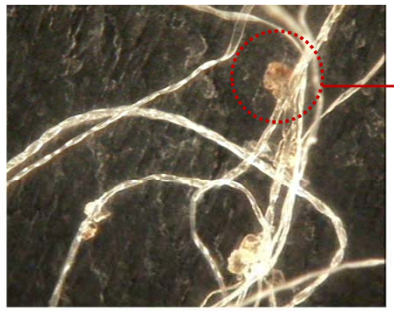
Introduction

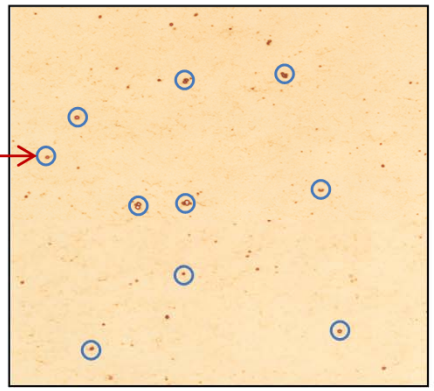
ISO 12027:2012 Textiles—Cotton-fibre Stickiness — Detection of sugar by color reaction

- New ISO standard **visualizes the honeydew droplets in cotton** and evaluates the degree of honeydew contamination.
- Honeydew droplets that may occur in a specific cotton web with its fixed surface area and mass are transferred to color reaction paper by applying pressure.
- The transferred honeydew is developed on the color reaction paper by using forced convection oven at 120℃ for 5min.
  → According to HPLC results of color reaction points, **trehalulose and melezitose could be detected.**
- The field test on this new test method was done and the results showed very good relationship with actual stickiness behavior

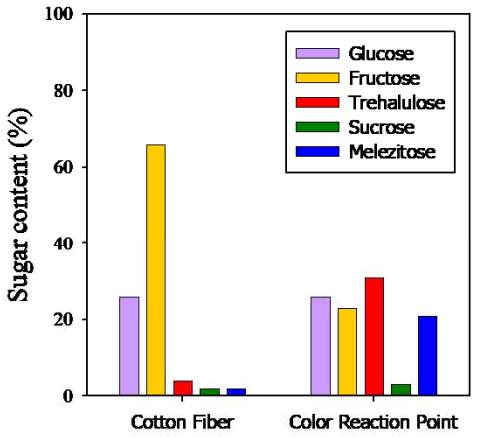
Sticky cotton



Honeydew droplets



Color reaction paper



HPLC results of color spots

Test procedure

STEP 1

Preparation

- Preparation of sample web
  - A web (10× 10cm) is prepared after impurities are removed by using the instruments such as MDTA 3.
- Preparation of color reaction paper
  - By wetting paper having a certain degree of pore size with a solution for color reaction

STEP 2

Color reaction

(1) contacting sample web with color reaction paper

(2) Development of color reaction paper

- Transfer of honeydew from sample web to color reaction paper by contacting together
  - Pressing condition
    - ➢ *weight : 4 kg / (10 × 10 cm), time : 1 min*
- Development of color (by using instrument such as forced convection oven)
  - Development condition of color reaction paper
    - ➢ *120 ℃× 5 min*

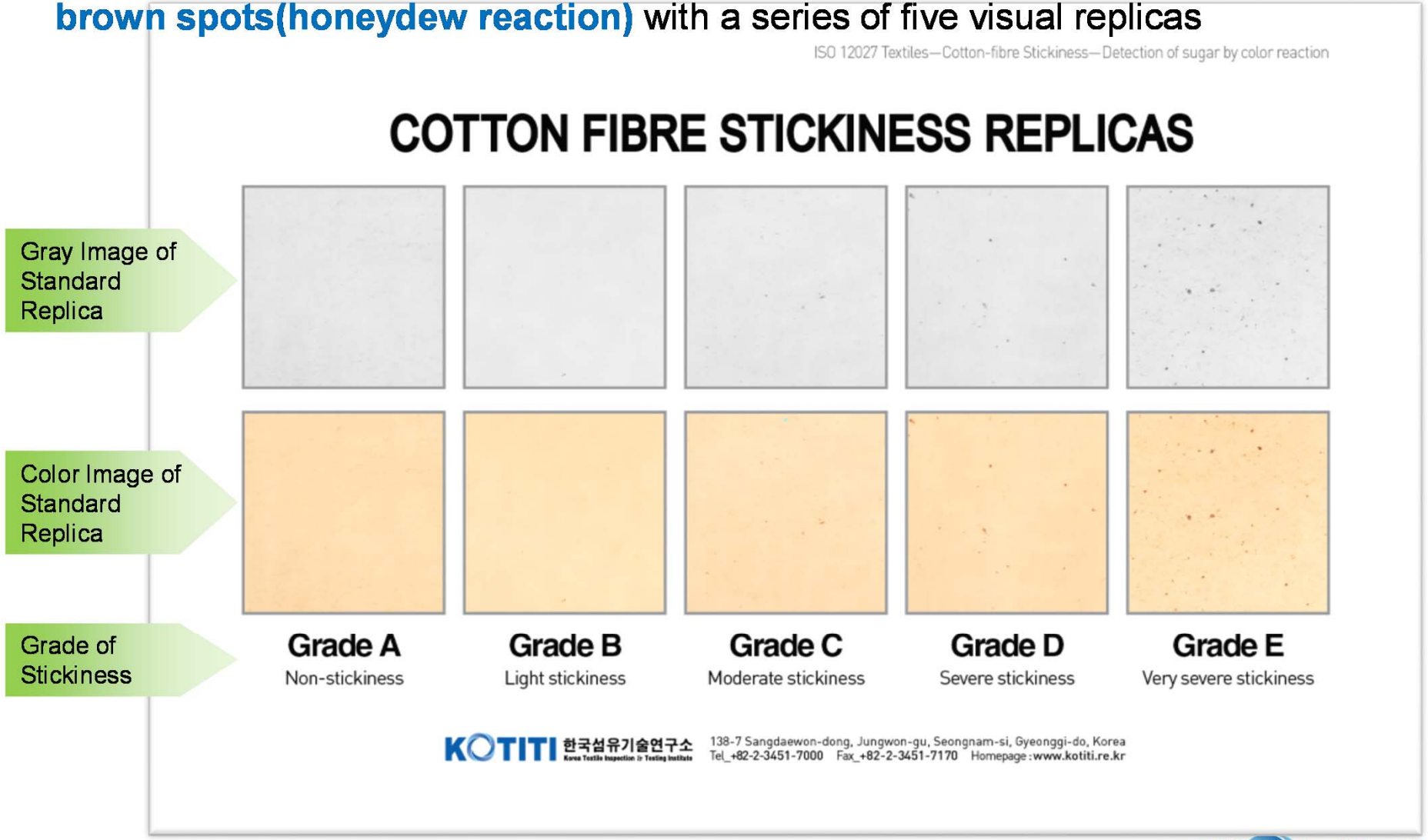
STEP 3

Grading of cotton stickiness

- Grading by comparing with standard replicas under visual evaluation
- Grading by image analysis program

Visual assessment using cotton fibre stickiness replicas

- Stickiness grade is evaluated by comparing the appearance of **the developed brown spots(honeydew reaction)** with a series of five visual replicas



Announcements

Manufacture of SCT and of H2SD by

Prodev System
Zac de la Louvade
221 rue des Aramons
34130 Mauguio
France
Email: contact@prodev-system.fr
Tel: +33 (0)4 67 12 12 42
Fax: +33 (0)4 34 43 72 00

Announcements

Cirad

- Produces a small quantity of reference materials for calibrating SCT and H2SD
- Can check SCT instruments using a 30 years old ‘standard’ routine

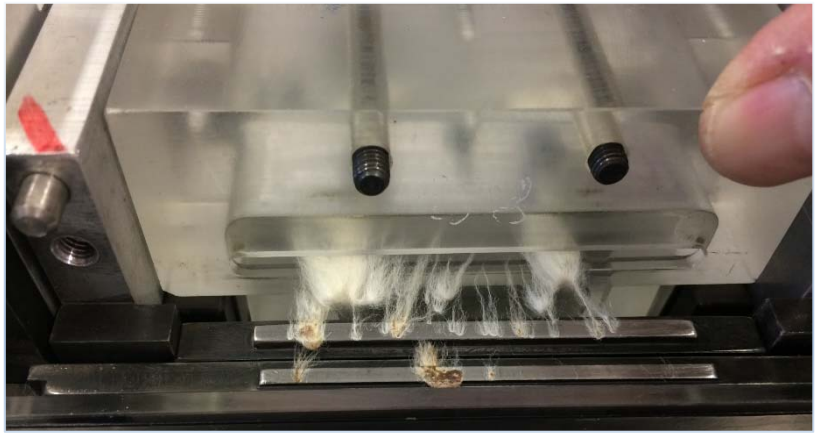
Email: serge.lassus@cirad.fr
technologie.coton@cirad.fr
coton@cirad.fr

cirad

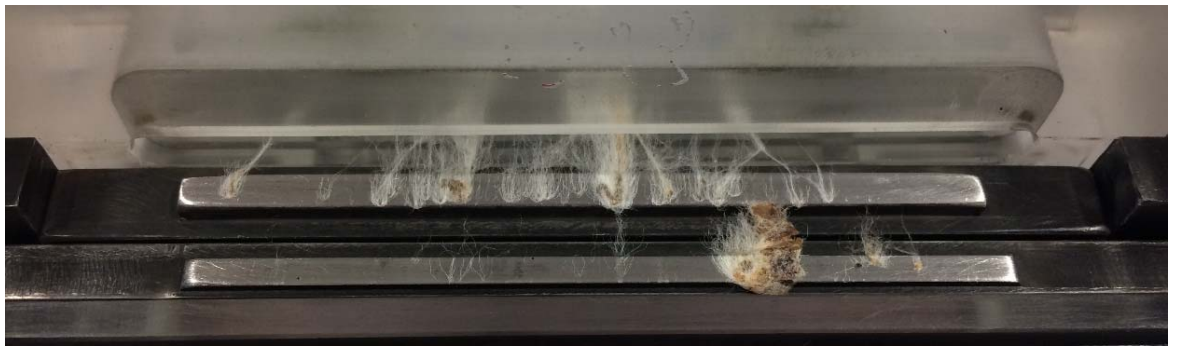
And… what is the surprise?

Stickiness…*
Also look into your instrument!

After 1 800 combs
(300 samples * 6 meas.)



After 1 620 combs
(270 samples * 6 meas.)



Photos Ocana and Gourlot

*: Experimentation results with intentional use of sticky to very sticky cottons

Stickiness…*
Also look into your instrument!

Cleaning at the beginning

After 480 combs

After 960 combs

After 1440 combs

Photos Ocana and Gourlot

*: Experimentation results with intentional use of sticky to very sticky cottons