



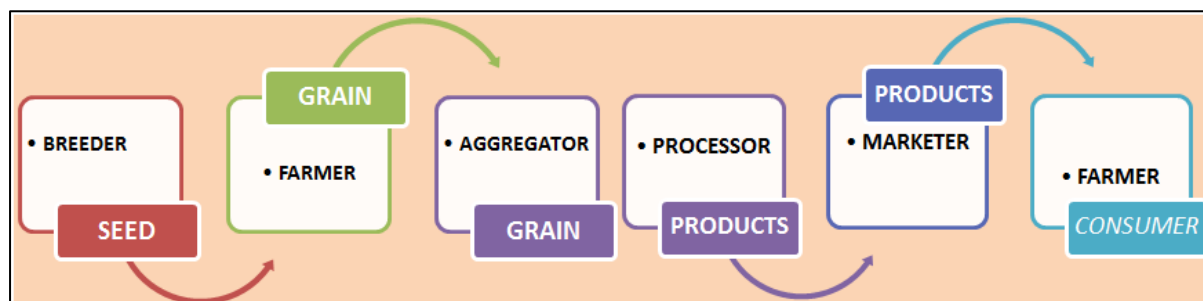
iQFarmer
Seeds for all Seasons

www.iqfarmerseeds.com

Cowpea Guide

Value Chain Map

Every **iQFarmer** knows that real wealth is unlocked by taking a value-chain approach to agriculture. We therefore encourage all farmers to study the value chain map below as they embark on this profitable venture, so as to pick their best strategy to unlock maximum short- and long-term benefit.



SOIL TYPE AND LAND PREPARATION

Cowpeas may be grown in a wide range of soils but are sensitive to acid soils. They thrive best in finely-tilled loam soils with good drainage. However other types of soils are also able to sustain it, depending on an array of management and climatic factors under the farmer's employment. Ploughing is not recommended for soils and terrains that are prone to soil erosion.

PLANTING METHOD

This depends on the type of agriculture method in use but generally, farmers may plant seed into tilled soils (conventional tillage) or directly drill into untilled land (minimum or no-till). The farmer must ensure that their planting method offers the best chance of germination to the seed by covering with just enough soil that does not cap when wetted, and pressing or just firming (but not compacting) on top of the seed bed to facilitate optimum seed/soil contact, which is ideal for germination. It is best to plant when the soil moisture and temperature will promote optimum germination and initial growth.

Planting must be done at the right time to capture the best growing conditions, as well as to minimise pests and diseases. Cowpea bean is best planted between late November to mid-December for the rainfed crop, because it does not require too much rainfall. For some areas where supplementary irrigation is available, a double or triple crop is possible.

Plant so as to avoid high temperatures during flowering, frost before maturity and moisture or rainfall at maturity.

SEED

On average, farmers plant 35-40kg of treated seed per hectare, making sure that they plant the best variety to fulfil their market, yield and local environmental requirements. Farmers must retain the tags attached to their seed packets for

traceability purposes, where in the event of failed germinations or other lack of performance which can be attributed to the seed manufacturer, it is possible to trace the seller of the seed, the processing batch number and even the farmer who was contracted by the seed company to grow that seed. Retained cowpea bean seed should not be planted for more than 3 generations, and appropriate seed treatment is an absolute necessity to control pests and fungal diseases associated with emergence. Purchase fresh seed regularly to avoid build-up of soil-borne diseases.

PRODUCTION CULTURE

Conventional or conservative (minimum or no-till). We do not recommend Zero till for our cowpea bean varieties. Cow peas may be grown on their own or intercropped with maize. They are a good candidate for crop rotation, helping in breaking pest and disease cycles.

VARIETIES

At **iQFarmer Seeds** we pride ourselves in producing quality tested seeds to ensure maximum yields and returns for our farmers.

Our current cowpea bean variety is a biofortified type (**CBC6**), whose difference will be found in the seed quality, contributing to superior emergence, growth and yield and enhanced nutrition from the grain.

Before selecting any of our crop varieties, farmers should take into account the target market, desired yield, production system and weather conditions, product requirements or end use.

This variety has been bred through biofortification to supply superior nutrition and is suitable for growing in various parts of the country.

Variety choice therefore depends on

- Potential yield and yield stability
- Stress tolerance (water, heat, cold, nutritional)
- Lodging/standability
- Intended use
- Maturity dates,
- Adaptability,
- Resistances and tolerances,
- Quality (physical and storage)
- Nutrition levels

GOOD ROTATIONS

Cereals and grasses

BAD ROTATIONS

Leaf vegetables, legumes, cucurbits, potatoes

SOIL PH

5.8-6.3

Lime should be added on the basis of soil tests to correct soils with a high pH.

DISEASES

DISEASE	REMEDY	NOTES
Bacterial blights		
Root Rot		
Anthrachnose		
Scab		
Rusts		
Cercospora leaf spot		
Cowpea yellow mosaic virus		
Cowpea mosaic virus		
Septoria leaf spot		
Cowpea aphid borne mosaic virus		

** Scout regularly and control as necessary.

PESTS

PEST	REMEDY	NOTES
Thrips		
Heliothis bollworm		
Nematodes		
Cutworm		
Aphids		
Hoppers		
Bean stem maggot		
Semi loopers		
Red spider mites		
Stinkbug		
Leaf eating caterpillars		
Crickets		
General insects		
CMR beetles		
Bruchids		
Grain borer		

** Scout regularly and control as necessary.

WEEDS

Weeds will compete with crops for water and nutrition, while harbouring pests and diseases. Keep them below the threshold levels.

Common weeds in your crop must be controlled using registered chemicals from registered and licenced suppliers. Shallow manual or mechanical weederers may also be used to support your weed control programs under the conventional farming system.

Pre-emergent and post-emergent herbicides are available from different companies and farmers must select herbicides contingent with the types of weeds they face on their farms. Apply these in line with the recommendations from your agronomist (do not mix agronomy advice from different agronomists or companies).

WEED	REMEDY	NOTES
Grasses		
Broadleaves		
Annual grasses and broadleaves		

NUTRITION

Beans need nitrogen, phosphorus and potassium plus a host of other micro nutrients.

REFER TO YOUR SOIL TESTS FOR APPLICATION RATES

Most farmers start off their cowpea bean with animal manure combined with Compound S or D (and SSP), although other variations are now available through different companies.

It is critical to link your soil tests to the available basal, while consulting your agronomist.

Provisional fertiliser application guideline:

BEANS	Compound S/D	Manure	Rhizobium	Lime
Rate (kg/ha)	250-400	1,000	0.375-0.500	1,000
Application	100%	100%	100%	100%
Interval	Planting	Planting	Planting	Land Preps.

POPULATION/HA

It is common practice to plant cowpea beans at 45cm between rows, 15cm in the row and 5cm planting depth. This gives close to 150, 000 plants per hectare.

POTENTIAL YIELD

Tonnages will range depending on cultivar, production system and water (or irrigation) and feeding regimes, although some farmers have mastered the various input combinations to now hit from 3 up to 4 tons per hectare under dryland conditions.

IRRIGATION

Depending on the prevailing weather, available equipment and water, farmers are advised to do strict scheduling to just keep their field moisture levels optimum for their crop's growth. Matching the variety to the region's weather pattern will go a long way in also managing the supplementary irrigation costs, for rainy season crops.

Periodic physical examination or the use of sensors in the field to verify the soil's moisture levels is recommended.

Irrigation can be effected using one of many methods, which include flood, drip, and sprinkler systems (conventional sprinklers, drag hose, mobile and fixed pivots). Conservation farming will also enable the reduction of water loss, further reducing irrigation costs and increasing the chances of achieving potential yields.

Cowpea beans are mostly produced under dryland (or rainfed) systems because they are drought tolerant, but in the face of climate-induced droughts, supplementary irrigation may become a necessity during the now common mid-season dry spells experienced in many parts of the country.

TEMPERATURE

21 to 35°C

Our varieties are bred for heat stress tolerance, a prime requirement for climate smart farming.

DAYS TO HARVEST

85-90 days, depending on the available heat units and management regimes in use. Our **iQFarmer** varieties have been bred to deliver highly competitive yields under stressful climatic conditions, within the shortest possible times.

HARVESTING AND HANDLING

All the processes from planting right up to the delivery of finished product are prepared for when the entire enterprise plan is drafted.

iQFarmers plan for their harvest and post-harvest activities right from the beginning and then implement them in good time. Equipment preparation and calibration are done well before harvesting, as well as the preparation of drying equipment, procurement of packaging or bagging equipment and materials, as well as handling and transport arrangements.

Cowpea bean for grain is harvested when the leaves and pods have dried and turned yellow-brown, and the grain inside the pods looks similar to the seed that was planted.

- Harvest the dry and semi-dry pods by hand.
- Dry the pods or plants in the sun on a clean surface for one or two days before threshing, while avoiding the mixing of grain and soil particles
- Complete the grain drying in the sun on a clean surface-tested by cracking of grain if by biting it. If it bends or sticks to your teeth, further drying is needed.

GRADING AND STORAGE

Clean the grain by winnowing to remove dust, chaff or other foreign inclusions, with final grading being done by removing shrivelled, diseased, broken grains and grains of other varieties.

Treat with grain protectant (based on future uses) and store in hermetic bags or metal silos.

COWPEA BEAN USES

- Grain for cash
- Home consumption
- Pre-cooked and packed

CONSERVATIVE FARMING PRACTICES

Cowpea bean can be produced under various forms of conservation farming and farmers are encouraged to evaluate the short and long term options and benefits, including conventional tillage, direct drilling, mulching (stover and polymer), strip tillage, ridge planting, zone tillage, crop rotation, and intercropping.

CLIMATE SMART AGRICULTURE

Our varieties are adapted to different climates and matching variety or cultivar to climate is the first step towards building resilience, through which production, profitability and sustainability are possible in the face of climate change challenges.

Select the cultivar that best matches your regional climate/s, markets, resources, and projected weather changes over the growing period.

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Special Note

All technical advice given herein is strictly a guideline to get the farmer started. It should be noted that specific grower recommendations should be obtained from your local agronomist, whose recommendations will be based on the prevailing local conditions.

Add your notes here:

