

Application Guidance for Pacific Gro Hydrolysate Products

Pacific Gro is an organic source of a great range of nutrients that improves soil health and builds humus. Fish oil is a preferred food source for soil microorganisms, particularly beneficial fungi. Farmers notice a proliferation of soil life and restoration of a healthy fungal-bacterial balance. It's often applied with microbial products. It's also used as a foliar with other inputs – the fish oil acts as a sticker, there's plant-available calcium and the amino acids chelate nutrients.

This is a highly bio-active product which works well in fertigation, sprayed onto the soil and as a starter or pop-up, and also by foliar spray. Stabilized with acid at pH 3.5, and double-screened at 150 mesh (100 microns). Jar test mixtures with other products – and in particular do not mix with synthetic forms of phosphorus. Rinse out tanks that had 10-34 or other high phos. products.

Produced from Ocean-caught salmon, shrimp and crab that are ground and enzymatically digested without removal of any of the natural oils or proteins. It is naturally high in fish oil. Most of the nitrogen is in amino acid form. The raw material is collected from seafood processors. The naturally occurring enzymes and vortex action in our breaking tanks digest the shells, fish bones and fish scrap into a fine colloidal suspension.

Recommended usage rates vary greatly depending on the crop, farming style and many factors:

- Soil condition: e.g. organic matter content, health of the soil food web, balance of calcium, magnesium and potassium, and other macro- and micronutrients.
- Fertility program: e.g. is 'fish' the primary source of nutrients or a supplement? Is there a foliar program?

Post-harvest application can be very effective, especially with orchard and berry crops. Feed the soil biology and help the plant take in stores for next season!

Please consult with an agronomist, crop consultant, experienced farmer or other professional for specific guidance. The best general advice we can offer is to get a good soil analysis, address issues of unbalanced nutrients, and use Pacific Gro in a program that will increase organic matter content and yield higher brix produce.

Pacific Gro Sea Phos 1.7 – 7 – 0 is a similar product that complements "Oceanic" when extra phosphorous is advised – particularly at planting of annuals (for root development) and mid-season to provide reproductive energy for flowering and fruiting. Its use would generally replace some of the Oceanic in the recommended seasonal use.

DISCLAIMER Please consult with an agronomist, crop consultant or other professional for specific guidance. Pacific Gro Oceanic Hydrolysate is an approved input for organic farming and a natural product that promotes healthy soil biology. It is intended for use in combination with other fertility inputs. There are many variables to consider in farming; the farmer or customer assumes responsibility for use of these products in his/her conditions and practices, which are not controlled by and cannot be foreseen by Creative AG Products Inc. The buyer accepts and uses these products, recognizing that Creative AG Products Inc. does not accept responsibility or any liability for the use of its products, whether or not used according to application guidance.



Seafood for the Soil™

Creative AG Products Inc.
 PO Box 3306, Bellevue, WA 98009
 Pacific Gro Plant, Raymond, WA

Application Guidance for Row Crops and Annual Crops

Mix product well before use, best done by circulation pump. Separation of oil and water does occur, but the product returns to a colloidal suspension upon mixing.

Use up all product that has been diluted. When pH exceeds 4 the biology gets active and will cause diluted product to foam and expand. Fungal mycelia may grow in diluted product.

This is a bio-active product. Flush drip lines well after use. Thoroughly clean and rinse out any tanks before filling.

Protect drip lines from clogging by jar testing mixtures with other inputs and high pH irrigation water, and use a screen downstream injection. Do not mix with synthetic forms of phosphorus.

Ground Application Sprayers To avoid screen clogging: Circulate product, dilute at least 10:1 in water, change main pump screen to 40 – 50 mesh, remove screens from valves and tips, use 15 – 20 gal/acre tips, reduce pump pressure to 40 – 50 psi.

Dilution Rates by Type of Application	Dilution (parts water per part of product)
Minimum dilution, if no plant contact (Starters, pop-up)	4:1
Soil drench, pre-planting and near established trees and shrubs	10:1
General use in season with foliar contact (1/2 cup per gal)	30:1
Drip fertigation (1/2 to 2 oz./gal)	50:1 or more dilute
Foliar spray (1/2 to 2 oz./gal)	50:1 or more dilute

Pacific Gro Oceanic Hydrolysate			
These quantities refer to the amount of product prior to dilution			
Use Pacific Gro Oceanic Hydrolysate to establish healthy soil biology and also to chelate and provide nutrients for plant uptake. Apply both to soil and to foliage with foliar nutrient applications.			
Use Pacific Gro Sea Phos 1.7 – 7 – 0 to provide phosphorous with new plantings (for root development), and at flowering to provide energy for grain set.			
Consult with a professional agronomist or consultant for specific guidance for your crop and particular conditions.			
	Professional Program		Simpler Program
Corn Total use per year: 3 – 10 gal/acre (can cut N use 20% - 40% at 8+ gal/acre)	Pre-plant Starter/Pop-up Foliar, 1 or 2 times Side dress	3 – 15 gal/acre 2 gal/acre 1 gal/acre (at V4 – V8) 2 – 10 gal/acre	3 – 5 gal/acre at planting
Soybeans Total use per year: 5 – 15 gal/acre	Pre-plant Starter/Pop-up Foliar	3 – 10 gal/acre 2 gal/acre 1 gal/acre	
Wheat, irrigated Total use per year: 15 – 25 gal/acre (can cut N use 20 - 40% at this rate)	Pre-plant Starter/Pop-up Dormancy break Stem elongation Boot stage	2 – 10 gal/acre 2 gal/acre 4 - 10 gal/acre 4 – 10 gal/acre 2 – 4 gal/acre	
Dryland Wheat, Legumes Total use per year: 3 – 5 gallons per acre	In furrow Foliar, 1 or 2 times	2 - 3 gal/acre 1 gal/acre	3 gal/acre at planting
Alfalfa Total use per year: 5 – 15 gallons per acre	At green-up After each cutting	5 gal/acre 3 – 5 gal/acre	
Cover Crops and Pasture Total use per year: 3 – 10 gallons per acre	At green-up Mid-season	5 gal/acre 3 – 5 gal/acre	

Wash off with water any contact with skin. Please refer to general guidance and disclaimer of liability on pg 1. - 2 -



Seafood for the Soil™

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Pacific Gro Plant, Raymond, WA

Application Guidance for Orchards, Berries and Vineyards

Mix product well before use, best done by circulation pump. Some settling of solids and separation of oil and water does occur. The product returns to a colloidal suspension upon mixing.

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Protect drip lines from clogging by jar testing mixtures with other inputs and high pH irrigation water, and use a screen downstream of injection. Do not mix with synthetic forms of phosphorus.

Ground Application Sprayers To avoid screen clogging: Circulate product, dilute at least 10:1 in water, change main pump screen to 40 – 50 mesh, remove screens from valves and tips, use 15 – 20 gal/acre tips, reduce pump pressure to 40 – 50 psi.

Dilution Rates by Type of Application	Dilution (parts water per part of product)
Minimum dilution, if no plant contact	4:1
Soil drench, pre-planting and near established trees and shrubs	10:1
General use in season with foliar contact (1/2 cup per gal)	30:1
Drip fertigation (1/2 to 2 oz./gal)	50:1 or more dilute
Foliar spray (1/2 to 2 oz./gal)	50:1 or more dilute

Pacific Gro Oceanic Hydrolysate

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Use Pacific Gro Oceanic Hydrolysate to establish healthy soil biology and also to chelate and provide nutrients for plant uptake. Apply both to soil and to foliage. Post-harvest use is important in perennial plantings! Use Pacific Gro Sea Phos 1.7 – 7 – 0 to provide phosphorous with new plantings (for root development), and during or after harvest to provide energy for next year’s fruit set (and avoid weak alternate years). Consult with a professional agronomist or consultant for specific guidance for your crop and particular conditions.

	Professional Program		Simpler Program
Tree Fruit and Nut Orchards Total use per year: 20 – 40 gallons per acre	Early season soil drench Weekly drip Weekly foliar Post-harvest foliar Post-harvest soil drench	5 – 10 gal/acre (2 times) 2 quarts/acre per week 2 quarts/acre per week 2 – 4 quarts/acre 5 – 10 gal/acre	5 to 10 gal/acre, 4 times per year, including once post-harvest. (1/2 – 1 cup per tree, 3 times per season)
Blueberries and cane berries Total use per year: 20 – 30 gallons per acre	Early season soil drench Weekly Drip Fruit Set Foliar Fruit fill foliar Post-harvest foliar Post-harvest soil drench	3 – 5 gal/acre 1 – 3 gal/acre per wk. 2 - 3 quarts/acre 1 quart/acre 2 qt./acre, 1 or 2 times 3 – 5 gal/acre	3 to 7 gal/acre, 5 times per year, including once post-harvest. (1 – 2.5 cups per 1000 sq. feet, 4 times per year)
Strawberries Total use per year: 20 – 30 gallons per acre	Pre-plant soil drench Drip line feeding	5 – 10 gal/acre 5 to 8 gal/acre, 3 times	Spoon feed 3 to 5 gal/acre monthly
Vineyards Total use per year: 10 – 20 gallons per acre	Mid-April soil application Early July “ Late August “ Post-Harvest “ Foliar	5 gal/acre 2 – 3 gal/acre 2 - 3 gal/acre 5 - 10 gal/acre 2 quarts/acre with all nutrient foliar	5 gal/acre 3 times, in Spring, Summer and post-harvest

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Application Guidance for Vegetable Crops

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Dilution Rates by Type of Application	Dilution (parts water per part of product)
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Soil drench, pre-planting and near established trees and shrubs	10:1
General use in season with foliar contact (1/2 cup per gal)	30:1
Drip fertigation (1/2 to 2 oz./gal)	50:1 or more dilute
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	Professional Program		Simpler Program
Potatoes Total use per year: 20 – 30 gallons per acre	In furrow Bi-weekly Foliar	5 - 10 gal/acre in furrow 2 – 5 gal/acre	10 - 20 gal/acre in furrow at planting
Onions, Carrots Total use per year: 20 – 30 gallons per acre	Pre-plant Foliar or Drip	10 - 20 gal/acre in furrow 3 – 5 gal/acre, 1 or 2 times	10 - 20 gal/acre at planting
Tomatoes 8 – 12 gallons per acre	Early season drench Bi-weekly Foliar	4 – 5 gal/acre, two times 2 qt./acre every 2 weeks	3 to 5 gal/acre, 3 times per year (1 – 2 cups per 1000 sq. feet, 3 times/year)
Various Vegetables Total use per year: 5 – 12 gallons per acre	Early season drench Transplanting Weekly drip Bi-weekly foliar	5 – 8 gal/acre 1 gal/acre 2 – 6 qt./acre per week 1 – 2 qt./acre every 2 weeks	3 to 5 gal/acre, 3 times per year (1 – 2 cups per 1000 sq. feet, 3 times/year)