



Mairol – Application Guide

Dosage and Rate of Application for
Mairol.green and **Mairol.red**



Introduction 1/2



- The foliar fertilizer **Mairol** represents a quick-acting and reliable remedy even against serious deficiency symptoms. It regulates the nutritional requirements and biological functions and drastically favours harmonious development of all plants.
- Systematic and repeated application is essential in order to maintain healthy plant balance and to combat deficiencies which are likely to reoccur when foliar fertilization is discontinued. A well fed plant is the best insurance against deficiency and crop disease. Yields are increased, crop quality is improved and maturity accelerated to a remarkable extent.
- **Mairol** is a crystallized foliar fertilizer, completely and quickly soluble in water. Because of it's different chemical analysis it fills the nutrient requirements of all plants at every stage of growth. Combinations of **Mairol.green** and **Mairol.red** permit perfect adjustment of the nutrient supply in accordance with crop requirements and local conditions.



Introduction 2/2



- In view of its harmonious composition and its high nitrogen content, **Mairol.green** is primarily designed to promote healthy, vigorous plant growth at the early stage of vegetation. Between the late period of plant growth and the early stage of flower and fruit development, when the first blossom buds become visible, a combination of equal parts of **Mairol.green** and **Mairol.red** should be applied to encourage flower and fruit formation. As soon as the plants have reached a more advanced stage and commence to produce flowers and fruits, use **Mairol.red** which contains little nitrogen but much phosphoric acid and still more potash thus stimulating an early maturity and increased yields of exceptional quality and properties.
- This procedure ensures the development of strong and healthy plants during the entire period of cultivation followed by an accelerated and abundant harvest.



The Concept on 1 Page



Mairol – the complete solution for any stage of vegetation

The **Mairol** system allows you to cover any stage of vegetation with the perfect chemical composition.

Mairol.green – 14 N, 12 P, 14 K – is ideal for the early stage of vegetation and a vigorous plant growth. As the vegetation continues, **Mairol.green** can be mixed with **Mairol.red** in order to provide a flexible combination of the composition and to encourage flower and fruit formation. In the final stages and for the stimulation of early maturity and increased



Early stage

Advanced stage

yields, **Mairol.red** – 6 N, 20 P, 30 K – is applied exclusively.

Both types of **Mairol** are completely and quickly soluble in water and contain a high concentration of valuable trace elements, vitamins, growth hormones and phytohormones.



Composition 1/2



Mairol.green 14.12.14+1+TE

Complete fertilizer for agriculture and horticulture contains the following proportions of plant nutrients:

Primary macro elements:

N	14 %	3% Nitrate Nitrogen, 11% Ammonia Nitrogen
P₂O₅	12 %	Phosphoric Acid
K₂O	14 %	Potash
MgO	1 %	Magnesium oxide
SO₃	11 %	Sulphur

Micronutrients:

B	0,060% Boric Acid	pH (1:250 dilution)	5,0%
Co	0,002% Cobalt Sulphate	Content of Water-insoluble	0,1%
Cu	0,020% Copper Chelate of EDTA	H ₂ O	0,6 %
Fe	0,110% Iron Chelate of EDTA	Hg	n.n
Mn	0,090% Manganese Sulphate	As	0,5 mg/kg
Mo	0,001% Molybdenum	Cd	0,2 mg/kg
Zn	0,007% Zinc Sulphate	Pb	0,8 mg/kg
		Cr	1,6 mg/kg

Phytohormones: Aneurine, Lactoflavin, Nicotinic Acid Amid, Biotin

Free from chlorides
Soluble in water



Composition 2/2



Mairol.red 6.20.30+2+TE

Complete fertilizer for agriculture and horticulture contains the following proportions of plant nutrients:

Primary macro elements:

N	6 %	2% Nitrate Nitrogen, 4% Ammonia Nitrogen
P₂O₅	20 %	Phosphoric Acid
K₂O	30 %	Potash
MgO	2 %	Magnesium oxide
SO₃	8 %	Sulphur

Micronutrients:

B	0,060% Boric Acid
Co	0,002% Cobalt Sulphate
Cu	0,020% Copper Chelate of EDTA
Fe	0,110% Iron Chelate of EDTA
Mn	0,090% Manganese Sulphate
Mo	0,001% Molybdenum
Zn	0,007% Zinc Sulphate

pH (1:250 dilution)	4,8%
Content of Water-insoluble	0,1%
H ₂ O	0,6 %
Hg	n.n
As	0,40 mg/kg
Cd	0,21 mg/kg
Pb	0,79 mg/kg
Cr	1,74 mg/kg

Phytohormones: Aneurine, Lactoflavin, Nicotinic Acid Amid, Biotin

Free from chlorides
Soluble in water



Economy & Compatibility



- Foliar application represents a cost efficient method of fertilization. With an average rate of application of 0,3% and an average volume of 1000 litres of water per hectare, the concentration actually corresponds to only 3 kg of nutrient salt per hectare.
- As foliar fertilizers are compatible with the usual commercial pesticides and can thus be applied in combination with crop protection measures, the extra expenses are reduced to an absolute minimum and the benefit far exceeds the cost.
- Mixtures with common pesticides should be stirred well and applied right after mixing. Further information and more specific recommendations are available upon request.



Dosage & Application 1/3



- The most effective rate of application does not only depend on the nutrient requirements of each crop but also on the local climatic and soil conditions. Based on individual circumstances and practical experience, variations of the dosage may, therefore, become necessary to suit the plants best and to ensure optimum results.
- As a general rule, an average dosage of 0,3 % is recommended which corresponds to 300 g per 100 litre of water. With sensitive plants, especially with young plants, commence with 0,1 to 0,2 % (100 to 200 g per 100 litre of water) and increase to 0,3 % if circumstances permit. With less sensitive plants, such as the more robust varieties of vegetables and adult shrubs and trees, the initial dosage should be 0,3 % which may be increased to 0,5 or 0,6 % (500 to 600 g per 100 litre of water) again in conformity with local experience and prevailing conditions.



Dosage & Application 2/3



- The above dosages refer to repeated applications at intervals of 8 to 14 days by way of any suitable medium, such as watering cans, agricultural spraying machines or overhead irrigation. For daily treatments and also for application by way of atomizing and for the use in greenhouses (especially under glass) reduce the concentration to abt. 300 g per 1.000 litres of water. In all instances, treatments should take place at such times of the day when air humidity is high, preferably in the early morning.
- For liquid fertilization via the foliage, high volume applications give best results. The actual volume can range from 500 to 1.500 litres of water per hectare. When normal methods of application are used the average volume thus amounts to abt. 1.000 litres of water per hectare.



Dosage & Application 3/3



- For aerial ULV applications the volume must be reduced considerably resulting in an increased concentration of plant nutrients in the fertilizer solution. Experiments should first be made to determine the lowest possible volume which permits aerial application without clogging of the spray nozzles. As a general hint, a solution of 300 g foliar fertilizer per 100 litre of water is recommended when aerial ULV applications are to be made.
- The foliar fertilizers **Mairol.green** and **Mairol.red**, as well as any desired mixtures of the two, are likewise suitable for agriculture and horticulture and can be used with equal success on all crops. They are specially manufactured to fill the complete nutrient requirements of all highly productive plants. **Mairol.green** and **Mairol.red** are ideal for the fertilization of „cash crops“ such as vegetables and fruits where high yields of superior quality are essential.



Recommendations for Dosage & Application



Vegetables & Fruits

(general recommendation)

Unless otherwise noted 6 litres of dunging solution are applied on 1 m². The data relates to the time of main growth.

Eggplant, Pepper, Squash, Watermelon or Melon on open fields or in greenhouses:

- A. During the early stage of plant growth up to flowering: apply **Mairol.green** at a rate of 250-350 g per 100 litres of water at 10-12 days intervals.

- B. As soon as the plants have reached a more developed stage and commence to produce flowers, apply **Mairol.red** at a rate of 350-500 g per 100 litres of water at 10-15 days intervals.

- B. Discontinue application approx. 20 days before harvesting.



Recommendations for Dosage & Application



Growing of Seedlings

- Every 8 days 2 gr **Mairol.green** per 1 litre irrigation water.

Rice

- Start with **Mairol.green** at the early stage with the rate of 250 g per 100 litres and increase the dosage up to 350 g per 100 litres for plants in later stage.
- Use **Mairol.red** at a rate of 300 g per 100 litres.
- The spraying should start approx. 15-20 days after planting.
- **Mairol.green** should be used 1-2 times and **Mairol.red** 4-5 times in intervals of 10 days.

Alfalfa

- **Mairol.red** is applied to Alfalfa to increase production, and to improve quality at the rate of 3-4 kg/hectare after 10-14 days from each cutting.



Recommendations for Dosage & Application



Cereals, Maize and Barley



- Apply **Mairol.green** at the rate of 4 kg/hectare at tillering stage (i.e. after 25-30 days from planting date)
- Add three applications of **Mairol.red** at the rate of 4 kg/hectare per application according to the following schedule:
 - 1) First application: about the end of tillering stage and beginning of stem extension
 - 2) Second application: after 15 days of first application.
 - 3) Third application: after 10-15 days from the second application





Recommendations for Dosage & Application



Cucumbers

- Every 8 days 300 g **Mairol.green** per 100 litre irrigation water.
- After flower's begin to blossom, every 8 days **Mairol.green** and **Mairol.red** half-and-half, 300-500 g total per 100 litre irrigation water.

Tomatoes & Potatoes

- Every 8 days 300 g **Mairol.green** per 100 litre irrigation water
- After flower's begin to blossom, every 8 days **Mairol.green** and **Mairol.red** half-and-half, 300-500 g total per 100 litre irrigation water.
- To achieve faster ripening, depending on requirement 300-500 g **Mairol.red** per 100 litre irrigation water.

Legumes

- Every 8 days **Mairol.green** and **Mairol.red** half-and-half, 200 g total per 100 litre irrigation water.
- After blossoming every 8 days 400 g total per 100 litre irrigation water.



Recommendations for Dosage & Application



Cabbage Turnip

- Every 14 days 200-300 g **Mairol.green** per 100 litre irrigation water.

Carrots and Radishes

- 10 days starting with the accumulation, **Mairol.green** and **Mairol.red** half-and-half, 300-400 g total per 100 litre irrigation water.

Lettuce and Spinach

- Every 8 days 200 g **Mairol.green** per 100 litre irrigation water.

Cauliflower

- Every 8 days 200-300 g **Mairol.green** per 100 litre irrigation water.



Recommendations for Dossage & Application



Grapes

- Until fading of flowers apply **Mairol.green** at the rate of 250-350 g per 100 litres of water, 2-3 treatments are recommended
- Discontinue application approx. 30 days before maturity.
- For the last treatment use **Mairol.red** at the rate of 300-400 g per 100 litres of water.

Strawberries

- Every 8 days 300 g **Mairol.green** per 100 litre irrigation water.
- After blossoming every 8 days 300 g **Mairol.red** per 100 litre irrigation water.
- After harvest, 500 g **Mairol.red** per 100 litre irrigation water once.



Recommendations for Dossage & Application



Orchard

(general recommendation)

- Apply **Mairol.green** at the rate of 350-500 g per 100 litres of water up to end of budding each 10-15 days.
- When the plants have reached a more developed stage and commence to produce flowers apply **Mairol.red** at same rate at intervals of 10-15 days.



Bananas

- Apply **Mairol.green** and **Mairol.red** (depending on nutritional balance or balance of plants) at the rate of 1-2 kg per hectare every 14 days.
- Application is the best in combination with fungicidal treatments.





Recommendations for Dossage & Application



Citrus

- During the period of vegetative growth including the time of flowering, apply **Mairol.green** at the rate of 300-500 g per 100 litres of water. Commence treatments in early spring and repeat 3 or 4 times at intervals of about 20 days
- With commencing fruit formation almost until the stage of final maturity, apply **Mairol.red** at the rate of 300-500 g per 100 litres of water.



Recommendations for Dosage & Application



Ornamental Plants

- Plants and flowers with plain leaves should be treated at intervals of 8 days at the rate of 200 g per 100 litre of water either by spraying or overhead irrigation.
- Plants with a woolly kind of leaves such as begonias, gloxinias, violets, geraniums etc and green plants kept in the interior such as sansevieras, philodendron etc should rather be treated by watering the soil with a solution of 300-400 g **Mairol.green** per 100 litre of water. Repeat application at intervals of about 10 days.
- When flowering plants are concerned, commence with **Mairol.green** but replace by **Mairol.red** after the first one or two applications.



Recommendations for Dosage & Application



Flowering Plants & Cut Cultures

- During initial growth stage depending on nutritional requirements and age, every 8 days 100-300 g **Mairol.green** per 100 litre irrigation water.
- To assist the bud to blossom earlier, every 8 days **Mairol.green** and **Mairol.red** half-and-half, 300-500 g per 100 litre irrigation water.
- To enhance the flower to be ready to blossom, for the development of the blossom and shelf life, during the development of the blossom, depending on requirements 200-500 g per 100 litre irrigation water.



Recommendations for Dosage & Application



Orchids

- Use **Mairol.green** first and **Mairol.red** at a later stage at different dosages according to the size of the plants:
 - Small Plants of 3-5 cm: 250 g per 200 litres of water
 - Medium Plants of 10-15 cm: 500 g per 200 litres of water
 - Big Plants of 40 cm and higher: 1.000 g per 200 litres of water
- Application should be made preferably in the early morning. For big and medium Orchids repeat treatment once weekly, for small plants at intervals of 2-3 weeks.



Recommendations for Dosage & Application



Roses

- In irrigation (drip irrigation) a dosage of 300 g **Mairol.green** per 100 litres water during the start of vegetation is used to favour the growth of the plant (root formation).
- During the growth stage of the plant it is recommended to use a mixture of 200 g **Mairol.green** and 100 g **Mairol.red** per 100 litres water to enhance the growth of the stipe.
- Just before flower formation it is recommended to use 200 g **Mairol.red** for 100 litres water to enhance flower growth. The high content of potassium in **Mairol.red** specially favours the flower / blossom growth.
- One plant requires appx. 2 litres of water per day. The PH content of the water should be appx. 5,6 and the temperature should be on a constant level by 22°C during the day and 18°C during the night. The humidity shall be around 90% in the green house. These are observations made in green houses. For field production the techniques may differ.



Recommendations for Dosage & Application



Final Recommendation:

The foliar fertilizers **Mairol.green** and **Mairol.red** can be used for all crops, not only for those indicated before. In such cases where practical experiences and precise recommendations are not yet available, the before mentioned dosages may serve as a general indication, will permit conclusions regarding the most beneficial application.

