VEGETABLE PRODUCTION GUIDE FOR NAMIBIA - 2024

				Planting Materials Required Per Hectare				Plant Sp	acing (cm)	Germination		Populatio		Yield	Growth Period			Irrigation Water Requi	rement (drip irrigation i	s recommended)	Kg of Macro Elements		% Norms of Macro	Sensitive to Deficiency				
Crop		Scientific Name	Range Number of Seeds per Ka	Kg of Seed Required Per Hectare	Direct Planting (kg of Seeds Per Hectare)	Number of	Number of Tubers or Cuttings Per Hectare	Sowing Depth	Inter-rows (between)		Optimum Air Temperature (°C)	Average Days From Planting To Emergence	Optimum Growth Temperature	Plants/ha	Tons/ha	Days From Planting To Maturity	Harvest Time	Root Depth (cm)	Total Water Requirement Per Season (mm)	1st Part of Season (mm/week)	2nd Part of Season (mm/week)	per Hectare (Bas highest yields/h e.g. 40 tons/ha f beetroot)	a or	Elements on Leaf Test/ Analysis N P	of Microelements: Manganese =Mn, Molybdenum =Mo, Boron =B, Zinc=Z, Copper= Cu, Iron = Fe, Calcium = Ca, Surfur = S. Magnesium = Mg	Soil PH	Important Diseases in Namibia	Important Pests in Namibia
Beetroot		Beta vulgaris var. conditiva	50 000 - 60 000	7 - 10kg/ha	7-10kg/ha	N/A	N/A	1.5 -2.5cm	30 - 40cm	5 - 10cm	20°C	7 days	17 - 20°C	330 000 - 500 000	25 - 40	65 - 85 days	30 days	45 - 60 cm	340mm	20mm	40mm	116 20	276	4 0.35	4 Cu, Mo, Mg, B	6 to 8	Leaf Spot, Beet Curly Top,downy Mildew, Rhizomania	Nematodes, Cutworms, Caterpillars
Broccoli	A	Brassica oleracea var cymosa	220 000 - 350 000	1-1.5kg/ha	N/A	40 000 -50 000	N/A	1 - 1.5cm	45 -60cm	25 - 50cm	20°C	7 days	15 - 20°C	40 000 - 50 000	8 - 15	65 - 120 days	14 days	45 - 60 cm	440mm	30mm	38mm	128 26	138	4.8 1	4 Fe, Mo	6 to 6.8	White Rust, Powdery Mildew, Downy Mildew, Bacteria Leaf Spot, Black Rot.	Diamond Black Moth, Aphids.
abbage	e	Brassica oleracea var. capitata	280 000 - 350 000	2 - 4kg/ha	N/A	40 000	N/A	1 - 1.5cm	50cm	40 - 50cm	7 - 30°C	4 - 7 days	15 - 20°C	40 000 - 50 000	60 - 110	90 - 145 days	Once	30 - 45cm	500mm	15-30mm	25-40mm	374 66	396	3.4 0.5	4 S, Ca, Mg, B, Mo	5 to 7.5	Black Rot, Downy Mildew, Bacterial Spot, Soft Rot.	Aphids, Bagradabugs, Diamond-back Moth Larvae, African Bollworm.
Carrot	1	Daucus carota	400 000 -1 200 000	5.5kg/ha	5.5kg/ha	N/A	N/A	1 - 1.5cm	20 - 30cm	3 - 8cm	25°C	6 days	15 - 20°C	1 500 000 - 2 500 00	0 25 - 50	70 - 120 days	90 - 120 days	30 - 40cm	200mm	40mm	30mm	200 38	240	3 0.35	6 Cu, Mn, Mg, B, Ca	6 to 7	Leaf Bright, Powdery Mildew.	Aphids, Flea Beetles, Root-knot-nematodes
Cucumber thouse)	t	Cucumis sativus	35 000	3kg/ha	3kg/ha	18 600	N/A	3cm	90cm	60cm	25°C	4 days	21 - 24°C	10 000 - 13 000	30 (open field), 120 -300 (greenhouse)	60 days	21 days	N/A	420mm	25mm	35mm	183 34	207	4 0.44	3 Cu, S, Ca, Mg, S	5.5 to 6.8	Mossaic Virus, Fussarium Wilt, Powdery Mildew.	Aphids, Boll Worms, Green Stinkbugs,
Squash	-	Cucurbita pepo	8 000	1.5 - 2kg/ha	1.5 - 2kg/ha	N/A	N/A	2 -3 cm	120 - 150cm	50 - 70cm	22°C	7 days	20 - 24°C	10 000 - 17 000	20 - 25	50 days	21 days	90cm	420mm	25mm	35mm	213 13	166	3.3 0.65	3 B, Mo	5.5 to 6.8	8 Mossaic Virus, Fussarium Wilt, Powdery Mildew.	Aphids, Boll Worms, Green Stinkbugs,
ettuce	12	Lactuca sativa	88 000	2-3kg/ha	N/A	80 000	N/A	2mm (0.2cm)) 30cm	30cm	20°C	4 days	15 - 20°C	80 000	25 - 40	90 days	21 days	45 - 60cm	340mm	25mm	30mm	108 14	194	3.4 0.5	3 B, Cu, Mo	4.8 - 8	Thrips, Mildew, Anthracnose.	Cutworm, Thrips, Whitefly, Leaf Miner.
nion		Allium cepa	280 000 - 300 000	4 - 4.5kg/ha	4 - 4.5kg/ha	800 000	N/A	1 - 1.5cm	30 - 45cm	8 - 10cm	20°C	7 days	12 - 24°C	500 000 - 800 000	30 - 40	168 days	Once	45 - 60cm	600mm	25mm	35mm	114 25	155	3 0.3	4 Mg, Cur, Zn	6 to 6.8	Pink Rot, Neck Rot, Powdery Mildew,	Onion Thrips
(Sweet)		Capsicum spp	150 000 - 160 000	1kg/ha	N/A	40 000	N/A	0.6 - 1.3cm	45 - 75cm	40 - 45cm	29°C	10 days	20 - 30°C	20 000 - 55 000	20 - 40	84 - 112 days	45 days	70cm	600mm	25mm	25mm	249 22	249 3	.75 0.45	6 B, Ca	6 to 7	Bacteria Spot, Fussarium Wilt	Aphids, Thrips, American Leaf Miner.
otato potatoes)		Solanum Tuberosum	N/A	2 500 (100 x 25kgbags)	N/A	N/A	45 000	8 - 20 cm	75 - 90cm	20 - 35cm	25°C	9 to 11 days	12 - 23°C	32 000 -45 000	30 - 60	90 - 120 days	Once	60cm	400 -600mm	12-25mm	30-35mm	161 37	236 1	J/A N/A I	N/A Mg, Mo, B, Zn, Cu	5 to 6.5	Early Bright, Late Bright, Rhizictonia Rot Common Scab, Mosaic Potato Virus, Potato Leaf Roll Virus, Bacteria Wilt,	American Potato Tuber Moth, Leaf Miner, Nematodes, Tuta Absoluta.
okins		Cucurbita maxima	4 000 - 5 000	2kg/ha	2kg/ha	N/A	N/A	3 -5 cm	150 - 200cm	50 -90cm	32°C	10 days	20 - 24°C	4000 - 10 000	20 - 30	110 - 170 days	30 - 40 days	90cm	420mm	25mm	35mm	183 36	204	2.2 0.55	3 B, Mo	5.5 to 6.8	Mossaic Virus, Fussarium Wilt, Powdery Mildew, Downy Mildew.	Aphids, Boll Worms, Green Stinkbugs,
ash rnuts)	20	Cucurbita pepo (moschata)	9 000	1.5 - 2kg/ha	1.5 - 2kg/ha	N/A	N/A	2 - 3 cm	150 - 200cm	50 -70cm	22°C	7 days	20 - 24°C	10 000	30 - 50	85 - 110 days	21 days	90cm	350mm	25mm	40mm	355 22	277	3.3 0.65	3 B, Mo	5.5 to 6.8	8 Mossaic Virus, Fussarium Wilt, Powdery Mildew.	Aphids, Boll Worms, Green Stinkbugs,
tcorn	S	Zea mays var. saccharata	7 000 - 10 000	8 - 10kg/ha	8 - 10kg/ha	N/A	N/A	2 - 2.5cm	45 - 120cm	10 - 20cm	30°C	7 days	20 - 24°C	55 000 - 70 000	10 - 20	60 - 80 days	14 days	45 - 60cm	450mm	25mm	35mm	200 60	90	3.5 0.25	2 B, Zn	5.5 to 6.8	B Corn Leaf Bright, Maize Dwarf Mosaic, Common Rust.	Leaf Miner, Army Worms, Cut Worms
Melon		Cucumis melo	N/A	0.5kg/ha	1kg/ha	N/A	N/A	3 - 4 cm	50 - 75cm	100-200cm	30°C	5 days	20 - 30°C	4 000 - 6 000	30 - 40	84 - 140 days	21 days	40 - 60cm	420mm	25mm	35mm	244 45	276 1	I/A N/A I	N/A Mo, B	6 to 6.8	Mossaic Virus, Fussarium Wilt, Powdery Mildew.	Aphids, Boll Worms, Green Stinkbugs,
Potato		Ipomoea batatas	N/A	N/A	N/A	N/A	40 000	5cm	90 - 150cm	25 -30cm	26°C	N/A	16 - 29°C	40 000	20 - 40	120 - 150 days	Once	60 - 90+	450- 600mm	25mm	35mm	200 20	160	I/A N/A I	N/A B, Mn, Mo	5 to 6.5	Black Rot, Sweet Potato Virus B	Sweet Potato Weevil, Nematodes, Aphids, Leaf Miner, Caterpillars
Chard nach)		Beta vulgaris var. cicla	60 000 - 90 000	5kg/ha	5kg/ha	80000 - 100000	N/A	2 - 2.5cm	30 - 45cm	7 - 15cm	20°C	8 days	15 - 24°C	80 000 - 100 000	15 - 20	56 days on ward	4 - 5 months	45 - 60 cm	375mm	25mm	35mm	100 12	100	5 0.4	4 Mg, Cu, Mo	6 to 6.8	Downy Mildew	Nematodes, Caterpillars, Cutworms
)pen field minate)	۲. ۲. ۲. ۲. ۲. ۲. ۲. ۲. ۲. ۲. ۲. ۲. ۲. ۲. ۲	Lycopersicon esculentum	300 000 - 400 000	0.3kg/ha	N/A	17 000	N/A	0.6 - 1cm	150cm	40cm	20°C	8 to 14 days	20 - 30°C	18 000 - 22 000	80 - 150	112 - 280 days	6 months	46 - 60cm	620mm	20-30	45mm	450 53	701	5 0.6	4 Fe, B, Mo	5.5 to 6.5	5 Rust (early Bright Or Late Bright), Blossom End Rot, Fussarium Wilt, Tomato Mossaic Virus Rust.	Whiteflies, Tomato Pinworms, Red Spider Mite Aphids, African Bollworm, Green Stinkbug, Leaf Miners, Nematodes, Tuta Absoluta.
Open field ninate)		Lycopersicon esculentum	300 000 - 400 000	0.3kg/ha	N/A	21 000	N/A	0.6 - 1cm	120 - 150cm	40cm	20°C	9 to 14 days	21 - 30°C	18 000 - 22 000	50 - 100	112 - 140 days	60 - 120 days	30 - 60cm	620mm+	25mm	30-35mm	300 35	467	5 0.6	4 Fe, B, Mo	5.5 to 6.5	5 Rust (early Bright Or Late Bright), Blossom End Rot, Fussarium Wilt, Tomato Mossaic Virus Rust.	Whiteflies, Tomato Pinworms, Red Spider Mite Aphids, African Bollworm, Green Stinkbug, Leaf Miners, Nematodes, Tuta Absoluta.
nelons		Citrullus lanatus	14 000 -20 000	1 -2kg/ha	2kg/ha	N/A	N/A	2.5 -5cm	180 - 200cm	90 - 150cm	30°C	5 days	22 - 30°C	6000 +	30 - 60	80 - 90	20 - 30 days	90 - 120cm	420mm	25mm	35mm	367 67	413	3.3 0.45	5 Mo, B	6 to 6.8	Mossaic Virus, Fussarium Wilt, Powdery Mildew.	Aphids, Boll Worms, Green Stinkbugs,

BEST PLANTING AND HARVESTING DATES

Crop		Central Production Zone		Orange River Pr	oduction Zone	Karst Production Zone		Kavango Pro	duction Zone	North Central F	Production Zone	South Prod	uction Zone	Zambezi Production Zone	
		Planting	Harvesting	Planting	Harvesting	Planting	Harvesting	Planting	Harvesting	Planting	Harvesting	Planting	Harvesting	Planting	Harvesting
Beetroot		Year round	Year round	January to April	April to July	Year round	Year round	January to September	January to Nov	January to Sept	March to November	October to May	May/June	January to September	March to November
Broccoli	6	Year round	Year round	N/A	N/A	Year round	Year round	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cabbage	e	Year round	Year round	January to April	April to August	Year round	Year round	January to October	April to December	February to Oct	May to January	April to June	July to September	Year round	Year round
Carrot	1	Year round	Year round	Feb/Mar	May/June	Year round	Year round	February to July	April to September	February to July	April to September	April to June	July to September	February to September	April to November
English Cucumber (hothouse)	t	Year round	Year round	Year round	Year round	August to December	November to May	N/A	N/A	N/A	N/A	Year round	Year round	N/A	N/A
Gem Squash	*	August to January	November to May	February/ March & August/September	May/June & November/December	August to Mid Feb	November to Jun	August to February	October to May	July to April	October to July	July to March	October to May	July to April	October to Jul
Lettuce		Year round	Year round	Year round	Year round	Year round	Year round	January to May	March to July	January to May	March to July	Year round	Year round	N/A	N/A
Onion (short-day varieties)		December to March	May to August	March to April	August to October	December to March	May to August	January to April	June to September	March/April	August to December	January	Jun	January to April	June to September
Onion (intermediate day varieties)	0	April to June	September to Dec	N/A	N/A	May to June	November/December	May to July	October to December	May to July	November/December	June/July	November to Jan	May/June	October to December
Pepper (Sweet)	<u> </u>	Year round	Year round	Year round	Year round	Year round	Year round	July to March	Year round	July to March	Year round	July to March	Year round	Year round	Year round
Potato (Seed potatoes)		August to January	December to May	January	Мау	July/August & December to Mid February	April to August & November/December	July to February	October to May	July to April	December to August	January/February	May/Jul	July to April	October to August
Pumpkins		August to January	December to May	February/ March & August/September	May/June & November/December	Aug to Mid Feb	November to Jun	August to February	October to May	July to April	October to July	July to March	October to May	July to April	October to July
Squash (Butternuts)	20	August to January	November to May	February/ March & August/September	May to Aug & November/December	Aug to Mid Feb	November to Jun	August to February	October to May	July to April	October to July	July to March	October to May	July to April	October to July
Sweetcorn	4	August to February	November to May	February/ March & July/August	June/July & October/November	August to Mid February	November to May	July to February	September to April	July to April	September to June	September to February	December to May	September to March	November to May
Sweet Melon		August to January	November to May	February/ March & August/September	May/June & October/November	August to Mid February	November to Jun	August/September	October to December	June to September	September to December	July to February	July to September	July to September	September to December
Sweet Potato		August to January	January to July	August/September	January/February	August to Mid February	December to June	July to January	December to June	July to March	November to July	October to January	July to September	September to February	January to July
Swiss Chard (Spinach)		Year round	Year round	N/A	N/A	Year round	Year round	Year round	Year round	Year round	Year round	Year round	Year round	Year round	Year round
Tomato - Open field (Indeterminate)		August to January	November to May	January to March & May	May to November & February to March	July to Mid February	October to June	July to March	October to June	Year round	Year round	July to March	October to June	Year round	Year round
Tomato - Open field (Determinate)	6	Year round	Year round	November	February to March	January to June & October/ November	Year round	Year round	Year round	Year round	Year round	July to March	October to June	Year round	Year round
Water Melons		August to January	December to May	February	Мау	Aug to Mid Feb	November to June	August/September	November/December	June to September	September to December	July to February	September to May	July to September	October to December
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CONVERSIONS OF HIGH IMPORTANCE TO THE FARMER

Weight	Length	Area	Capacity
Abbreviations	Abbreviations	Abbreviations	Abbreviations
gram = g	millimetre = mm	Square $cm = cm^2$	Millilitre= ml
Kilogram = Kg	Centimetre= cm	Square m = m ²	Litre = I
Tonne = t	Metre = m	Hectare = ha	Cubic metre = m ³
Kilotons= kt	Kilometre = Km	Square Km = km²	
Conversions	Conversions	Conversions	Conversions
1000 g = 1kg	10mm = 1cm	$10\ 000\ cm^2 = 1m^2$	1000ml = 11
1000kg = 1t	100cm = 1m	10 000 m2 = 1ha	1000 l = 1m ³
1000kg = 1t	1000m = 1km	100ha = 1km2	1000m = 1km
1000t = 1Kt			1000t = 1Kt

NB: 1mm of rain equals to 1litre of water per square metre.



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SOURCES

Primary Source:

Field Survey- Consultations with Key Namibian Vegetable farmers Secondary Sources:

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