

# Quantum Growth™

## Agricultural Application Rates

by  
*Applied and Experimental Microbiology™*

### WHERE TO USE WHAT Quantum Growth™ PRODUCT WHEN?

Use Quantum-1™ in sandy soils. Do not apply directly to foliage unless thoroughly diluted due to Humic component in product.

Use Quantum-VSC™ in heavy clay, organic, compacted, septic or flood damaged soil. Do not apply directly to foliage unless thoroughly diluted due to Humic component in product.

Use Quantum-Light™ in rich, well-drained, high quality soils.

When frequent applications are being used to force growth and/or recover from chemical and/or environmental stress or physical damage. Quantum-Light™ may be used every 20 minutes in Green House applications, and everyday in Farms, Nurseries and Turf.

AEM has found from our most successful clients that using 50% Quantum-VSC™ and 50% Quantum-Light™ provides the highest level of performance in most applications. The application rates presented in this document provide the most cost-effective rates that will yield significant improvement in plant performance.

**SPRAY MIXTURE pH SHOULD BE BETWEEN 6.5 AND 7.5 (OPTIMAL); WILL TOLERATE FROM 3.0 TO 9.0  
DILUTION W/ WATER PRIOR TO MIXING WITH LIQUID FERTILIZER IS PERFERRED, HOWEVER NOT REQUIRED.**

Note: If applying only once, apply at full growing season rate at initial application.

CROP	RATE PER ACRE	APPLICATION DIRECTIONS
ALFALFA	2 qts	At planting.
GRASSES GROWN FOR SEED	1 qt	After every cutting.
BEAN (SNAP) NAVY PINTO KIDNEY BLACKEYE CARROT	2 qts - In a Band  1 qt at subsequent applications.  6 qts per acre over growing season, may exceed as needed	Initial Application - Apply at planting.  Subsequent applications at 14 to 21 day intervals.
CABBAGE CAULIFLOWER CELERY BROCCOLI BRUSSEL SPROUTS	2 qts - In a Band  2 qts at subsequent applications  6 qts per acre over growing season, may exceed as needed	Initial Application - Mix in transplant water or immediately after transplanting through drip lines or as topical spray. Apply in drip irrigation water or as topical spray at 14 to 21 day spray intervals.

CROP		RATE PER ACRE	APPLICATION DIRECTIONS	
CITRUS-MATURE TREES		1 gal of Light per year 1 gal of VSC per year	Apply as a foliar spray or through ground irrigation. Apply through ground irrigation. Evenly divide yearly dose between seasonal sprays/irrigation.	
CITRUS-YOUNG TREES		8 oz	Weekly through drip irrigation.	
CITRUS-NEW PLANTINGS		2 oz per tree (6 TIMES)	Apply in conjunction with fertilizer applications.	
CORN (SWEET & FIELD) AND SEED CORN		2 qts - In a Band  1 qt at subsequent applications.  4 qts per acre over growing season, may exceed as needed	Initial Application - Apply at planting.  Subsequent applications at 14 to 21 day intervals.	
COTTON		2 qts - In a Band  1 qt at subsequent applications.  6 qts per acre over growing season, may exceed as needed	Initial application - May be applied with starter fertilizer at planting in furrow as a band. Apply at 14 to 21 day spray interval (may be applied with herbicide or top dressing).	
CUCURBITS CUCUMBER CATALOPE MUSKMELON HONEYDEW MELON WATERMELON SQUASH PUMPKIN		4 qts - In a Band  2 qts at subsequent applications  6 qts per acre over growing season, may exceed as needed	Initial Application- Apply at planting or at crop emergence.  Subsequent applications at 14 to 21 day intervals.	
FRUIT TREES		4 qts - In a Band October  2 qts at subsequent applications  8 qts per acre over growing season, may exceed as needed	Apply beneath drip-line in 30-100 gallons of solution.  Microjet drip or direct band at bud break and shuck split.	
GRAINS (Wheat, Oats, Barley, Rye)		1 gal 2 qts	Initial Application. Every 14-21 days (if possible).	
HORTICULTURE Drench Guidelines	Unit	Concentration in fl	per sq ft	Apply at seeding.  Second application should be made two weeks after initial application or at germination (whichever is later). Apply third application 14-21 days after second application.
	Type	oz/100 gal mix	mix volume	
	Plug Trays	6-12 oz to 12-24 oz	1/8-1/4 pt	
	Seed Germination less than 2" deep	2-4 oz	1/4 pt	
	Seed Germination 2"-4" depth, 3"-4" pots	3-6 oz	1/2 pt	
	Seed Germination >4" depth, 5" pots	3-6 oz	1 pt	
	6" container or greater (up to 2 gals)	6-12 oz	2 pt	
ONION LEEK		4 qts - In a Band	Initial Application- Apply at planting or at crop emergence.	
SHALLOT GARLIC		2 qts at subsequent applications	Subsequent applications at 14 day intervals.	
ONION GROWN FOR SEED		6 qts per acre over growing season, may exceed as needed		
PEANUTS		4 qts - In a Band (2 qts VSC, 2 qts Light)  1 qt VSC, 1 qt Light at subsequent applications. 4 qts VSC, 4 qts Light per acre over growing season, may exceed as needed	Initial Application- Apply at planting.  Add to irrigation water or as a topical spray every 14 to 21 days.	

CROP	RATE PER ACRE	APPLICATION DIRECTIONS
PINE SEEDLINGS	2 qts.	Initial Application- Apply at planting.
	2 qts	Subsequent applications at 14 to 21 day intervals.
	8 qts per acre over growing season, may exceed as needed	
POTATOES	2 qts - In a Band	Initial Application- Apply at planting.
	1 qt at subsequent applications.	Subsequent applications at 14 day intervals.
	6 qts per acre over growing season, may exceed as needed	
SEEDBEDS	2 qts	Initial Application- Apply at planting or at emergence.
	1 qt at subsequent applications.	Add to irrigation water or as a topical spray every 14 to 21 days.
	6 qts per acre over growing season, may exceed as needed	
STRAWBERRIES	1 pint Light in transplant water 1 pint Light per week	With every fungicide application (use fungicide at lowest rate).
SOD	1 gal	Initial Application.
	2 qts	Every 30-45 days.
SOY BEANS	2 qts (1 qt Light, 1 qt VSC)	In furrow at planting.
	8 oz	With every fungicide application (use fungicide at lowest rate).
TOMATOES PEPPERS	2 qts - In a Band	Initial Application-Mix in transplant water or immediately after transplanting through drip lines or as topical spray.
	1 qt at subsequent applications.	Apply in drip irrigations water or as topical spray at 14 to 21 day spray intervals.
	6 qts per acre over growing season, may exceed as needed	
TOBACCO	4 qts - In a Band	Initial Application-Mix in transplant water or immediately after transplanting as topical spray.
	2 qts at subsequent applications	Apply at 14 to 21 day spray intervals.
	8 qts per acre over growing season, may exceed as needed	

**Note:** Under stressed conditions, increase rate of product and/or application rate by 50%.  
Whenever possible measure improvements via soil and tissue assay and document effect.