One ingredient that offers a unique combination of performance and environmental compatibility is Plantasil Micro (Di-caprylyl Ether (and) Decyl Glucoside (and) Glyceryl Oleate). It is a transparent microemulsion to boost the conditioning performance of shampoos and is made entirely from natural, renewable sources. Being approved by Ecocert, BDIH, NaTrue and NPA, it is a natural alternative to existing silicone-based conditioning agents. This synergistic surfactant-oil system provides conditioning equal or superior to that of certain silicones. It is easier to formulate than pure silicones, and when combined with cationic polymers it improves the conditioning performance of shampoos. This microemulsion enables high amounts of oil to be incorporated into formulations without affecting their transparency.

**Conditioning performance and anti-breakage effects**

Another ingredient to formulate high-performance silicone-free shampoos is Lamesoft Care (PEG-4 Distearyl Ether (and) Sodium Laureth Sulfate (and) Distearyl Ether (and) Dicaprylyl Ether). This micronised wax dispersion can be combined with cationic polymers to create power conditioning shampoos. These formulations significantly improve the combability of wet hair and achieve a reduction in hair breakage comparable to that of leading global shampoo benchmarks. Physical measurements on treated hair strands have demonstrated that a shampoo containing only three percent of this ether-based dispersion delivers the same protection against hair breakage as the leading benchmark silicone-based shampoos used in combination with their conditioner. Performance tests also show that shampoo formulations containing this dispersion improve hair shine (Fig. 1).

**An effective substitute for cyclic silicones**

An emollient that also helps manufacturers to serve the eco-ethic trend is Cetiol C5 (Coco-Caprylate). This is a readily biodegradable ingredient based on 100 percent renewable feedstock and which conforms to the requirements of various eco-labels, including COSMOS, BDIH, Ecocert, NaTrue and NPA. Due to its high spreadability (1,300 mm2/10 minutes) and its pleasant skin feel, it can be used to achieve a sensorial profile similar to that of silicones. In performance tests a hair conditioner formulation with coco-caprylate has shown very good care and conditioning effects. The dry hair attributes especially have confirmed the light care benefits of this emollient.

**Micro-protein for strong hair**

A high-performance ingredient to protect, repair and restructure the hair is Gluadin WLM Benz, a specific hydrol-
KRÜSS Expansion for customer services

With the new Customer Support Lab KRÜSS has again extended the range of customer services at our Hamburg headquarters. In future training courses, seminars and instrument demonstrations for customers and other interested persons will be held in the lavishly appointed laboratories and conference rooms.

Dr. Tobias Winkler, manager of the new customer service centre, and his team are already using the Customer Support Lab (CSL) for instrument training courses for customers and authorized dealers and for feasibility studies in the framework of sales advisory services. In future, seminars on the subjects of contact angles, tensiometry and foam analysis as well as software training courses will be held in the laboratory and neighbouring conference room.

The lavishly appointed laboratory, with direct access to all measuring methods included in the KRÜSS range, with state-of-the-art hardware and software, offers particular advantages. It makes it easier to provide the link between theory and practice in seminars and training courses and offers sales advisors the possibility of reacting to the customers’ ideas in a very flexible manner.

A further focal point in the use of the laboratory will be in carrying out practical tests on new KRÜSS products. New products will only be brought onto the market when they have proven themselves after routine use by product specialists.

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ysed wheat protein. This vegetable-based microprotein has a very low molecular weight, which ensures deep penetration into the hair fibre – as can be demonstrated with confocal laser scanning fluorescence microscopy. With this technique the fluorescence intensity of the whole hair fibre is scanned layer by layer. This allows a 3-D image to be created, showing the distribution of the protein, and thus the depth to which this microprotein penetrates into the hair fibre. In addition, it creates a protective shield around the cuticle, making hair perceptibly smoother, and contributing to a more pleasant care experience (see Fig 2).

Vibrant colours for natural hair styles
As an alternative to harsh permanent hair colouring systems, semi-permanent hair colours are gaining more importance. The Vibracolor range of semi-permanent hair dyes includes yellow, orange and red for highly brilliant colouring results. They provide radiant shades of blond or bleached hair as well as distinctive tints of dark hair, from brown to chestnut. This range is compatible with oxidative hair colourations and has excellent stability as well as high solubility.

Luviquat Supreme is a styling polymer that acts as a volume booster for thin and fine hair. Thanks to its cationic charge it also offers conditioning properties, perceived as improved wet combability. Combinations of this styling polymer with Panthenol enable the development of highly flexible polymer films with a tremendous resistance to breaking. Regardless of weather conditions, this system guarantees a natural flexible hold.

INGREDIENTS | FOCUS: HAIR CARE

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Figure 2: Example of FITC labelled protein penetration on the control – Caucasian hair

A and D: Without treatment
B and E: Hair treated with FITC labelled protein at 0.1% for 30 minutes
C and F: Hair treated with FITC labelled protein at 0.1% for 24 hours.
Ingredients
Responding to global hair care trends with the right ingredients

Germany
Personal care and household products enjoy a slight increase in 2011

Marketing
Seeking a totally natural anti-ageing active ingredient

Packaging
What’s new in the field of trial packs?

VIP of the Month
Dr. Matthias Hauser of Johnson & Johnson presents the findings of studies to compare plant and mineral oils