



CABBAGE

Production & Spray Guide



Cabbage Production Guide

“Integrated Crop Solution”

Site Selection

Soils can be medium to heavy with good water holding capacity. Sandy soils tend to require more frequent irrigation cycles and require higher levels of fertilization. PH levels should be between 5.5 and 6, so soil samples need to be taken prior to planting. Cabbages respond very well to compost enriched soils. Levels of 20 to 30 tons per hectare of well-prepared compost will benefit and reduce levels of fertilizer. Manure and Chicken litter can also be used but must be well broken down and composted or root burn will occur. Manure 10 to 20 tons per hectare and Chicken litter 2 to 5 tons per hectare. Ploughing should be done to a depth of 30 – 35cm making sure the old plough pan is broken up. Ripping then discing is also a way to prepare a tilth for planting. Final tilth must not be too cloddy or too fine. It is recommended that you dip you seedlings in a solution of Actara to give the plants 6 weeks protection from Aphids and Whitefly. Also apply a foliar spray of Bion to the seedlings to activate the plants own defence mechanism against bacterial and virus attack.

Spacing

Planting can be done on beds during the rainy season which helps with drainage and on the flat during the winter period. If beds are made they should be 1.5metres centre to centre. 2 rows on the top of the bed between 50 to 60cm apart and planting stations 30 to 35cm in row. Planting on the flat rows can be 50 to 60cm apart and planting stations 35 to 40cm in row. Plant populations should be between 33,000 – 40,000 depending on market requirements. Higher plant populations tend to give smaller head sizes.

Fertilizers

A balanced basal Compound type fertilizer of either “A”, “B” or “C” should be applied prior to planting. This can be done using a Vicon spreader if growing on the flat or a ridger type applicator if planted on beds. Cupping with fertilizer cups by hand into the planting hole can also be done but the fertilizer must be well mixed in the hole to prevent root burn. On soil analysis results and soil types, rates of fertilizer can be applied ranging from 600kg – 1,000kg per hectare. Cabbages will require around 400kg a hectare of AN split into 3 applications between weeks 2 and 8 after transplanting. During the rainy season if the crop is planted on lighter soils an extra top dressing might be needed after heavy leaching rains.

Seedlings

Planting with seedlings is the most practical method as seedlings which are strong and healthy at transplanting is the base for a uniform crop helping with reduced costs at harvest. Plant around 10% more plugs per hectare of your selected plant population, this should ensure good seedling selection. When using seedlings or speedlings as they are also known, at transplanting make sure good plug to soil contact is made so the root system can leave the plug and quickly enter into the fertilizer enriched soil. Plant the Speedlings as soon as possible after pulling them from the trays to avoid the tiny hair roots drying out. Plant into pre irrigated soils in which the soil has been made up to field capacity. After transplanting a light settling in irrigation is required to remove air pockets between the plug and the soil. It is recommended that you dip your seedlings in a solution of Actara to give the plants 6 weeks protection from Aphids and Whitefly. Also apply a foliar spray of Bion to the seedlings to activate the plants own defence mechanism against bacterial and virus attack.

Varieties

Selections of a variety depends on where it is to be marketed. Cabbage varieties vary in size from 2.2kg up to 7kg per head. Varieties must be selected if to be grown in Summer or Winter. Summer varieties must be “Black Rot Tolerant”; this disease comes in during hot humid weather and can decimate a crop if not resistant to “Black Rot”. Varieties need to have a waxy layer to deter “Diamond Back Moth” from damaging the crop. A good “self-wrapping” type of cabbage is necessary to retain quality and freshness. Colour of the head is important for the market and also the shape. Contact a Prime Seed Agronomist for advice of which variety to plant and at which time of the year. Also for market advice. Prime Seed has a variety of cabbage called **Escazu F1** which is resistant to **Diamond Back Moth**, as well as Black Rot. Corton F1 is an excellent Black Rot resistant for large cabbages +5kgs.

Harvesting

Cabbages are ready for harvest when the head is firm to the touch when pressed and the veins on the outside leaves just begin to crack. Ideally about 60% - 70% of the heads should be cut at first harvest, ensuring maximum yield potential. Depending on variety selection and time of year Cabbages mature from about 80 – 130 days after transplanting.

Irrigation

During the dry winter months irrigation is essential. Overhead sprinkler irrigation is the most common, followed by flood and more recently “drip” irrigation. During Summer production being able to apply irrigation during long dry spells will ensure a good even viable crop. Approximately 600mm – 750mm of irrigation should be allowed for to produce a good crop of Cabbages. So planning water usage from, dams, rivers, and boreholes can be worked out to match hectares to be planted. As the plant increases in size and leaf area, the amount of water required also increases. Irrigation should be planned on a weekly basis and the soil depletion area checked regularly to plan for the next irrigation cycle. The use of an “Evaporation Pan” should help with this. On medium to heavy clay soils irrigation should be given when approximately 25% of available water has been used.



Cabbage Spray Guide

Stage	Nursery	Transplanting & Establishment	Rapid Leaf Growth	Floret Formation	Floret/Head Expansion	Harvest
Days:	0-30	30-35	40-60	50-70	65-105	105-135
Pest Problems						
Soil Pests & Aphids		Actara Soil drench or Dip				
Cutworms		Karate Zeon / Ampligo				
Diamond Back Moth			Ampligo / Match / Karate Zeon/ Proclaim			
General Caterpillars				Ampligo / Match / Karate Zeon/ Proclaim		
Aphids		Actara Soil drench		Actara / Ampligo / Polo		
Disease Problems						
Damping off & Black Leg	Apron Star Seed Dress					
Bacterial Black Rot		Blon / Copper Oxy				
Downy Mildew		Revus / Ridomil / Follo Gold / Bravo				
Club Root		Quintozene				
Alternaria		Amistar Top/Bravo / Ortiva / Score				
Weed Problems						
Before planting - post emergence perennials	Touchdown					
Before planting - post emergence annuals	Gramoxone / Touchdown					
Pre-emergence: grasses		Dual Magnum				
Post-emergence: grasses			Fusilade Forte			
Nutgrass (Yellow)		Dual Magnum				

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	<i>Ccpa</i> <i>Rzoct</i>
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	<i>ta</i>
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	<i>Fm</i> Powdery Mildew Downy Mildew
Cucumber Tunnel	65	85	45	150	16	40	3 per m ²	Red Spidermite Aphids Whitefly	<i>Fm</i> 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 <i>ta</i>
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	<i>Ccpa</i>
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