-Chel Fe, is a rootzone and foliar fertiliser and best results will be achieved by regular application. Always read the label and follow instructions when mixing Bio-Chel Fe Liquid with other fertilisers and pesticides.

Bio-Chel Fe Liquid is compatible with most products, however when mixing with multiple products or new products for the first time a simple jar test is recommended.

For more detailed application rates per crop, please visit engagecropsolutions.com or speak to a JF McKenna advisor. Always read the label before use.



Exclusive distributor in Ireland.

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Bio-Chel[®] Fe Granular

Bio-Chel Fe Granular is a new highly soluble organically chelated iron designed for growers of high performance crops.

Bio-Chel Fe has been optimised to ensure full stability and availability over a pH range of 3-7

Bio-Chel Fe is easy to use, non-phytotoxic and provides high levels of soluble iron when used in foliar and/or fertigation systems.

Engage Bio-Chel Fe powder is an excellent choice for dry mixing with fertilisers.

Bio-Chel Fe provides a fully biodegradable, non-polluting alternative to other chelating agents.

Bio-Chel Fe is safe to use and does not cause leaf burn when used at recommended rates.

CROPS

- Asparagus
- Legumes
- Sugar Beet
- Broccoli
- Brassicas
- Celery
- Citrus
- Fruiting Vegetables
- Ornamentals
- Top Fruit
- Soft Fruit
- Sports Turf

Guaranteed analysis

Soluble Powder iron 10% w/w Fe

Bio-Chel Fe is ecologically sound

Commonly used chelating agents such as EDTA or DTPA are poor to biodegrade, accumulate in the environment and have been detected in the surface waters of rivers, lakes, soils across Europe. Bio-Chel Fe granular is a non-toxic, and non-polluting chelated iron which does not produce gaseous or waste products that can pollute water or the atmosphere.



Benefits of Bio-Chel Fe Granular

- Provides higher levels of available and chelated iron than other chelated competitor products
- Penetration of leaves and roots are at higher rates
- Will completely biodegrade within 80 days

- Extensive research and grower trials in US and Europe have proven that Bio-Chel Fe Granular has greater assimilation than EDTA or amino acid trace elements
- Environmentally sustainable
- Can be used in all irrigation systems
- Cost effective in use compared to other chelated iron sources.

The role of Iron

- Iron plays a major role in chlorophyll (green pigment plants) development and its function.
- It plays a role in energy transfer within plants; it is a constituent of certain enzymes and proteins.
- Iron functions in plant restoration and plant metabolism.
- Soils with a high pH will reduce the availability of iron. Excessive amounts of soluble phosphate or high rates of phosphate fertiliser can inhibit iron uptake by many crops.
- Increased nitrate uptake can reduce iron uptake by causing an anion-cation imbalance in plants.
- Iron deficiencies can also be induced by the presence of bicarbonate ion in the soil (in both saline and alkaline conditions).





Bio-Chel Fe Liquid use in irrigation systems

When used in fertigation systems Bio-Chel Fe Granular provides highly available and complexed iron source to provide available nutrient for an extended period. Bio-Chel Fe Granular can be used singly or in blends and added

to existing feed mixes. Being more available than other chelated or amino acid sources makes Bio-Chel Fe Granular ideal for use in both soil and all substrate growing systems.

Crop timings and application rates

Crops	Powder rate per Ha (irrigated)	Application timings
Tree fruit	1.0-2.0kg	As required for all crops
Stone fruit	1.0-2.0kg	As required for all crops
Berry fruits	1.0-1.5kg	Apply from after planting and as required from analysis
Fruiting vegetables	0.5kg-2.0kg	Apply from planting and supplement as required
Vegetable crops	N/A	Apply as required from analysis
Grapes	2.0kg	Apply as required from signs of deficiency or as required
Sports turf	2.0kg	Apply as required from signs of deficiency or as required
Ornamentals	2.0kg	Apply as required from signs of deficiency or regularly as iron source every feeding

Bio-Chel Fe Granular, is a rootzone fertiliser and best results will be achieved by regular application. Always read the label and follow instructions when mixing Bio-Chel Fe Granular with other fertilisers and pesticides.

Bio-Chel Fe Granular is compatible with most products, however when mixing with multiple products or new products for the first time a simple jar test is recommended.

For more detailed application rates per crop, please visit engagecropsolutions.com or speak to a JF McKenna advisor. Always read the label before use.



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