

Training Courses
2008 / 2009

1. Cotton Classification, Ginning and Fiber Testing.

• Lectures:

- Structure of cotton fiber.
- Physical and Mechanical properties of cotton fiber.
- Factors affecting cotton fiber properties (environmental – physiological – genetic – micro-organisms).
- Egyptian cotton classing system.
- The relation between manual classing and instrumental testing results.
- Upland cotton classing system.
- Cotton Contamination (causes – types – damage – how to obtain cotton free of contamination).
- Types of gin-stands, roller gin-stand adjustments and factors affecting the quality of ginned cotton.
- Types of cotton cleaners and factors affecting the quality of cotton.
- The effect of moisture on cotton fiber properties in all its handling stages.
- Cotton fibers and yarn characteristics.
- The advantages of Egyptian cotton, its spinnability and convenience to modern spinning systems.
- Biotechnology cottons (B.t. Cottons).

• Practical & Field Training:

- Classing Room: Training on cotton classing.
- Fiber & Spinning Testing Labs: Training on fiber properties testing methods.
- Moisture Testing Labs; Training on standard cotton moisture percent measuring methods.
- Ginning Mills: Recognizing all cotton handling stages in ginning mills.
- Mena El-Bassal Cotton Exchange: Recognizing moisture and arbitration sampling methods, the role of sworn experts and preparing cotton standard grade boxes.
- Pressing Mills: Stages of cotton baling.
- Spinning Mills: Recognizing all cotton spinning stages.
- Cotton Research Station at Sakha (Kafer El-Sheikh Governorate)

Duration: Two Weeks
Course Beginning is determined by the coordination with ICTC.

2.Spinning and Fiber Testing.

- **Lectures:**

- Development and Structure of cotton fiber.
- Factors affecting cotton fiber properties.
(genetic, environmental, physiological, micro-organisms, agricultural practices).
- Physical and Mechanical fiber properties.
- Conventional & Modern instruments used in testing technological cotton fiber properties.
- Causes of variation in Fiber Testings.
- Egyptian cotton classing system, identifying variety and grade.
- The relation between classer's grade and instrumental testing results.
- Moisture determination, its testing methods and effect on the fiber properties.
- Contamination in cotton (causes – types – damage – how to obtain cotton free of contamination).
- Nep formation and its effect on the end product.
- The relation between cotton fiber properties and yarn quality.
- Quality control in different spinning stages.
- Different Spinning Systems.
- Recent trends in preparing cotton blends in spinning mills.
- Adding value to Raw Cotton and its effect on the economy.
- Testing textile properties in standard atmosphere.

- **Practical & Field Training:**

- Classing Room: Training on cotton classing.
- Fiber & Spinning Testing Labs: Training on fiber properties testing methods.
- The equipments and their calibration & maintenance.
- Moisture Testing Labs: Training on standard cotton moisture percent measuring methods.
- Ginning Mills: Recognizing all cotton handling stages in ginning mills.
- Pressing Mills: Stages of cotton baling.
- Spinning Mills: Recognizing all cotton spinning stages.
- Textile consolidation Fund.

Duration: Four Weeks
Course Beginning is determined by the coordination with ICTC.

3. Beginner Classers Training Course.

- **Lectures:**

- The origin of cotton, breeding methods for developing & improving varieties
- The origin of cultivated varieties, its properties, and maintaining of variety's purity.
- Cotton production and consumption in Egypt and world wide .
- Structure of cotton fiber .
- Physical and Mechanical Cotton Fiber Properties (length, fineness, maturity, strength, elongation..... etc.).
- Egyptian cotton classing system.
- Upland cotton classing system.
- The relation between classer's grade and instrumental testing results.
- Preparing cotton for ginning, types of gin-stand.
- Seed cotton and lint cotton conveying systems and its effect on cotton quality.
- Roller gin-stand, its adjustment and effect on productivity and cotton quality.
- Types of cotton cleaners and factors affecting the quality of cotton.
- Egyptian Cotton spinability and its conveniency to modern spinning systems.
- Egyptian Cotton trading & marketing system.
- Contamination in cotton (causes, types, damage, how to obtain cotton free of contamination)
- Honeydew and its effect on cotton properties and ginning operations.
- Nep formation and its effect on the end product.
- Moisture determination, its testing methods and effect on the fiber properties.
- Biotechnology cottons (B.T.Cottons).

- **Practical & Field Training:**

- Classing Room: Training on cotton classing.
- Fiber & Spinning Testing Labs: Training on physical and mechanical testing methods.
- Moisture Testing Labs: Training on testing cotton moisture regain and cotton moisture content.
- Ginning Mills: Recognizing all cotton handling stages in the ginning mills.
- Mena El-Bassal Cotton Exchange: Recognizing moisture and arbitration sampling methods, the role of sworn experts and preparing cotton standard boxes.
- Pressing Mills: Stages of cotton baling.
- Spinning Mills: Recognizing all cotton spinning stages.
- Textile consolidation Fund.
- Cotton Research Institute.
- Cotton Research station at Sakha.

Duration:

Course Beginning is determined by the coordination with ICTC.

4. ELS Cotton Classification.

A- Lectures and Practical training on:

- World cotton groups.
- Development of cotton fiber and its structure.
 - Physical properties of cotton fiber (Length – Fineness – Maturity)
 - Mechanical properties of cotton fiber (Strength – Elongation – Elasticity)
- Egyptian cotton classification system.
- Determination of staple length by hand pulling method.
- Egyptian cotton varieties.
- Seed cotton levels classification.
- Lint Cotton grade evaluation.
- Neps: (Nep formation , Relationship between nep formation & grade , factors of nep formation , Classification of neps , Defects caused by neps, Level of nep count in cotton & silver, Role of carding machine in nep removal, Measuring nep count at the card web, Control of neps for high quality yarns).
- Introduction to ginning.
- Different ginning stands types & its adaptability to different cotton varieties.
- Factors affecting ginning quality.
- Ginning out turn.
- Stages of handling cotton- preparing for export.
- Cotton cleaners & its effect on cotton fiber quality.
- Contamination in cotton, its types, methods of determination and its effect on cotton fiber.
- The effect of moisture on cotton fiber properties, storage, ginning and pressing operation.
- Methods of moisture determination.
- Cotton spinning processes related to fiber properties.

B- Field Training:

- Cotton research Institute, Agriculture Research Center at Giza .
 - Cotton production
 - Cotton breeding & Genetics.
 - Roller gin stands & its adjustments.
 - Lecture on different gin stands types.
- Cotton Research Station at Sids (Bani Swaef Governorate)
 - Rotary Knife gin stand and its effect on fiber quality .
- Cotton Research Station at Sakha (Kafr El-Sheikh Governorate)
 - Varieties maintaining program.
 - Cotton seed acid delinting station
- Lecture on Egyptian cotton marketing system.
- Modern moisture labs. at Smouha.
- The commercial fiber testing labs.
- Cotton exchange and arbitration at Mena El-Bassal.
- Preparing standard grade boxes.
- Textile Consolidation Fund.
- Seed cotton rings.
- Ginning mill.
- Spinning & weaving mill.

Duration: Four Weeks
Course Beginning is determined by the coordination with ICTC.

5. The Technical & Commercial Procedures for cotton marketing.

• Lectures:

- The economic importance of cotton in Egypt and the world.
- Classification and evaluation of the commercial varieties.
- Cotton ginning and evaluating performance level in ginning mills.
- The technical basis for drawing samples and its economic importance.
- The technological importance of the physical and mechanical cotton fiber properties.
- The effect of moisture on cotton fiber properties through its handling stages.
- Ginning outturn & factors affecting it.
- The supervision & mix preventing law.
- The technical basis of cotton pricing in different marketing stages.
- Categories of cotton insurance in marketing stage.
- Buying, selling cotton & different financing methods.
- Ways of preparing cotton for export.
- Laws of cotton trading liberalization & its procedures.
- Systems of Egyptian cotton trading & marketing in the international market.
- Dealing with exporting cotton and its relating documents.
- Importing foreign cottons & its economics impacts.

• Practical & Field Training:

- Classing Room: Training on classing commercial varieties (by variety- by grade).
- Fiber & spinning testing labs.: Training on physical and mechanical testing methods using conventional and H.V.I instruments.
- Moisture testing labs.: Training on standard cotton moisture percent measuring methods using the most modern moisture testing instruments.
- Ginning mills: Recognizing all cotton handling stages in ginning mills.
- Mena El-Bassal Exchange: Recognizing moisture and arbitration sampling.
- The role of sworn experts and preparing standard grade boxes.
- Pressing mills: stages of cotton baling for export.

Duration: Two Weeks
Course Beginning is determined by the coordination with ICTC.

6. American upland cotton classification

- **Lectures and Practical training on:**

- The importance of American Upland cotton's economy and its effect on the international cotton training.
- Cultivation and harvesting of Upland Cotton in U.S.A, Upland cotton ginning and sampling methods.
- American Upland cotton classification system.
- American Upland cotton grades and its color groups.
- The universal American Upland cotton standards and its descriptive grades.
- Special condition cotton classification – common errors in cotton classification.
- The green – card and its items.
- The pulling types of American Upland cotton and its practical uses.

Duration: Two Weeks
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