

COMMERCIAL CROP PRODUCTION GUIDE SERIES

Growing Cowpea in Nigeria



United States Agency for
International Development
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Information and Communication Support
for Agricultural Growth in Nigeria
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Growing Cowpea in Nigeria

Choice of land

Cowpea requires a good, well-drained soil. In the forest zone, cowpea may not be grown as the first crop on lands that have been in fallow for more than 10 years. Cowpea should be rotated with other crops, e.g., maize, after one or two successive croppings.

Land preparation

- (i) Site must be stumped, plowed, and harrowed into a clean seed bed. In sole cropping, it is not necessary to make ridges or heaps, but in mixed cropping, cowpea may be planted on ridges or heaps. Contour bunds are advised on sloping sites to check erosion.
- (ii) If the land had been previously cropped, these land preparation requirements may not be necessary. 'minimum tillage'® practice can be adopted.

When minimum tillage is practiced, spray Paraquat (Gramoxone™) at 240 ml–320 ml/20 liters of water (3–4 liters/ha), depending on weed situation, to clear the vegetation. When there are stubborn weeds e.g. *Imperata cylindrica* (speargrass) and sedges, use Glyphosate (Round-up) at 5–6 litres/ha. If Round-up is used, the farmer is advised to wait for about 3 weeks before planting cowpea.



Recommended varieties

- (i) Ife Brown (IRAWO), brown seeded, (75 days maturity).
- (ii) Ife Bimpe, Brown seeded, (85 days maturity).
- (iii) IT 84E–124, Brown seeded, (60 days maturity).
- (iv) K-28, Brown seeded, (about 75 days maturity).
- (v) IT 84E–2246-4, Brown seeded.

Certified seeds are available from state Ministries of Agriculture and Natural Resources, the National Seed Service, and registered private seed companies.

There are some dual-purpose (grain and fodder) varieties for dry Savanna areas.

Time of planting

SAVANNA ZONE

For medium/late maturing varieties (70–86 days), plant from late July to mid-August. For early maturing varieties (55–69 days), commencing planting from mid-August to the end of August.

FOREST ZONE

For medium/late maturing varieties, planting should commence from mid-August to early September, depending on the onset of late season rains.

Seed rate and plant population

SEED RATE

Approximately 25–30 kg/ha (good and viable seeds).

SPACING

20 x 75 cm for erect varieties and 50 x 75 cm for spread types. 2 seeds/hole, 4–5cm deep.

Fertilization

SAVANNA ZONE

Use 50–100 kg/ha (1–2 bags) of single superphosphate depending on the level of P-deficiency or 100 kg/ha (2 bags) of NPK 15:15:15.

FOREST ZONE

Use 50 kg/ha (1 bag) of single superphosphate on land under continuous cropping. Broadcast the fertilizer and harrow it before planting.



Alternatively, apply 150kg/ha of NPK 15:15:15 in the same way.

Weed control

HAND WEEDING

Give minimum of 2 hoe-weedings the first 3 weeks after planting and the second 4–5 weeks after planting. and leaving them in the field to dry.

CHEMICAL CONTROL

CLEAN SEED BED: Use Galaxet™ 200–250 ml/20L of water as pre-emergence herbicide not later than the second day after planting. Pendimethalin (Stomp) at the rate of 200–250 ml/20L of water can be used to control corn grass (*Rottboellia cochinchinensis*).

For maximum activity of the herbicide, the farmer must make sure that there is enough moisture in the soil before application.

MINIMUM TILLAGE: Where minimum tillage is adopted, use Paraquat (Gramozone™) at 200 ml/20L of water to eliminate emerging weeds.

Diseases and pest control

BROWN BLOTCH

Use Benlate at the rate of 15g/10L of water; 2–3 applications are required, beginning from flowering. For good control of insect pests as well as brown



blotch disease, a mixture of Benlate® and the appropriate insecticide will produce a satisfactory result.

Farmers can use high volume, ultra-low-volume or electrodyne formulations and their respective sprayers.

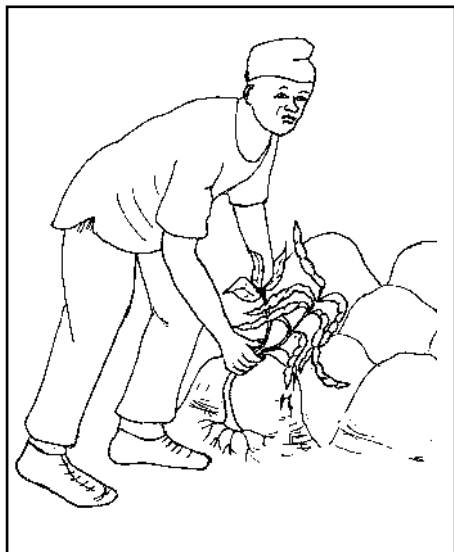
NEMATODES

Cowpea should follow early season cereals such as maize or rice on the same land. If possible, do not grow more than two successive crops of cowpea on the same land. Also do not grow cowpea after other crops susceptible in root-knot nematodes, such as tomatoes, kenaf, and leaf-vegetables.

INSECTS

Flower thrips, pod borers and pod sucking bugs: To obtain good yields, flower thrips and pod borers must be controlled with any of the broad spectrum insecticides.

- Karate™ EC 80 ml/20 L of water (1 L/ha), Sherpa plus™ 80 ml/20 L of water or Cymbush super™ ED at 1.0 litre/ha. or Karate™ super Ed at 1.0 L/ha. Spraying must begin from 5 weeks after planting or at flower initiation at 7–10 days intervals with a maximum of 3 or 4 sprayings. However, aphid infestation occurs much earlier than 5WAP, Pirimor™ should be sprayed at 2 gm/20 L of water for aphid control or 40 ml/20L of water of Karate™ to control foliage beetles or aphids.



RODENTS

Damage from rats can be minimized by keeping the plot and boundaries weed-free. In addition, traps may be used, if need be.

Harvesting

Prompt and early harvesting is advised. Harvest when pods are dry. Dry pods should not be left long in the field to minimize cowpea weevil infestation and to avoid bird attack and shattering.

If labor is expensive or not available, harvesting can be done by cutting all the plants at the base

Afterwards, they are beaten manually or mechanically threshed and winnowed.

Expected yield

700–1000 kg/ha are expected on a well-managed field and under good rainfall distribution.

Storage

- (i) Dry the seeds properly to 10–12% moisture content (a properly dried seed makes a cracking sound when crushed with the teeth).
- (ii) Prior to storage, fumigate with Gas-toxin™ in airtight containers or bags.
- (iii) While in storage in airtight containers such as drums, tins, or clay pots, double or triple polyethylene bags, periodical checking of seeds is necessary. Fumigate with Phostoxin™ at the rate of 1 tablet/100 kg. This will protect the seeds from bruchid damage during storage. Do not keep fumigated cowpea seeds in the sleeping room or close to living quarters. Fumigated seeds should be exposed to open air for 2–3 days before processing for consumption.



About ICS-Nigeria

Information and Communication Support for Agricultural Growth in Nigeria (ICS-Nigeria) is a project which aims to increase the quantity and quality of information available for increased agricultural production, processing, and marketing and also strengthen the capacity of farmer assistance organizations to package and disseminate information and agricultural technologies to farmers for the alleviation of rural poverty.

In recent past, investment in the support services to Nigerian agriculture has been neglected with the result that this sector has not realized its full potential to contribute to the prosperity and economic development of the country. Meanwhile, increasing population pressure and the accompanying need to intensify agricultural production is leading to erosion of the natural resource base on which agriculture depends.

The sustainability of production is threatened by a vicious cycle of declining soil fertility and increasing problems of pests, diseases, and weeds. Moreover, the lack of knowledge on how to add value through proper storage, processing, and marketing impedes agricultural growth.

Promising technologies exist to address these problems, but their adoption is constrained by a lack of information packaged in appropriate formats, and poor communication channels for this information, between farmers and the research, extension, and education organizations that are supposed to address these issues.

ICS-Nigeria aims to assist in meeting these challenges by developing appropriate-format materials for disseminating information and agricultural technologies to target user groups, while increasing capacity of farmer assistance organizations to produce information materials. At the same time, communication channels will be reinforced so that information flow is enhanced.

Agricultural technologies have been selected on the basis that they will lead to agricultural commercialization thereby enhancing rapid income generation for farmers and private sector practitioners. The project is taking advantage of existing agricultural development programs in Nigeria, national research institutes, and international research institutes in and out of Nigeria to identify these technologies. The project is also taking advantage of existing successful partnerships arising from recent and ongoing programs to enhance information flow.

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