



Linings...

the inside story

Comfort Study developed by
The Sensory Analysis Center,
Kansas State University



GAMA brings you scientific evidence that cellulose acetate linings are more comfortable than polyester linings.

What do linings add to the garment?

- **Help them breathe**
- **Keep their shape**
- **Make them feel better when you slip them on**
- **Help them move with you**
- **Protect outer shell fabric**
- **Prevent see-through**
- **Keep you more comfortable**



In this presentation GAMA will update you on the results of tests comparing cellulose acetate and polyester in garment linings

Why Cellulose Acetate linings?

Cellulose Acetate is a silk-like material, breathable and is a widely used fibre for top quality lining fabrics.

In recent years some garments have also been lined with polyester fibers... but does it perform like acetate?

Maybe polyester “looks” similar to acetate... but does it “feel” the same?



The tests conducted in Kansas

The tests were conducted at the **SENSORY ANALYSIS CENTER, KANSAS STATE UNIVERSITY, United States** by a team of highly qualified experts.



Previous research initiatives

The Kansas State linings study by Dr. Elizabeth McCullough complements an earlier study done by the University of Maryland in 1988 by Dr. Norman Hollies

Jackets tested in the University of Maryland 1988 test clearly showed a dominance of acetate's comfort over polyester's.



How the study was conducted

The Kansas State University study tested the perceived comfort of lined jackets, using both lab instruments and people, in carefully controlled experiments.

The linings were tested in identical blazer jackets



Lining Fabrics Tested

Fiber Content	Fabric Name and Structure	Yarn Denier Per Filament	Fabric Weight (oz./yd.) (g/m)
100% acetate	(twill weave)	W: 150/40 F : 150/40	3.35 113.6
100% acetate	(twill weave) lightweight	W: 115/50 F : 150/60	2.99 101.5
100% polyester	(twill weave)	W: 70/34 F : 100/30	2.36 79.9
100% acetate	taffeta (rib weave)	W: 150/40 F : 150/40	2.53
100% polyester	taffeta (rib weave)	W: 50/24 F : 75/36	1.48 50.3



Testing Procedure

Participants monitored in environmentally controlled chambers with varied humidity and temperature levels



Comfort Evaluation

Each participant was asked to rate from 1-5 how they felt after being in a chamber wearing the jacket.

Descriptors:

- sticky
- non-absorbent
- clammy
- damp
- clingy
- thermal sensation



Some Key Results...

1. Acetate linings were perceived to be significantly more comfortable than polyester linings.
2. Specifically, the subjects felt less sticky, clammy, and damp when wearing acetate linings.
3. Acetate linings were perceived to transfer moisture much better than polyester



Some Key Results...

4. Even though the acetate linings fabrics were heavier in construction, they were perceived as “lighter” than the lighter-weight polyester linings.



Some food for thought... What do linings add to garments?

- Help them breathe
- Keep their shape
- Make them feel better when you slip them on
- Help them move with you
- Protect outer shell fabric
- Prevent see-through
- Keep you more comfortable



Why testing acetate?

Acetate, because it is silk-like and breathable, is the most widely used fiber for linings fabrics.

In recent years, some garments have also been lined using polyester fabrics... at the expense of the customers' comfort.



And why polyester?

Do polyester linings really perform the same as acetate linings? Maybe the polyesters look similar, but... do they feel better on you?



Comfort Perception Data

This study was focused on describing comfort perception testing on acetate versus polyester lining fabrics.

Below are some of the facts registered by the experiment.

Appreciate the difference between acetate and polyester...



The key findings of the Comfort Study



Testing Data and Methods

The Kansas State University study tested the perceived comfort of lined jackets, using both lab instruments and people, in carefully controlled experiments.

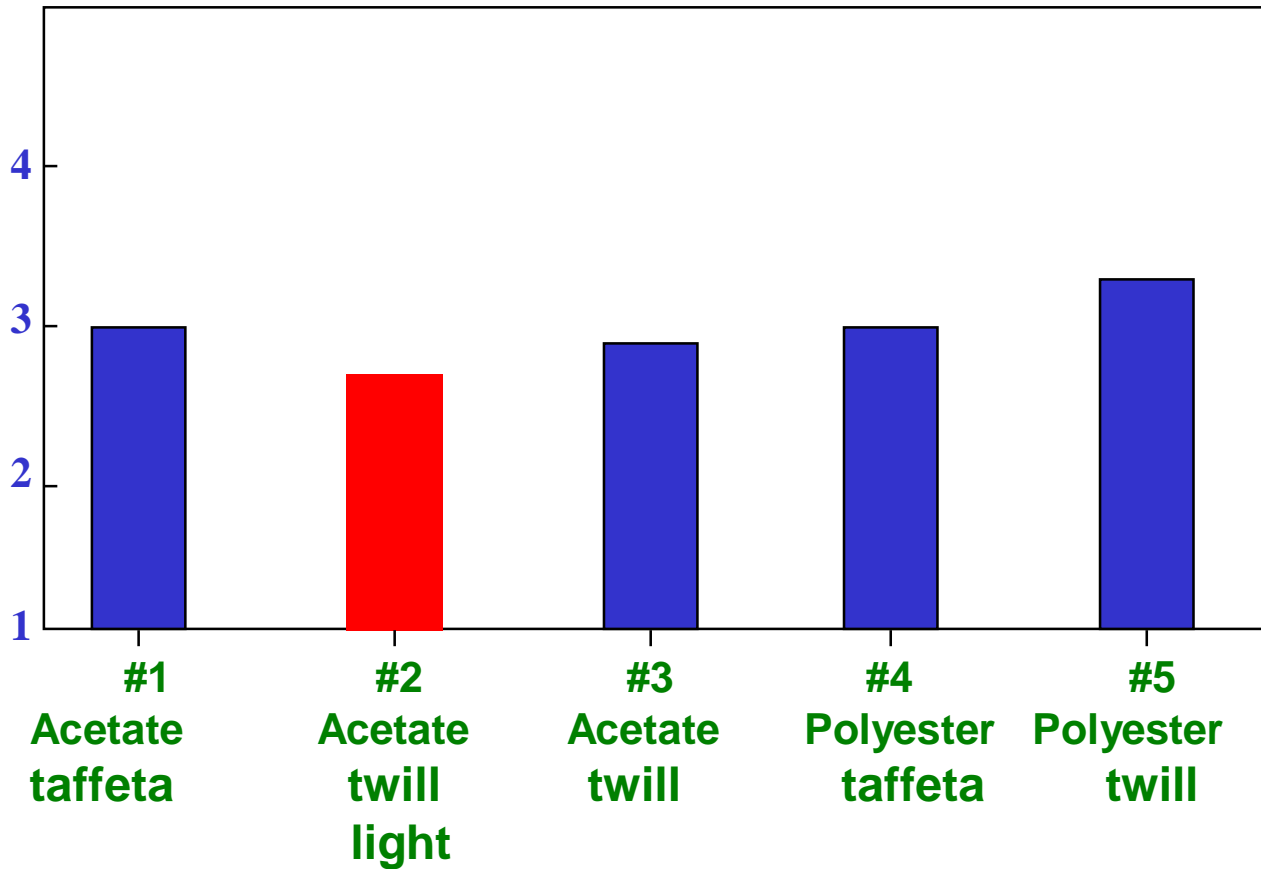
The linings were tested in identical blazer jackets.



Comfort Descriptor: Clingy

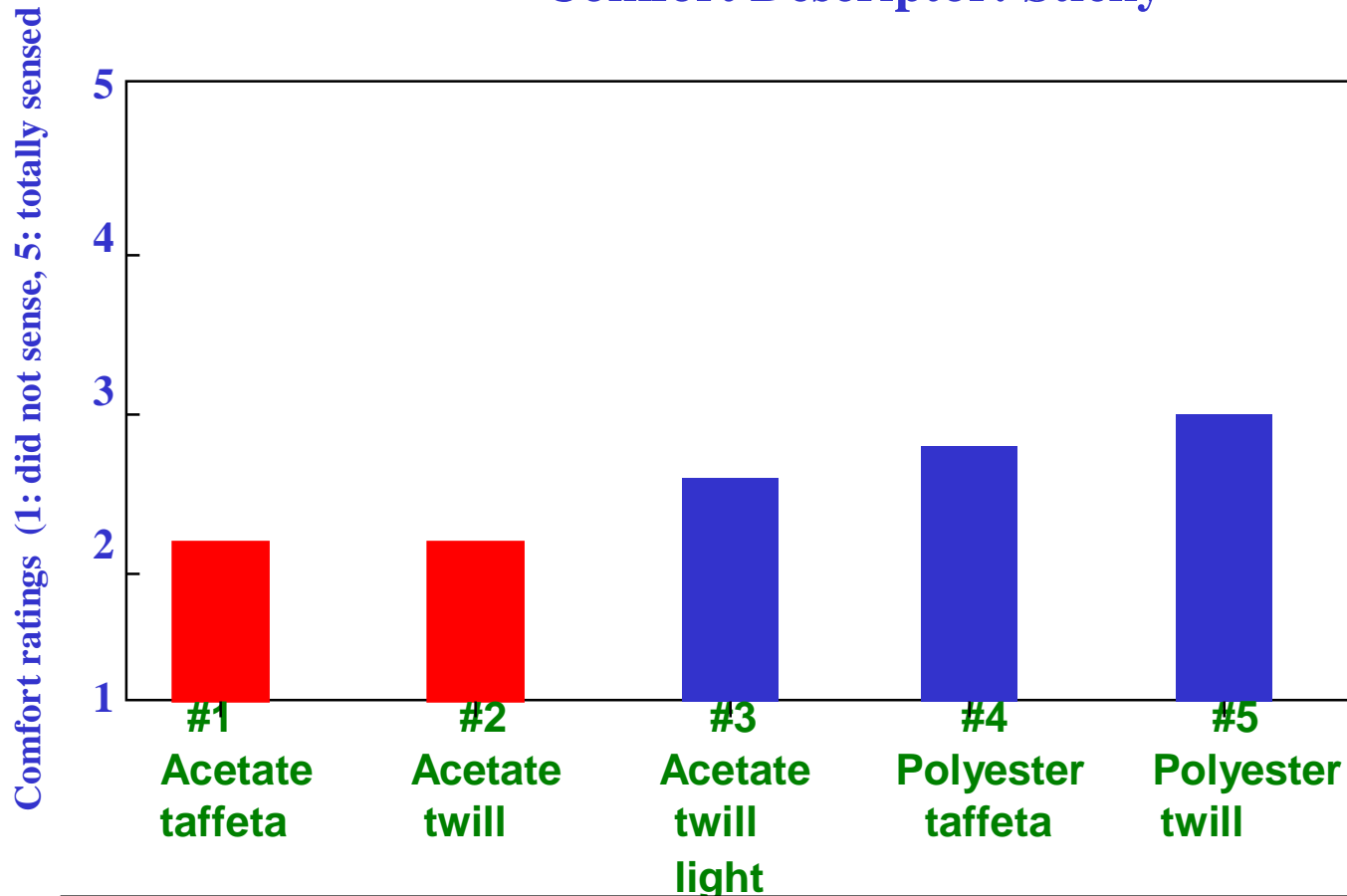
Comfort ratings (1: did not sense, 5: totally sensed)

Red = Statistically different from other test jackets





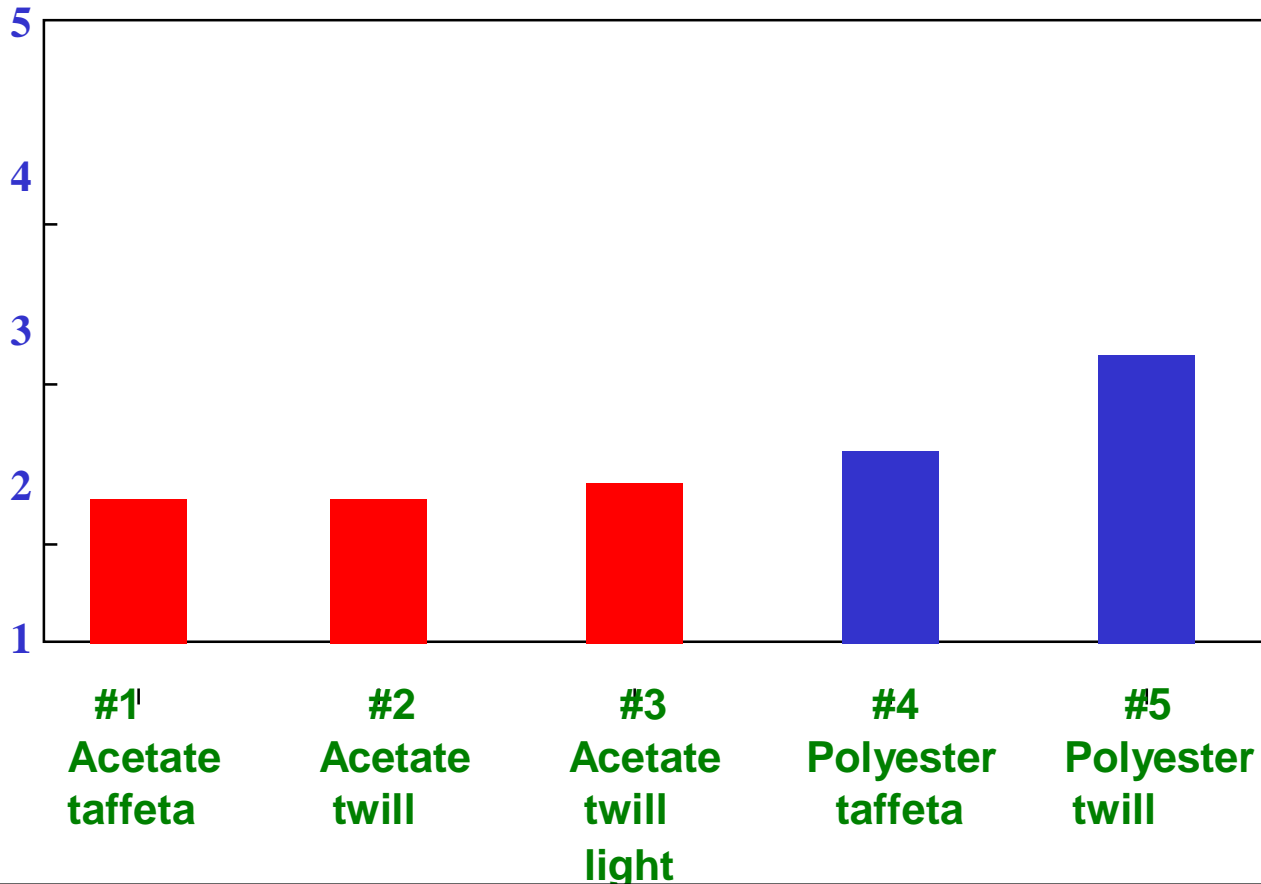
Comfort Descriptor: Sticky





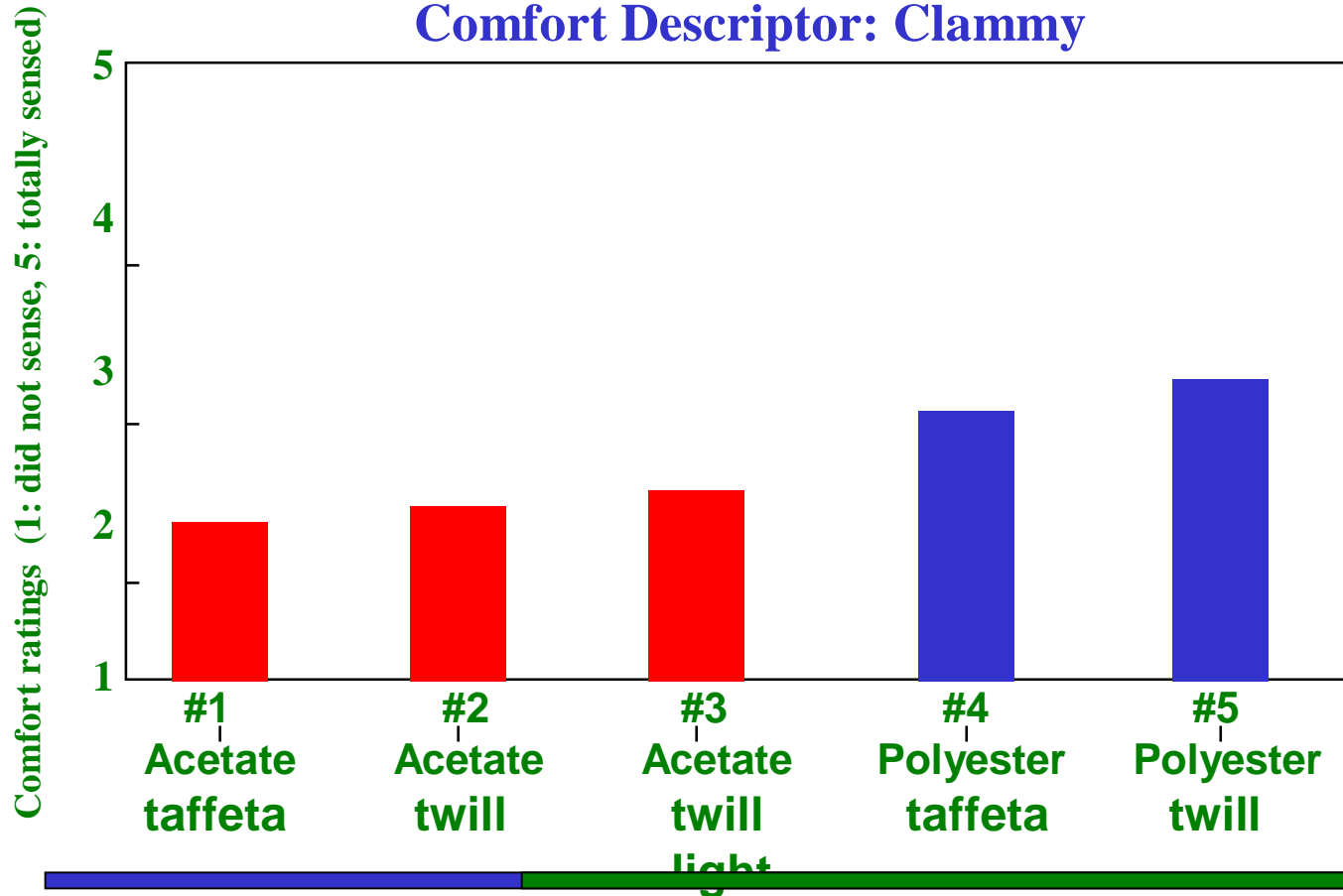
Comfort Descriptor: Non-absorbent

Comfort ratings (1: did not sense, 5: totally sensed)





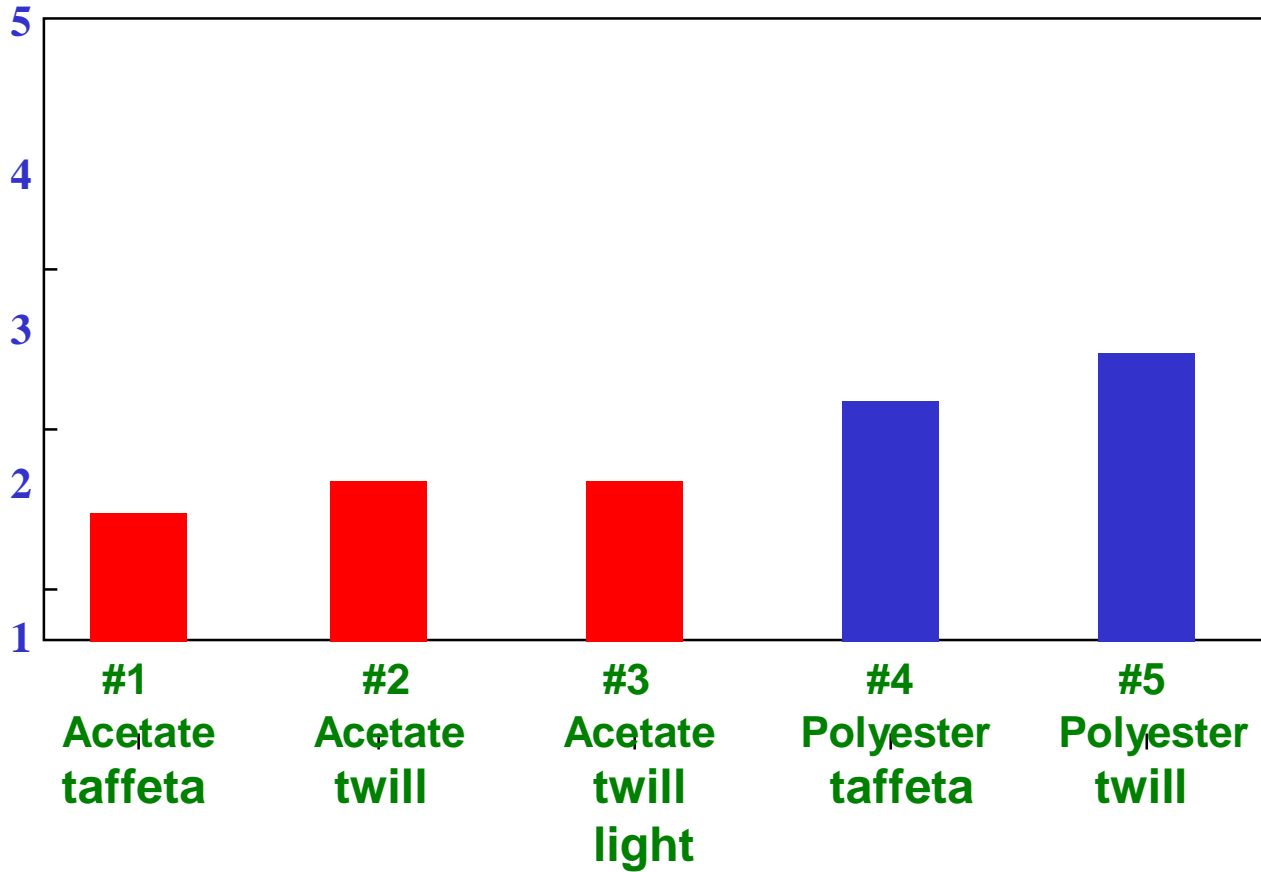
Comfort Descriptor: Clammy





Comfort Descriptor: Damp

Comfort ratings (1: did not sense, 5: totally sensed)





Comfort Study



Main Conclusion

Acetate linings are more comfortable, and nobody notices a lining as long as it is comfortable... Right?

You knew that!

But...



Let me ask you a question:

If your customer experiences NOTABLE DISCOMFORT when wearing a new jacket, WOULD S/HE ever BUY THAT BRAND AGAIN?



Just think about it for a minute...

www.acetateworld.com



Summary attributes of acetate yarns for apparel linings

- **Soft, silk-like, luxurious hand**
- **Excellent drape**
- **Easy to dye in a wide array of deep, rich and true colors**
- **Inherently breathable**
- **Won't pill or have static cling**
- **Easy to sew**
- **Environmentally friendly; made from wood pulp from reforested trees - a renewable resource!**



Comfort Study



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