CIRAD’s Roadmap for Cotton Research:
Initiatives and Projects

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CIRAD - the French agricultural research and international cooperation organization working for the sustainable development of tropical and Mediterranean regions

- Working in collaboration with a wide range of partners in these countries
- Working on 15 tropical value chains

CIRAD – Cotton Research

- Genetics and breeding
- Entomology/Crop protection
- Agronomy/modelling
- Fiber technology

- Tropical livestock systems <> cotton cropping regions
- S&E sciences <> innovations for the transformation of agriculture and food systems in cotton cropping regions
CIRAD - the French agricultural research and international cooperation organization working for the sustainable development of tropical and Mediterranean regions

<table>
<thead>
<tr>
<th>Year</th>
<th>Event Description</th>
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<tr>
<td>1946</td>
<td>Creation of IRCT (French Cotton and Exotic Textiles Research Institute)</td>
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<td>1946-1960</td>
<td>French cotton research takes off - Research transforming cotton growing and contributing to rural development in the French colonies</td>
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<td>1960-1970</td>
<td>Expansion - IRCT asserts its scientific vocation and expands its activities</td>
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<td>1970</td>
<td>Creation of GERDAT – Grouping of 9 tropical agricultural research institutes</td>
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<td>1984</td>
<td>GERDAT becomes CIRAD - Public Industrial and Commercial Establishment</td>
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<td>1992</td>
<td>Creation of the CIRAD Annual Crops Department and the &quot; Smallholder Cotton Growing &quot; program (CIRAD’S Cotton Program)</td>
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<td>2006</td>
<td>New organization of CIRAD into Research Units</td>
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<td>2023</td>
<td>10-year Roadmap for Cotton Research at CIRAD (2023-2033)</td>
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CIRAD’s Roadmap for Cotton Research:

- Assessment of the state of play of CIRAD’s cotton activities over the last 5 years (2017-2022):
  - Human resources
  - Publications
  - Partnerships
  - Projects/Funding
  - SWOT Analysis

- Define CIRAD’s cotton research strategy for the next 10 years (2023-2033)
  - Identify present and future challenges facing the cotton commodity chain
  - Pinpoint ambitions to frame CIRAD’s research activities
CIRAD’s 4 Ambitions for Cotton Research

1 - Cropping
Adapt cropping practices to climate change and reduce their environmental impact

Diagnostic
Agro-ecology
Varieties
Innovations

2 - Profitability
Make African cotton more profitable and competitive

Plant breeding
Quality
Identity
Mechanization

3 - Actors
Implement concerted approaches and build capacity among players in African cotton chains

Mutualization
Training
Participation
Prospective

4 - Territories
Position African cotton chains better on a territory scale

Interactions
Research-action
Evaluation
Knowledges
CIRAD’s Cotton Projects – Training and Capacity Building

PReFoSyC – « Professionalization and Reinforcement of Training at the Faculty of Agronomy of the University of Parakou for Sustainable Cotton-based Production Systems »

- Partners: ISTOM (France), Université de Parakou (Benin), IRC (Benin), CIRAD – 2 recherche units (France)
- Country of implementation: Benin
- Duration: 4 years: 09/2023 – 08/2027
- Funding: Agence Française de Développement (AFD) – Agence Nationale de la Recherche (ANR)
CIRAD’s Cotton Projects – Training and Capacity Building

PReFoSyC – « Professionalization and Reinforcement of Training at the Faculty of Agronomy of the University of Parakou for Sustainable Cotton-based Production Systems »

- Creation of 2 MSc programs at FA-UP, including 2-way exchanges between UP and ISTOM:
  - Plant engineering and integrated plant improvement in cotton-based cropping systems
  - Sustainable management of cotton-based cropping systems

- 6 PhDs

- Continuing professional education: Technical, Professionalization (organizations, associations…), Entrepreneurship
CIRAD’s Cotton Projects – Agroforestry and Adaptation to Climate Change

INNOVACC – «Innovation for Adaptation to Climate Change - Improving the climate resilience of populations in the North and Far North of Cameroon»

- Partners: CIRAD – 4 research units (France), World Agroforestry – ICRAF (Cameroon), IRAD (Cameroon), SODECOTON (Cameroon), FONDEM (France)
- Country of implementation: Cameroon
- Duration: 4 years: 04/2022 – 03/2026
- Funding: EU - DESIRA
CIRAD’s Cotton Projects – Agroforestry and Adaptation to Climate Change

INNOVACC – «Innovation for Adaptation to Climate Change - Improving the climate resilience of populations in the North and Far North of Cameroon»

- Sustainable increase in agropastoral productivity and rural household incomes
- Development of sustainable renewable energy services based on local resources
- Improved institutional framework and local governance for CC and support mechanisms
- Supporting youth in the creation of green jobs
CIRAD’s Cotton Projects – Agroecological Transition

TAZCO 2 – «Agroecological Transition in the Cotton Zones of Benin - Phase 2»

- Partners: CIRAD – 3 research units (France), AIC (Benin), IRC (Benin), ATDA (Benin)
- Country of implementation: Benin
- Duration: 4+ years: 04/2020 – 12/2024
- Funding: Agence Française de Développement (AFD)
CIRAD’s Cotton Projects – Agroecological Transition

TAZCO 2 – «Agroecological Transition in the Cotton Zones of Benin - Phase 2»

- Ensure large-scale adoption of proven agroecological techniques at plot- and farm-level by farmers in cotton-growing areas
- Promote the adoption of collective biomass management mechanisms by village land users (in agriculture and animal husbandry) and of collective agroecological techniques at territory level
- Improve existing agroecological technical reference systems, identify new ones and expand the range of equipment adapted to AET for women and men
- Promote women’s economic empowerment through the development of income-generating activities linked to AET
CIRAD’s Cotton Projects – Innovations for Resilience to Climate Change

AIRCoA – «Adapting Innovations for Resilience to Climate Change for Smallholder Cotton Farmers in Africa»

- Partners: CIRAD – 2 research units (France), ICAC (USA), IRAD (Cameroon), SODECOTON (Cameroon), CNRA (Côte d’Ivoire), ESA INP-HB (Côte d’Ivoire), Olam (Côte d’Ivoire), Ivoire Coton (Côte d’Ivoire)
- Countries of implementation: Cameroon and Côte d’Ivoire
- Duration: 3.5 years: 10/2022 – 04/2026
- Funding: GIZ – BMZ
CIRAD’s Cotton Projects – Innovations for Resilience to Climate Change

AIRCoA – «Adapting Innovations for Resilience to Climate Change for Smallholder Cotton Farmers in Africa»

- Validate, adapt and diffuse sustainable innovations in Africa for climate resilience in rainfed smallholder farm
  - Climate-resilient non-GM varieties adapted to innovative cropping systems of high-density planting
  - Rapid rejuvenation of soil health through carbon sequestration as biochar from farm residue bio-waste
  - Zein nanoparticle encapsulated botanical biopesticides for biodiversity conservation & sustainable pest management

- Develop entrepreneurship and small-scale businesses for women-self-help groups and youth through skill-development and commercialization of eco-friendly innovations for climate resilience
Climate Resilience of Smallholder Cotton Farmers

Fund for the Promotion of Innovation in Agriculture and Food (i4Ag)

**Duration:** 43 months, 10/2022 – 04/2026

**Implementation:** Cameroon, Côte d'Ivoire

**Value Chain:** Cotton

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**Goal**
Validation, adaptation and dissemination of sustainable innovations to improve climate resilience of smallholder cotton farmers.

**Target Group**
Extension worker, lead farmers, women and youth

**Targeted impacts**
- 48,000 smallholders (15% women) trained in applying innovations to strengthen climate resilience in cotton farming
- 40% increase in yields for 4,800 smallholder farmers
- 50 young entrepreneurs (30% women) generated additional income
- 15% increase in soil organic carbon content

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**Country**
- Cameroon
- Côte d'Ivoire
- France
- Germany
- USA

**Partner**
- IRAD, SODECOTON
- CNRA, SECO, Ivoire Coton, ESA INP-HB
- CIRAD
- GIZ Côte D'Ivoire: GIC in Côte d'Ivoire
- GIZ Cameroon: GV AgriChains, ABC-PADER; ProFE
- ICAC

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* This refers to the headquarter of the partner organisation.
CIRAD’s Cotton Projects

- In line with the Roadmap for Cotton Research
- A large array of partners – partners are central to CIRAD
- A large number of disciplines for which CIRAD has expertise + expertise from our partners
- All aimed at contributing to the development of sustainable cotton growing