WATERMELON

Production & Spray Guide

80TH ANNIVERSARY
SEED·CO
EST. 1940

Watermelons Production Guide

"Integrated Crop Solution"

Introduction

Watermelons are mainly grown flat outdoors. To supply an early market the use of low plastic tunnels can advance the culture by creating a suitable microclimate and raising the soil temperature.

Soil

Well-drained soils with good aeration and moisture retention are preferred. A timely addition of organic material, well decomposed, can help in obtaining the right soil structure. A slight acid to nuetral pH (6.5-7.0) in the soil, provides best growing conditions. Work the soil deeply to create optimal conditions for root development.

Fertilizers

Before planting apply approx. 50t/ha of organic material e.g. farm manure. When (according to a recent soil analysis) the soil has a good balance of available nutrients watermelons need approx:

- before planting	60 kg/ha N	130 kg/ha P_2O_5	200 kg/ha K_2O
- after planting	100 kg/ha N	0 kg/ha P_2O_5	150 kg/ha K_2O
total	160 kg/ha N	130 kg/ha P_2O_5	350 kg/ha K_2O

If, during the culture, it becomes apparent that one of the elements is deficient, apply top dressing. Also if necessary apply approx. 40 kg/ha MgO.

Sowing

Next to direct sowing, consideration should be given to the use of transplants. Sowing can be done in pressed peat blocks or in tray cells. Size of block should be 5x5 cm. Water the planting medium thoroughly and allow to drain for 4-6 hours before sowing. After sowing the optimal air temperature should be at least 25° C, although outdoors this is difficult to regulate.
Transplanting can take place 3-4 weeks late when the young plant has 3-4 true leaves. Harden-off the plants before planting. This can be done by lowering the greenhouse temperature, reducing irrigation, or moving the plants outside to increase their exposure to field conditions. When sown directly make sure that the soil temperature is at least 20°C.

Plant Spacing

Plant spacing in the field will vary depending upon location, cultural practices and production equipment used.
Rows are 2.0-2.5 m apart with 1.0-1.2 plants per running meter (5000 pl/ha), Placing windbreaks to protect the crop proves beneficial. Fruit-setting is improved by placing beehives in the field (3-4) beehives per ha).

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Irrigation

Irrigate as necessary by means of sprinkler, a drip or furrow system. After transplanting irrigate immediately to allow the young plant to develop their roots. It is advisable not to irrigate from the time of sowing or planting until the first fruit setting. This will stimulate the roots to penetrate deeply into the moisture level of the soil, irrigate well after fruit setting and during further development. Avoid irrigation immediately before harvesting, as this will affect the quality of the fruits.

Harvest

Harvest the watermelons just before they reach maturity. They will riper sufficiently during transport. To maintain a good quality watermelon, harvest early in the morning to avoid the field heat. If watermelons are stored under controlled temperature conditions do not let the temperature drop below 10OC to avoid chilling injury.

WATERMELONS SPRAY PROGRAMME

STAGE	Pre-plant	Sowing & Emergence	Seedling & Vegetative	Early flowers	Early fruits	Peak fruiting	Harvesting
DAYS AFTER SOWING	-10	0-20	20-49	42-49	49-56	56-84	75-100
PEST PROBLEMS							
Nematodes & Aphids		Solvigo					
Cutworms		Karate Zeon					
Aphids & Thrips		Solvigo/Actara	Chess/Actara				
Thrips			Actara/Karate Zeon				
Leafminer			Trigard/Dynamec				
Caterpillars			Ampligo/Karate Zeon				
Pumpkin flies				Ampligo			
Red Spider Mite				Dynamec			
DISEASE PROBLEMS							
Damping off	Apron Star	Folio Gold					
Gummy Stem Blight			Bravo/Ortiva/Amistar Top				
Downy Mildew			Revus/Folio Gold				
Powdery Mildew			Ortiva/Amistar Top				
Anthracnose			Bravo/Ortiva/Amistar Top				
Alternaria & Cercospora			Bravo/Ortiva/Amistar Top				
WEED PROBLEMS							
Before planting							
- postemergence to weeds	Touchdown						
After planting							
- postemergence to grasses				Fusilade Forte			

Product	Rate/ha	Spray Interval (days)	No. of Sprays	Days to Harvest
Actara 25 WG	200 g	14	1-3	3
Amistar Top 325 SC	500 ml	10-14	1-3	7
Ampligo 105 ZC	200-300 ml	14-21	1-3	7
Apron Star 42 WS	10 g / 4 kg seed	na	1	na
Bravo 720 SC	1,5 litres	7-10	1-3	3
Chess 50 WG	400 g	10	2	3
Dynamec 018 EC	560 ml	10	1-3	3
Folio Gold	2,5 litres	7-10	1-3	3
Fusilade Forte	1-4 litres	na	1	na
Karate Zeon 5 CS	200 ml	10	1-3	3
Ortiva 250 SC	500 ml	10-14	1-3	7
Revus 250 SC	500 ml	7-10	1-3	7
Solvigo 108 SC	3 litres	na	1	na
Trigard 75 WP	150 g	10	1-3	3
Touchdown 500 SL	0,8-4,5 litres	na	1	na

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CROP	DAYS TO MATURITY		PLANT SPACING (cm)		PLANTS/HA X1000	AVERAGE SEED PER GRAM	SEED REQUIREMENT (Kg/Ha)	COMMON PESTS	COMMON DISEASES
	WARM	COOL	IN ROW	BETWEEN					
Garden Beans	55	65	2x7*	50	285	4-5	75	Bollworm	Rust Anthracnose Halo Blight
Beetroot	80	110	10*	20	450	50-60	8	Aphids	*Ccpa* *Rzoct*
Broccoli	70	90	40	70	36	225	0.2	Diamondback Moth Aphids	Black Rot White Blister
Butternut	90	120	50	100	20	8-10	3	Fruit Fly	Gummy Stem Blight Anthracnose
Cabbage	80	110	40	50	30	300	0.2	Diamondback Moth Aphids	Black Rot Club-root *S*
Carrot	90	120	3*	15	1100	800	2	Nematodes	*ta*
Cauliflower	85	110	40	70	36	240	0.2	Diamondback Moth Aphids	Black Rot Club-root
Cucumber Field	60	85	40	150	16	40	16 000 Seeds	Red Spidermite Aphids Whitefly	*Fm* Powdery Mildew Downy Mildew
Cucumber Tunnel	65	85	45	150	16	40	3 per m²	Red Spidermite Aphids Whitefly	*Fm* Powdery Mildew Downy Mildew
Eggplant	75	90	50	75	27	220	0.15	Thrips Aphids	Powdery Mildew
Gem Squash Semi- bush	50	70	35	150	18-22	10-12	4	Pumpkin Fly	Powdery Mildew
Gem Squash Vine	55	80	50	150	14	10-12	2	Aphids	Virus Diseases
Hubbard Squash	110	130	100	150	7	6	1.5	Pumpkin Fly Aphids	Powdery Mildew
Lettuce	50	70	30	60	55	800-1000	0.05-0.07	Aphids Leafminer	Powdery Mildew Bacterial Rot
Marrows	35	55	40	150	18	8-10	2.5	Fruit Fly Whitefly	Virus Diseases Powdery Mildew
Melon	85	100	40	150	16	20	1	Fruit Fly	Anthracnose Fusarium Root Rot
Onions	170	190	8*	20	850-1000	250	3.5	Thrips	White Bulb Rot Pink Root Rot *ta*
Peppers	70	85	2x40*	150	30-35	150	0.25	Aphids Thrips	Virus Diseases Phytophthora Root Rot
Pumpkin Semi-bush	90	120	80	180	8	4	2	Pumpkin Fly Cutworm	Powdery Mildew Fruit Rots
Pumpkin Vine	120	140	100	180	5	4	1.5	Pumpkin Fly Cutworm	Powdery Mildew Fruit Rots
Sweet corn	75	100	20	90	55	8	8	Stalk Borer Bollworm	Rust NCLB
Swiss chard	60	75	20*	45	200	60	4-6	Aphids	*Ccpa*
Tomato	80	100	40	150	16	250	0.1	Bollworm Whitefly Nematodes	Blight Bacterial Wilt Viruses
Watermelon	80	90	50	180	6	20	0.3	Fruit Fly	Gummy Stem Blight Anthracnose

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