Docto®Ferro 48 Applications

- Docto®Ferro 48 prevents and corrects iron deficiency for all fruit and vegetable crops in Fe poor soils.
- Application time: In arboriculture it must be applied in the beginning of the spring. In citrus fruits it must be also applied before the summer.
- In horticultural and ornamental crops, it must be applied regularly after transplanting.
- The effect begins to be detected from the first weeks of the application, obtaining a homogeneous new green color on the leaf. If necessary to be repeated after 10 days.
- Application directions: Directly in the soil dissolved in water, both in open systems: channel ploughshare, injection, blanket and spraying, and in closed systems: dripping and band.
- Don´t expose the iron solution to light (light degradation) for long time (weeks).

Fertigation: Never mix with strong acids (Chelate breakdown). Don't mix with high doses of phosphate (Fe-phosphate precipitation). Don't expose the iron solution to light.

Soil application: After soil application, Docto®Ferro 48 should be incorporated immediately into the soil (rooting zone) by mechanical means or via irrigation.

Docto®Ferro 48 Doses

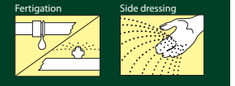
Crop	
Saplings	10 – 20 gr/tree
Fruit Trees (Young Trees start fruiting)	20 – 50 gr/tree
Fruit Trees (Normal Yield)	80 – 100 gr/tree
Fruit Trees (High Yield)	100 – 150 gr/tree
Citrus (Mature Trees)	150 – 200 gr/tree
Vineyard (vinestock)	10 – 20 gr
Ornamental Plants (rose, clove etc.)	500 gr/da
Annual/Perennial flowers, Pot plants (gerber daisy, chrysanthemum etc.)	600 gr/da
Strawberry, Raspberry	100 – 150 gr/da
Vegetables (greenhouse, field)	250 – 350 gr/da
Field Plants	250 – 350 gr/da

CAUTION

The information contained here in is to the best of Doktor Tarsa Tarım Sanayi Ticaret A.Ş. knowledge and accurate belief. Unless otherwise stated, the recommendations and results herein are based upon Doktor Tarsa Tarım Sanayi Ticaret A.Ş. experience and on the field trial results. Any recommendations are meant as a guide and must be adapted to suit local conditions. The distributor of Docto®Ferro 48 can not be kept responsible for any injury of plants due to false applications.

RELOAD EFFECT:

With the help of the Iron chelate ortho-ortho, it is assimilated by the plant and the chelate agent remains in the soil and makes the Fe available for the plant. This is designated as "iron shuttle effect" or "effect transporter" that allows the plant to absorb Fe from the soil.



- Docto®Ferro 48 can be applied witnin fertigation and as side dressing.

EDDHA chelated iron

EDDHA CHELATED IRON

DOCTO®FERRO48

FOR SOIL APPLICATION

Fe EDDHA 6%

K - Q
TSE-ISO-EN
9000

DRT
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Docto®Ferro 48

Photosynthesis is the most important energy process on earth, it converts sunlight into food. And for the plant, it is the main source of energy. The production capacity of crops depends on its efficiency. Iron is essential for the synthesis of chlorophyll, which is the green pigment responsible for photosynthesis and the green color of the leaf.

The chlorotic yellow color is the obvious expression of the iron deficiency, and it indicates that the plant's health is in danger. First, the youngest leaves develop a light green chlorosis on the tissues between the veins. The veins remain dark green. In severe cases, the chlorosis becomes yellow even white. Nearly all the iron chelates in the market are able to save chlorotic plants and to restore their health, but only one is able to assure the most favorable production capacity.

Docto®Ferro 48 to avoid iron deficiency

Typical symptoms of iron deficiency

Docto®Ferro 48

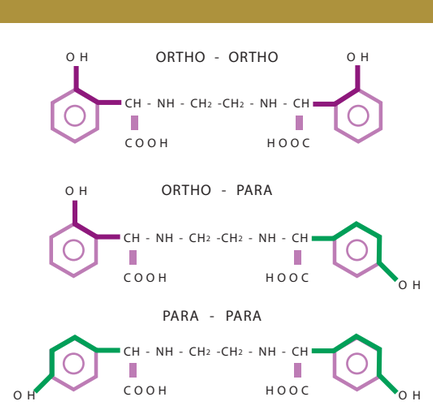
- Docto®Ferro 48 is a high quality EDDHA chelated iron (Fe). The ortho-ortho Fe concentration is 4.8% (=80%), which is 25% more efficient than normal 3,6%.
- Docto®Ferro 48 ortho-ortho is the most efficient iron chelate in the market. Other types of chelates are not efficient in high pH soils.
- The effective pH range of the product is between 4-12.
- It is effective even days after application.
- Docto®Ferro 48 is fully water soluble.

Chemical stability in relation to pH

Stability	pH					
	6	7	8	9	10	11
Fe-EDTA						
Fe-DTPA						
Fe-EDDHA						

Importance of ortho-ortho Isomer

The most efficient chelating agent in alkaline soils against Ferric chlorose is EDDHA, but only its ortho-ortho (o-EDDHA) isomer forms a stable chelate with iron and has got a fertilizing power in soils.
During the chemical synthesis of the chelating agent EDDHA, three different isomers could be formed besides other by-products. Those are ortho-ortho, ortho-para and para-para. The relative position of the hydroxyl group and the amine chain in the benzene ring defines the type of isomer. The concentration of every isomer is defining the agronomical quality of the iron chelate. The higher amount of ortho-ortho isomer, the better the quality".



Functions of Iron

- Indispensable for chlorophyll production.
- Adequate iron, in plant-available form, is essential for protein synthesis.
- One of the essential elements required for biological nitrogen fixation.
- A central component of respiratory enzyme systems.
- Increases yield.
- Increases resistance to diseases.

Conditions Causing Iron Deficiency

- High lime (Ca) level in calcareous soil.
- High HCO3 (Bicarbonate) concentration in irrigation water.
- Lack of Fe nutrition
- Cold, wet conditions limit iron uptake, particularly in the early growth stages
- Inadequate soil aeration hinders mobility.
- Excessive phosphate applications or high phosphate levels in the soil.
- High manganese reduces iron uptake (excessive copper or molybdenum can also cause iron shortages).