The Groundnut Industry: Past, Present and Future

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Outline of presentation

• Uses of groundnut
• Production trends
• Groundnut trade
• Milestones
• Challenges
• Prospects
Origin and distribution

• South American Origin: Bolivia and Argentina (Eastern foothills of the Andes)
• Portuguese and Spanish: Introduced the crop to Europe
• Portuguese: Introduced it to Africa from Brazil (16th Century); Also India
• Now in all tropical & subtropical countries and warm temperate zones of the world
Types of cultivated groundnut

Two main types (based on branching pattern)

i) Virginia type (subspecies *hypogaea*)

- Long maturity period (120-150 days)
- Alternate branching of vegetative and reproductive structures on lateral branches
- Erect/indeterminate growth habit; profuse branching
- Seed dormancy: common
- Pods: two seeds (typically)
Types of cultivated groundnut (Cont’d)

ii) Spanish-Valencia type (subspecies *fastigiata*)

- Short maturity period (90-120 days)
- Sequential branching of vegetative and reproductive structures
- Scanty branching
- Erect growth habit
- Two seeds (Spanish) & 3-5 seeds (Valencia) per pod
- Generally no seed dormancy
Uses of groundnut

Primary uses

i) Food:

- Kernels roasted; boiled; raw
- Kernels >butter; soup; stews etc
- Young leaves: vegetable in soup
- Local foods: Lakoa; kulikuli; weanymix; kose etc.

ii) Oil: Export /domestic consumption (good for cooking)
Uses (Cont’d)

Secondary uses

• Vines: Fodder for livestock

• Cake: Preparation of livestock feed; fertilizer

• Oil: Soap; face cream; body cream; and hair cream; polish; paints; lubricant; pharmaceuticals; margarine etc.

• Shell: Livestock feed; soil amendment; chip boards; charcoal, briquette etc.
Groundnut production by region (2013)
Area of groundnut harvested by region (2013)
Groundnut yield by region (2013)
Groundnut production by top five world producers
Groundnut yields by top five world producers

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Groundnut production by some W/A countries
Groundnut yields by some W/A countries

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Groundnut production by top 10 W/A countries (2013)
Groundnut yield by top 10 W/A countries (2013)
Groundnut area harvested by top 10 W/A countries (2013)
Groundnut trade

Forms of groundnut traded

i) Nuts: (China, Vietnam, India, USA)

ii) Groundnut cake: (India, Sudan, Senegal, Argentina)

iii) Groundnut oil: (Sudan, Senegal)
Major importing countries

The EU Countries
Japan
Canada
Shelled groundnut and groundnut oil exports by region (2012)
Export value of shelled groundnut and groundnut oil by region (2012)
Trends in shelled groundnut exports by top W/Africa producers
Trends in export value of shelled groundnut for top W/Africa producers
Groundnut cake export by region (2012)
Groundnut cake export by top WA states (2012)
Some historical milestones

i) 16th Century: Introduction of groundnut to Africa

ii) 1834: Export of groundnut from Gambia to Britain

iii) 1835: Export of groundnut from the Gambia to America

iv) 1840: Export from Cape Verde to France
Milestones (Cont’d)

v) 1890: Use of groundnut oil to power a diesel engine (Rudolf Diesel; in Paris)

vi) 1894: Discovery and patenting of peanut butter (John Harvey Kellog; in the USA)

vii) 1961-1963: Discovery of aflatoxins; First report in Ghana (1964)

Milestones (Cont’d)

ix) Establishment of ICRISAT: 1972 (To lead international research on some semi arid crops including groundnut)

x) Biocontrol of aflatoxins in the US: 1990s
   AflaGuard; USDA-ARS; registered by EPA as a biopesticide in 2004 for groundnut and marketed by Syngenta Crop Protection

   Aflasafe; registered in 2014; marketed by IITA
xii) Formation and inauguration of PACA

by the AU Commission: 2012 (Partnership for Aflatoxin Control for Africa; Coordinates aflatoxin management in Africa)

Developed ECOACAP (Aflatoxin Control Action Plan for ECOWAS states)
Challenges to the industry

i) Seed
   • Non-availability (of certified seeds)
   • High cost of seeds (when available)
   • Poor quality (Non-certified, farmer saved seeds; reduced viability, poor establishment)

   • Inefficient supply system (Delays in supply, delays in planting etc.)
   • Inferior cultivars (Susceptible to pest/diseases; low yields)
Challenges (Cont’d)

ii) Poor soils

• Over cropped soils: Low in N,P,K, Ca and P
• Low soil OM
• Low water holding capacity
• Unfavourable pH levels
Challenges (Cont’d)

iii) **Poor agronomic practices**

   Little or no fertilizer application

iv) **Harsh Climatic environments**

   • Unreliable rainfall patterns: Drought; erratic; poorly distributed
   • Low rainfall amounts
   • Soil moisture stress
   • High temperatures

   Artificial irrigation – Not practised
Challenges (Cont’d)

v) Non mechanized and rain fed farming system

Essential tools
- Planters
- Strippers
- Shellers
- Dryers
Challenges (Cont’d)

vi) Pests and diseases
Brown leaf spot/early leafspot
(*Cercospora arachidicola* Hori)
Black leaf spot/late leaf spot
(*Phaeoisariopsis personata von Arx*)
Challenges (Cont’d): Pests and diseases

Stem rot (*Sclerotium rolfsii* Sacc.)

Collar rot (*Aspergillus niger* van. Thieghem)
Challenges (Cont’d): Pests and diseases

**Rust** (*Puccinia arachidis* Speg.)

**Rosette** (Virus)
Challenges (Cont’d): Pests and diseases

**Termites** (*Microtermes* / *Odontotermes* spp.)

White grub (*Schyzoncha* spp.)
Challenges (Cont’d): Pests and diseases

Groundnut beetle (*Caryedon serratus*)

Flour beetle (*Tribolium castaneum*)
Challenges (Cont’d)

vii) Poor post harvest handling

- Poor drying
- Poor storage
- Poor transportation
Holding of dehusked maize in a dark, poorly ventilated room
Harvested maize exposed to the weather in the field
Unshelled groundnut pods stored under insanitary condition
Dehusked maize heaped on the bare ground
Bagged maize by the roadside in rainy weather
Challenges (Cont’d)

viii) Aflatoxin contamination

Ghana is to face a ban from exporting commodities like groundnuts, peanut butter and cereals products to the European markets if it is unable to reduce the level of aflatoxin contamination in such commodities’
Challenges (Cont’d)

ix) **Policy direction**

No clear cut policy direction for groundnut production and marketing (guaranteed prices, access to inputs, no credit facilities, unorganized markets etc.)
Future prospects

Anticipation of increase in output in West Africa

Reasons

i) Stimulatory effects of some ECOWAS arrangements ETLS; ECOWAS-EU EPA; CET

ii) Increased awareness of the issue of aflatoxins in the sub-region

iii) High demand for good quality oil (High oleic/linoleic acid; nutritious; good for cardiovascular function)
Future prospects (Cont’d)

What we need to do

• Manage the aflatoxin menace (For increased exports, consumption and industry use)

• Improve the seed supply system (Train farmers on proper ways of saving seeds)

• Use higher-yielding, disease resistant seeds (To increase production)
Prospects (Cont’d)

• De-emphasize manual farming operations
• Popularize the benefits of eating groundnut (To create demand)
Thank You
Merci beaucoup
Gracias