

productivity engineering

developer your unfair competitive advantage



Cognitive Science



"Notably, developers say they spend the same amount of time waiting for builds and tests as they do writing new code."

Github Survey 2023 - Impact on the developer experience

Studies by the DIG four

Unlocking Developer Productivity: Human-Powered Success



BRIAN HOUCK
Principal Productivity Engineer

Other Industries

Knife usage for meat processing

Really?





Sharpness & Operators

Fatigue and RSI

Workspace Safety (Lacerations, Slips)

Throughput

Cut quality and product presentation

Build Time, Feedback Quality & Devs

Cognitive Fatigue

n/a

Throughput

Software Quality

Measuring Sharpness



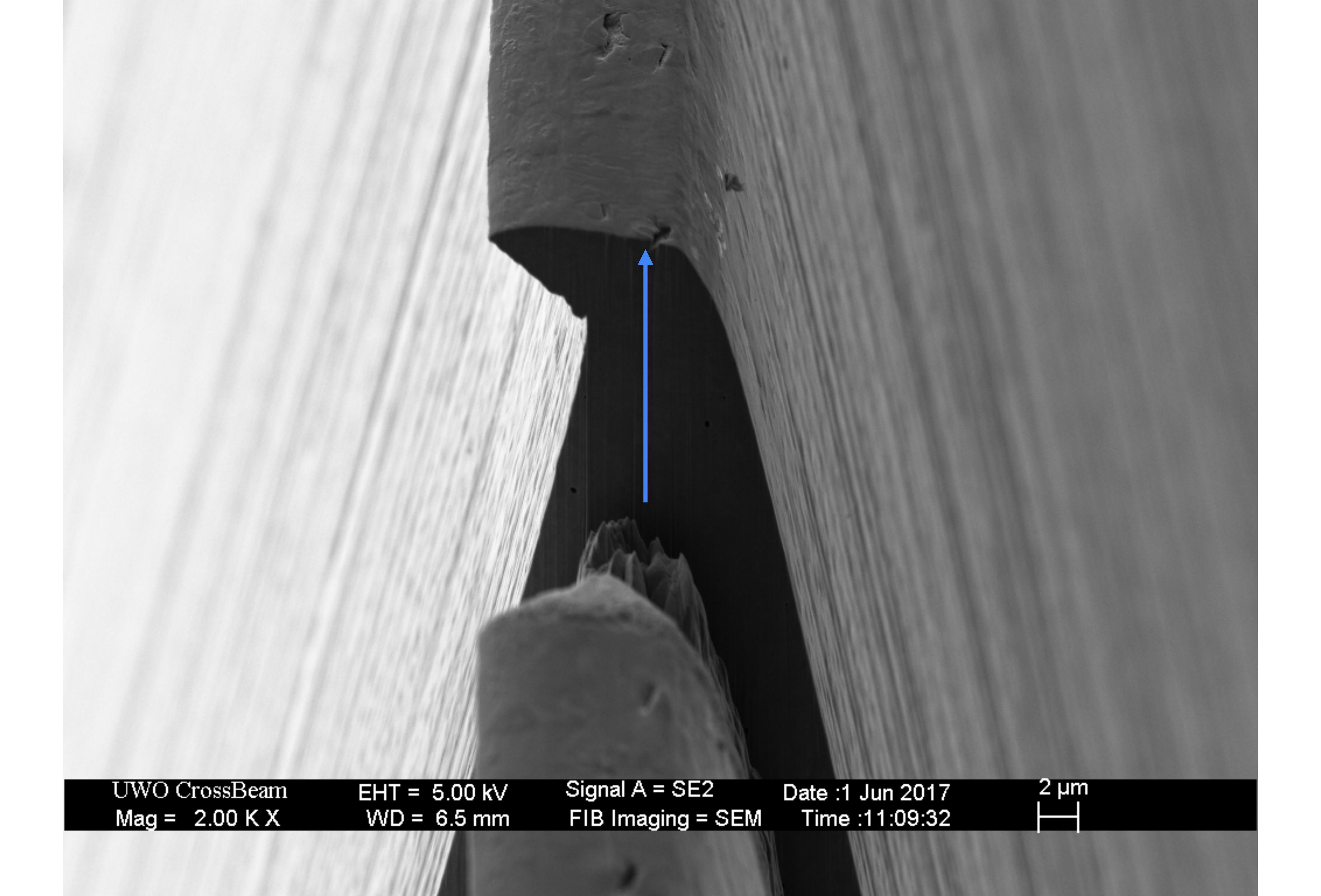
<u>CLASSIFICATION OF SHARPNESS</u>

| Description | edge apex thickness | | |
|---|---------------------|---------|----------|
| | Micron | BESS | REST |
| Dull | > 1 | > 500 | > 5N |
| The edge reflects visible light. | | | |
| Working edge | 0.6-0.8 | 300-400 | 3-4N |
| Fingernail test positive. | | | |
| Slices print paper and newspaper. | | | |
| Sharp | ~ 0.5 | 250-300 | 2-3N |
| E.g. quality cutlery out of the box. | | | |
| Slices a sales docket. | | | |
| Very sharp | 0.3-0.4 | 150-200 | 1.4-1.8N |
| E.g. utility knife blade (new). | | | |
| The edge doesn't reflect visible light. | | | |
| Shaving sharp (see all gradations below) | 0.3 | 160 | 1.5N |
| Whittles soft wood. | | | |
| Wickedly sharp | < 0.3 | < 150 | |
| Edges less than thickness of a human hair cuticle of 0.3 | | | |
| micron; shaves against the skin. | | | |
| Nuts sharp | 0.2-0.3 | 100-150 | |
| Filleting/shaving print paper. | | | |
| Scary sharp | 0.2 | 100-110 | < 1N |
| Cuts cigarette rolling paper vertically. | | | |
| Hair violin sign. | | | |
| Crazy sharp | < 0.2 | < 90 | |
| Insane sharp | 0.1-0.15 | 50-80 | 0.5-0.6N |
| Cuts a free hanging hair. | | | |
| Razor sharp | <= 0.1 | <= 50 | 0.3-0.4N |
| Sharpness of the DE shaving razor Gillette. Splits hair. | | | |
| Sharper than razor | ~ 0.05 | <= 30 | <= 0.2N |
| Sharpness of the DE shaving razor Feather. Whittles hair. | | | |
| Cuts cigarette rolling paper horizontally. | | | |

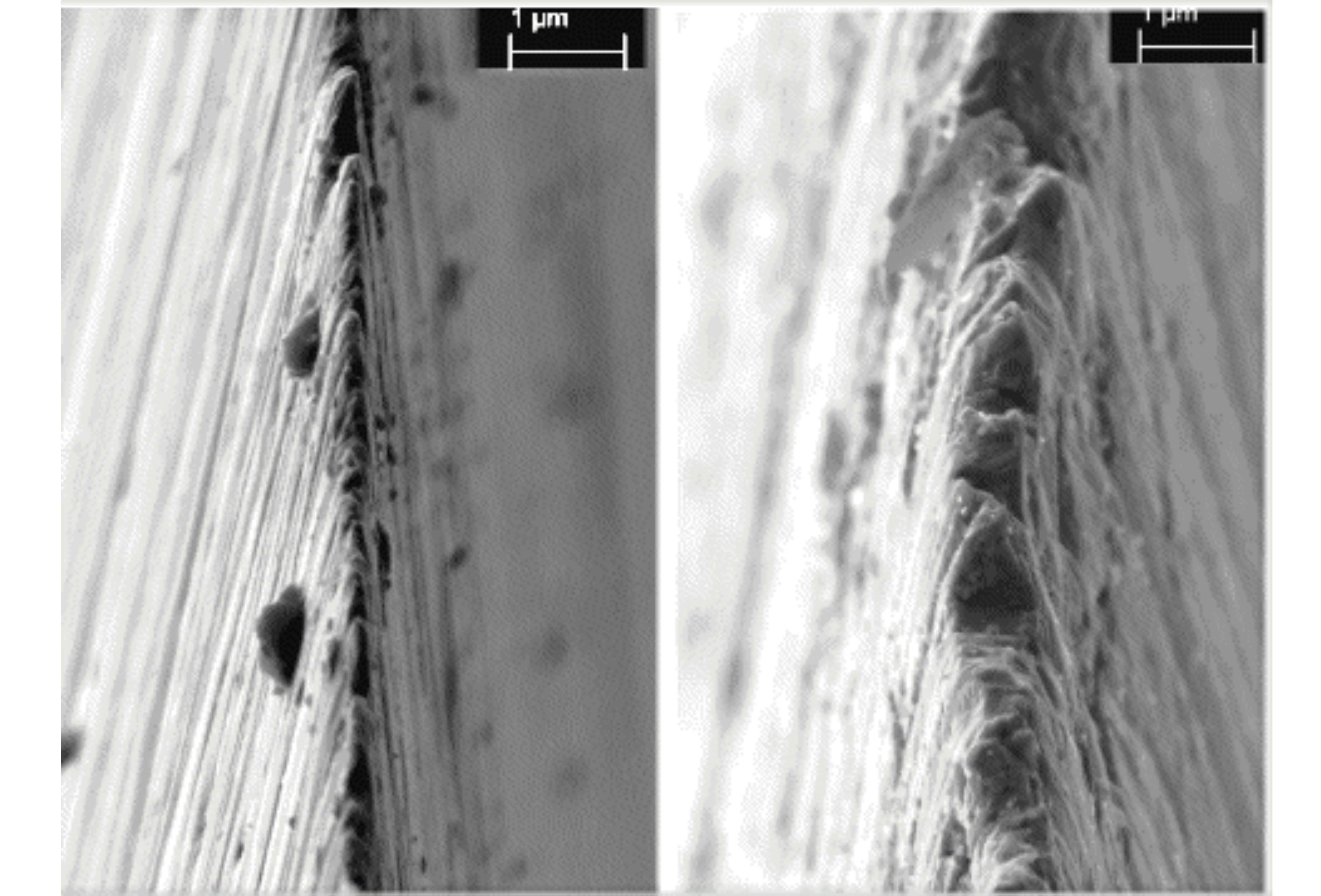
Sharpness is a shared value, but ...

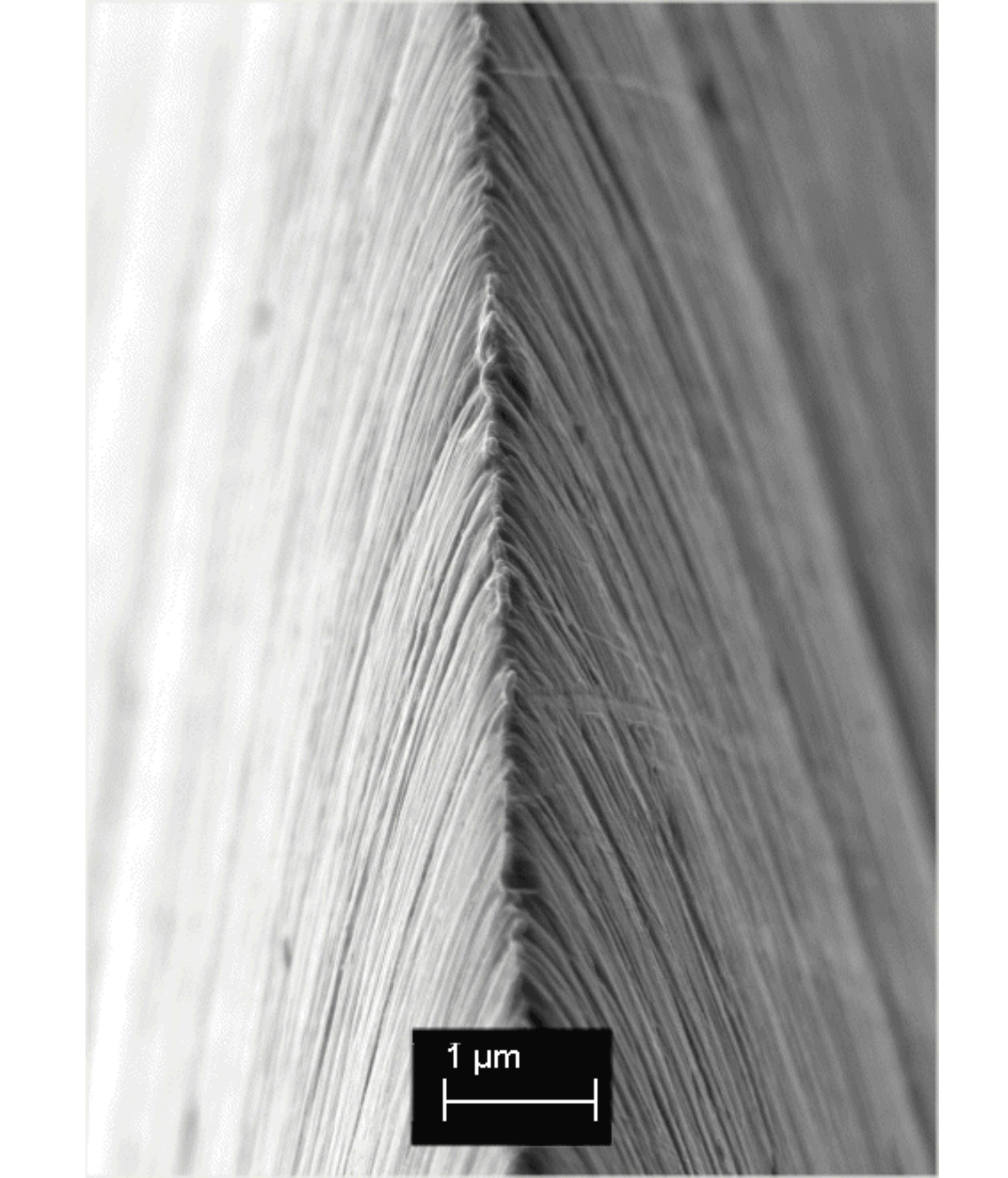


| Sharpness Score*** by Operator Skill level | | | | | | |
|--|-------------------------------------|--------------------------------------|--|--|--|--|
| Knife ID | Grade 3* operator average sharpness | Grade 5** operator average sharpness | | | | |
| Brand 2a | 343 | 187 | | | | |
| Brand 3 b | 555 | 361 | | | | |

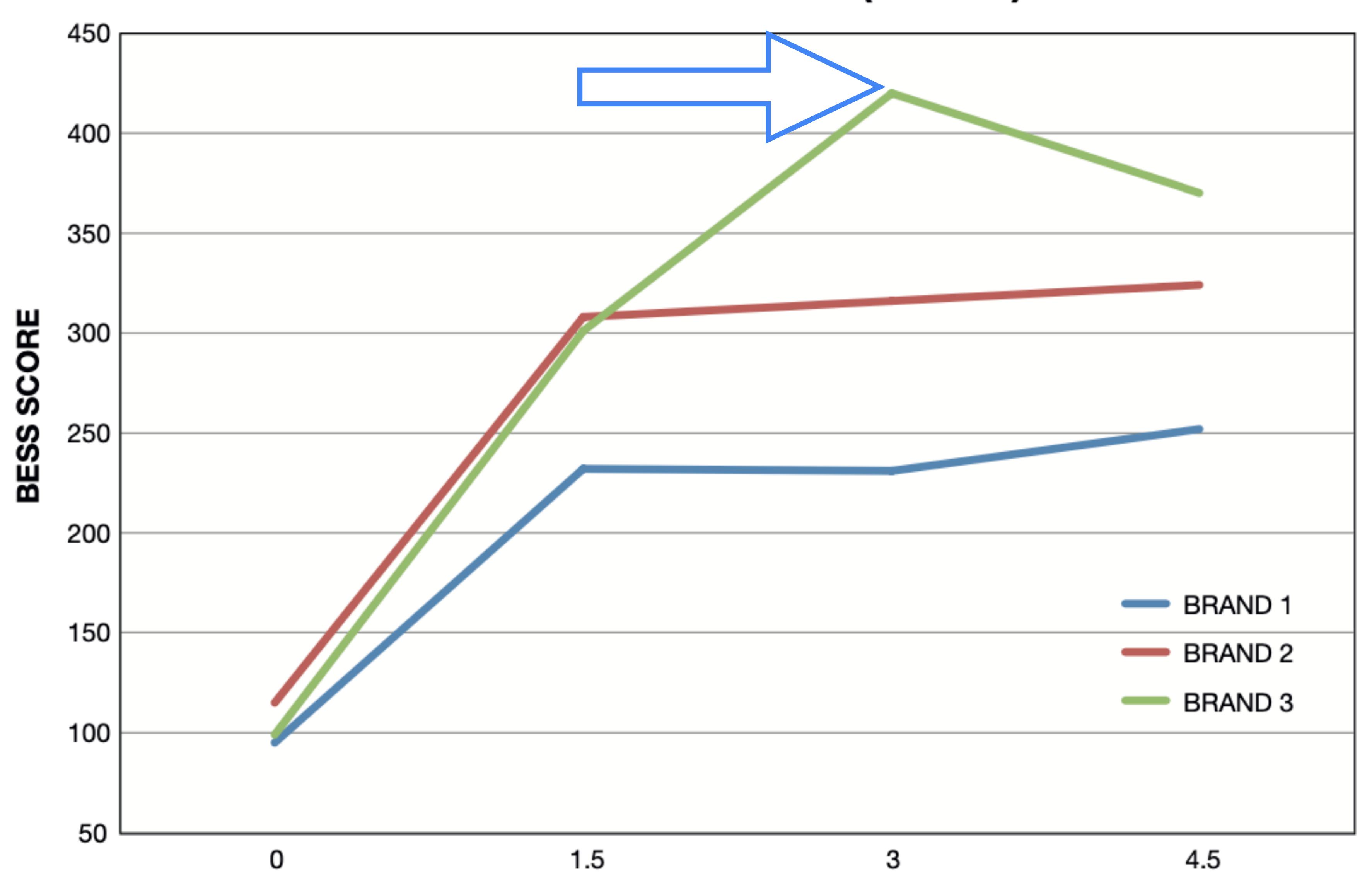








BESS SCORE VS TIME (HOURS)







Fluted (scalloped Blade) vs Plain Blade

Average Sharpness*

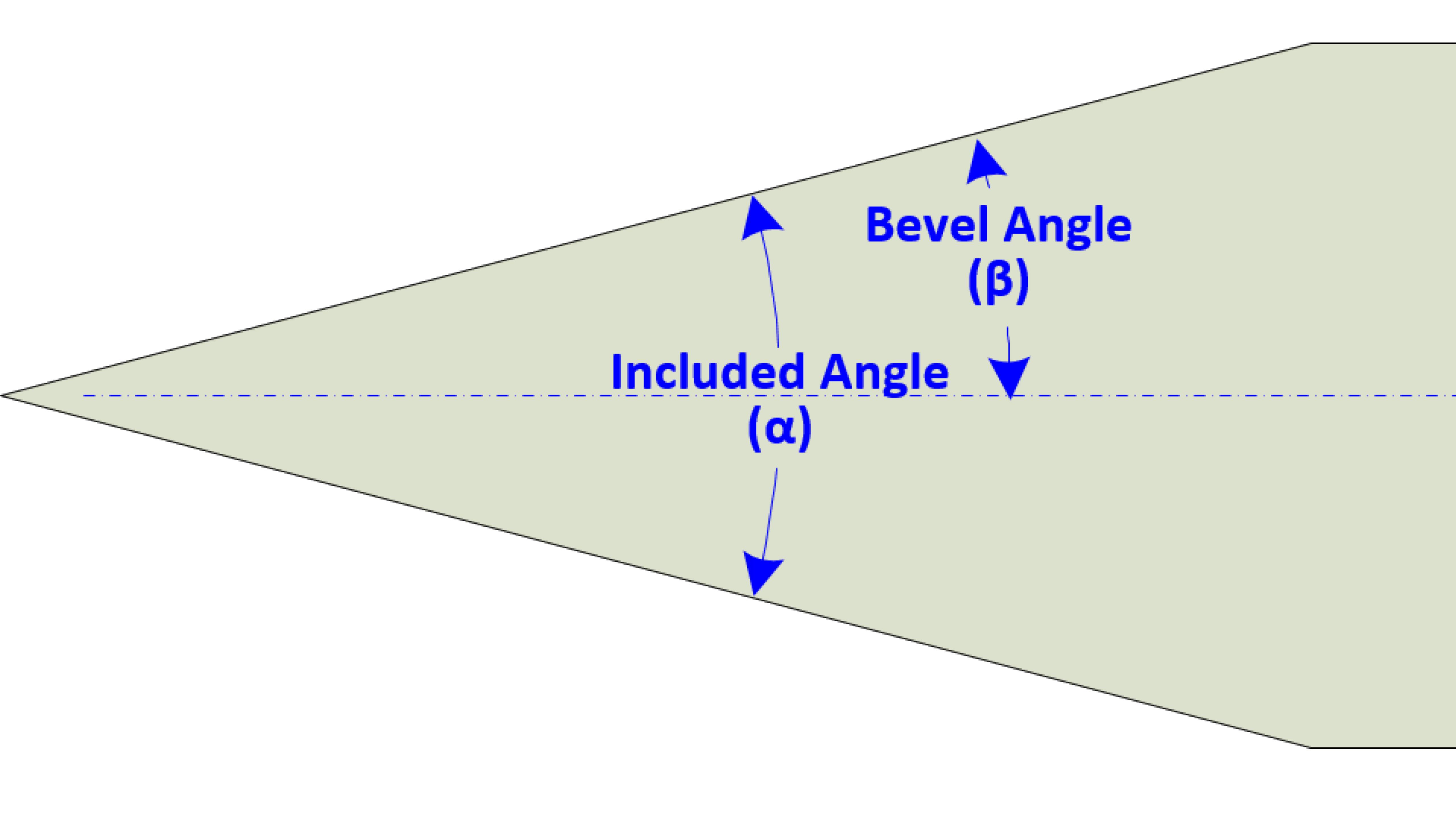
Fluted Plain 276

^{*} This is the sum of the sharpness scores divided by the number of measurements.

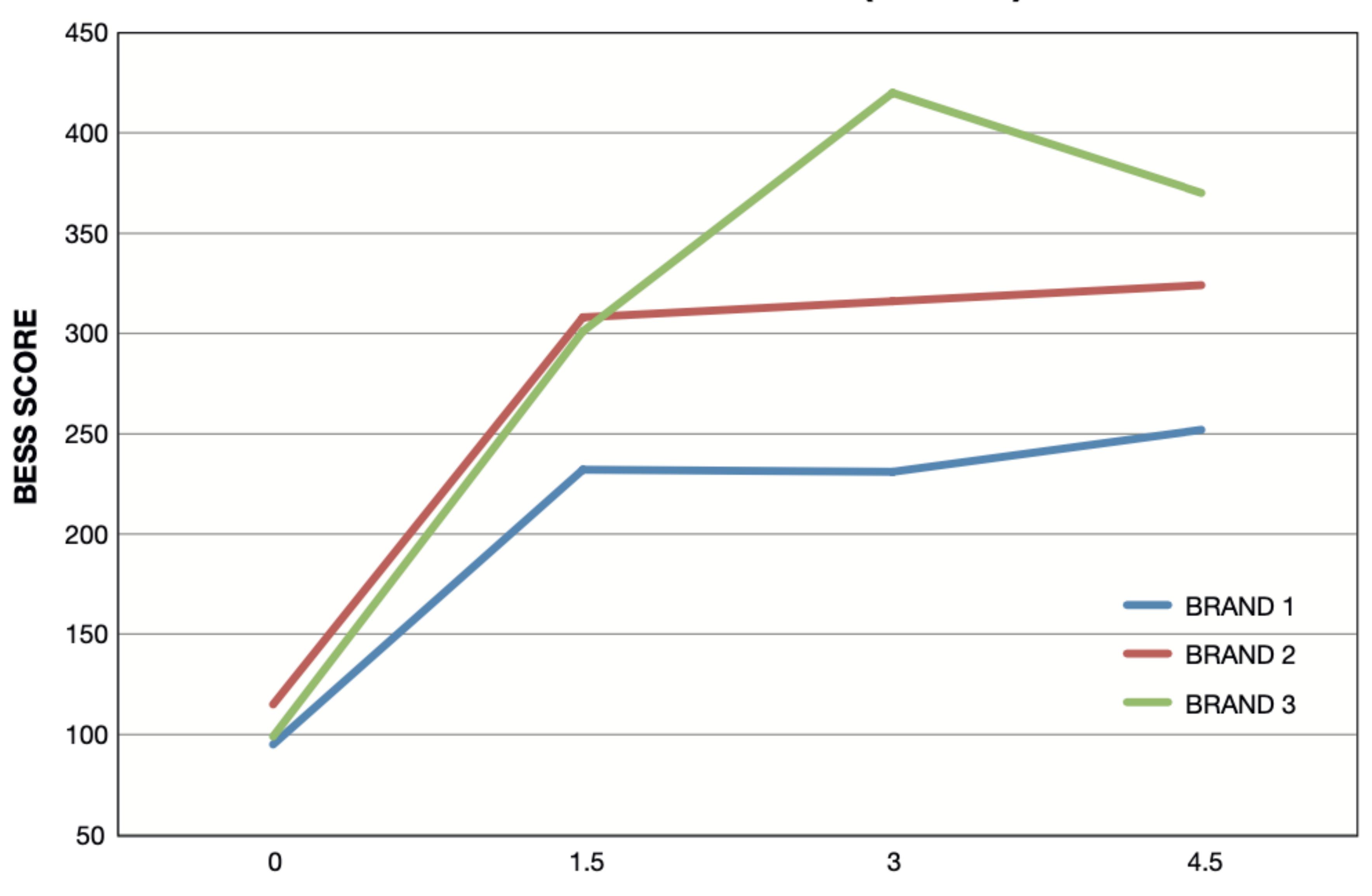
Reduce the noise







BESS SCORE VS TIME (HOURS)





Open Source Projects

XWiki AndroidX JUnit 5 Caffeine Kotlin Testcontainers Spring Micronaut Micrometer Hibernate



"Give me six hours to chop down a tree and I will spend the first four sharpening the axe."

Abraham Lincoln

