

# BIOSOL<sup>®</sup> MIX

## GENERAL DESCRIPTION

### MANUFACTURE:

During the manufacture of various antibiotics, enzymes, proteins, etc., the nutrient broth is extracted from the active ingredients. The broth then undergoes a second fermentation of 20 - 24 hours in which the dissolved nutrients are bound in a bacterial biomass. The biomass is then separated with decanters and bentonite is added. The mass is dried at 110 - 130( C for approximately 4 - 6 hours. It is mixed with a 50% fungal biomass (see Biosol general description. Please note that potassium magnesia is not added to Biosol Mix.), granulated and poured into 55 pound (25 kg) recyclable plastic bags.

Biosol Mix may be used in similar applications as Biosol with the exception of organic farming. Biosol Mix contains no animal by-products. Biosol Mix is sterilized and free of weed seeds.

### COMPOSITION:

96% fungal and bacterial biomass, 4% water

### NUTRIENT RATIO:

**N-P-K = 7-2-3**

#### Specifications:

Nitrogen (total).....	7%
Nitrogen (water soluble).....	0.5%
Available Phosphoric Acid (P2O5).....	2%
Soluble Potash (K2O).....	3%
pH level.....	approximately 5.4

#### Heavy Metal Contents:

Copper (Cu).....	mg/kg of DS.....	11.8
Chromium (Cr).....	mg/kg of DS.....	6
Lead (Pb).....	mg/kg of DS.....	2.25
Cadmium (Cd).....	mg/kg of DS.....	0.092
Iron (Fe).....	mg/kg of DS.....	1.865
Zinc.....	mg/kg of DS.....	65
Nickel (Ni).....	mg/kg of DS.....	5.25

**Please note:** The heavy metal contents are within the tolerance limits for animal feed.

### Properties:

Slow release of the organically bound nitrogen provides sufficient supply of this vital nutrient to plants. There is a positive effect on the formation of humus, root mass, and the living microbial biomass. This results in far lower concentrations of nitrate in ground water than mineral fertilizers. Safe to be used in grassland, wetlands and environmentally sensitive areas.

## **APPLICATIONS:**

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### **Golf Courses**

The lasting efficiency of Biosol is particularly advantageous. First year applications should always be the heaviest. Application rates after the first year may be reduced.

**Application Rates:** 2000 lbs. Per acre for fairways per year.  
1000 lbs. early spring, 1000 lbs. late fall.

Biosol Mix is also available in a Greens grade.  
Granular size approximately 3/32" - 1/16".

### **Lawns, Gardens, Flowers, Trees, etc.**

Biosol will not burn vegetation but should be watered in (if possible) for best results. Biosol was originally sold as a feed for livestock and fish; therefore it is safe to apply in areas where animals and children may play.

#### **Application Rates:**

Lawns and Playing Fields:	33 lbs. Per 1,000 sq. feet
Garden Preparation:	2 oz. Per sq. yard (1/3 cup) 1 1/3 lbs. Per 100 sq. feet (3 3/4 cups)
Potted Flowers and Compost:	1/2 oz. Per gallon (1/8 cup)
Vegetables:	1 1/2 oz. Sq. yard (3/4 cup)
Ornamental Trees, Shrubs:	6 oz. Per sq. yard (1 cup)

### **Revegetation of Disturbed Soils:**

Mining Reclamation, Road Cut Revegetation, High Altitude Revegetation

- \* Biosol Mix is used for both primary and secondary fertilization in good soils.
- \* Biosol Mix stimulates micro-organisms.
- \* It can be dry broadcasted or applied with a Hydroseeder. There is no appreciable difference in the results.
- \* Biosol Mix should always be applied topically.

Application Rates: 1000 - 1,800 lbs. Per acre.

### **Viticulture (cultivation of grapes)**

Biosol has been used all over the world for several years with superior results. During thirteen years of experiments and trials from 1988 – 2001, Biosol was proven to increase sugar yields in grapes. The average yearly sugar yield was increased by approx. 13%.

**Application rate:** 600-900 lbs. Per acre

In addition, Biosol Mix is used in Forestry and Agricultural growing.

### **Packaging:**

Unlike many natural fertilizers, Biosol is easy to transport and use. The product is packaged in sturdy plastic bags, which may be recycled (#4). Biosol is granulated and suitable for all standard application methods, including hydroseeding. Biosol will not burn seed or existing vegetation.

### **Fertilizing young plants:**

Good & Proper Farming Practices should always be followed when using Biosol. It is very important that Biosol is spread on the soil surface. If you want to plant young plants add Biosol to the soil at least two weeks before planting actually occurs. This is especially important with Tomatoes and Peppers.

### **Biosol is employed for the following properties:**

- Biosol improves plant health (chlorosis, stem disease, blossom drop).
- It increases the sugar content (sugar content expressed as degree Oechsle, Brix, or Balling)
- It promotes quality ripening of fruits and vegetables.
- Stimulates micro-organism activity in the soil.
- Biosol should always be applied topically.
- Increases crop yields.
- Enriches Soil with Quality Nutrients.

### **OUR DISTRIBUTION CENTERS:**

- ◆ California (Carson, Livermore, Oakland)
- ◆ Colorado (Denver, Edwards, Longmont)
- ◆ Idaho (Boise)
- ◆ Washington (Spokane)



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**BIOSOL MIX 7 - 2 - 3 NATURAL - ALL PURPOSE FERTILIZER** NET WEIGHT: 55 lbs

GUARANTEED ANALYSIS:	TOTAL NITROGEN (N)*	7%
	0.50% WATER SOLUBLE	
	6.50% WATER INSOLUBLE*	
	AVAILABLE PHOSPHATE (P2O5)	2%
	SOLUBLE POTASH (K2O)	3%



PLANT NUTRIENTS DERIVED FROM: FERMENTATION OF SOYBEAN MEAL, COTTONSEED MEAL, SULFATE OF POTASH MAGNESIA

\*6.5% Slowly Available Nitrogen from cottonseed and soybean meal.

STERILIZED AND FREE OF WEED SEEDS.

**PROPERTIES:** Biosol is a natural, environmentally safe fertilizer with high organic content (97% natural organic). Biosol is a long acting, slow release nitrogen fertilizer with a well-blended nutrient ratio. Biosol is dried, pelletized and bagged for convenient transportation, storage and application.

**APPLICATION RATES**

VEGETATION OR PLANT TYPE	BY WEIGHT	BY VOLUME (DRY)	LBS PER 1000 sq. ft.	WHEN TO FERTILIZE
<b>Home Use</b>				
lawns	1 Bag covers 2,000 sq. ft.		25 to 30	spring and fall
garden preparation	2 oz / square yard	1/3 cup	14 lbs	spring through fall
seeded row crops	1 1/3 cup per 100 sq. ft., e.g., per 2" inch x 50' foot furrow. Sprinkle Biosol down row; plant seeds.			
house plants - 8"-10" Pots	mix 3 oz. (1/2 cup) into top 1-2 inches and lightly cover with potting mix or top soil.			
Unfortified potting soil mixes for potted plants all sizes	4 cups per 1.5 cubic ft. Use when planting (into) a pot, do not apply topically; use for house plant repotting, window boxes, container growing, etc.			
From pony packs to B & B. Biosol is added in hole and in medium around plant. Whether flowers, vegetables, shrubs, trees.				
Pony pack to 4 inch pots	1oz Per Plant added to backfill.			spring through fall
1 to 2 gallon pots	1 lbs Per Plant added to backfill.			spring through fall
3 to 5 gallon pots	2 lbs Per Plant added to backfill.			spring through fall
B & B Root ball & Burlap.	1 cup per each foot diameter root ball. Mix in medium under and directly around the root ball.			
flower gardens (planting)	2 oz / square yard	1/3 cup	14 lbs	spring through fall
vegetable gardens (planting)	2 oz / square yard	1/3 cup	14 lbs	spring through fall
compost preparation	10-20 lbs/yd <sup>3</sup>			all the year

For Per Plant Home Use see below

Farming, Gardening & Home use Rates		Per Plant	LBS PER 1000 sq. ft.	WHEN TO FERTILIZE
vegetables (all types)	2 oz / square yard	2 tbs	14 to 20	spring through fall
corn	1,300-1,600 lbs/acre	3/4 cup	30 to 36	prior to cultivation
pulses, cereals	500-900 lbs/acre	1 tbs	12 to 21	prior to cultivation
potatoes	900-1,400 lbs/acre	1/4 cups	21 to 32	prior to cultivation
sugar beets	800-1,300 lbs/acre	2 tbs	18 to 30	prior to cultivation
strawberries, tomatoes	900-1,200 lbs/acre	2 tbs	21 to 28	late fall or spring
vineyards	600-900 lbs/acre	3/4 cup	14 to 21	Feb.-April/Oct.-Dec.
young fruit plantation	600-800 lbs/acre	1 cup	14 to 18	spring or fall
fruit plantation	500-700 lbs/acre	3/4 cup	12 to 16	spring or fall
berry shrubs	600-800 lbs/acre	1 1/2 cups	14 to 18	spring or fall
meadows, pastures	800-1,000 lbs/acre		18 to 23	spring or fall
<b>Forestry Use</b>				
young forests, plants, trees	3 oz/plant	1/2 cup	14 to 21	spring
tree nursery	1,000-1,400 lbs/acre	1/2 cup	23 to 32	before planting
ornamental trees, shrubs	6 oz/square yard	1 cup	44 lbs	spring
mature trees	1 lb per 3 feet of tree height			spring & fall
<b>Reclamation Use</b>				
reclamation (road banks, mine reclamation), hydroseeding, mulch, dry seeding	poor soils: 1,500-1,800 lbs/acre good soils: 1,000-1,300 lbs/acre		34 to 41 23 to 30	year round, except over snow
maintenance fertilization, reclamation sites	poor soils: 1,000-1,500 lbs/acre good soils: 800-1,100 lbs/acre		23 to 34 18 to 25	year round, except over snow
compost preparation	10-20 lbs/yd <sup>3</sup>			all the year
<b>Turf Grass</b>				
playing / sports fields, Parks	2000 lbs/acre		25	spring and fall

**Important Measurements**

**EQUIVALENTS: 0.5 oz = 2 tbs; 3 oz = 1/2 cup; 6 oz = 1 cup; 2 2/3 cups = 1 lb; 13 1/3 cups = 5 lbs.**

**DIRECTIONS FOR USE**

Biosol may be applied at any time, except over snow. Biosol should always be applied topically. The application rates may be adjusted to fit any special soil or nutrient requirements. Biosol will not burn vegetation when used properly. Biosol is used for primary and maintenance applications. It will stimulate the micro-organisms in the soil. Biosol can be dry broadcasted or applied with a hydroseeder.

Care should be taken when applying fertilizer, particularly when planting young green plants. For garden preparation, the fertilizer should be spread out at least two weeks before planting young plants. When fertilizing young plants, there should be a gap of 5 cm - 1-2 inches between plants and fertilizer. \* Keep dry while storing and protect against UV-radiation.

A product of Austria, manufactured by Sandoz G.m.b.H.

Manufactured for:  
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Information regarding the contents and levels of metals in this product is available on the internet at <http://www.aapfco.org/metals.html>