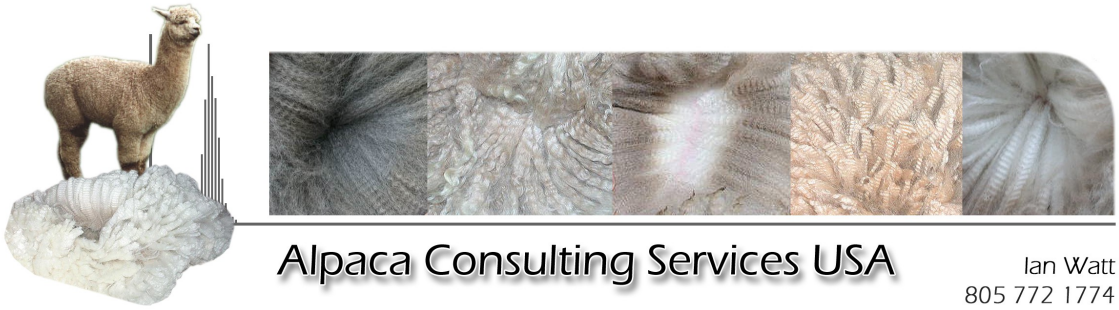

Alpaca Consulting Services USA

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Skin Biopsy Report

The ORIGINAL 100% Alpaca Density Test™

Date of test: 8 May 2018

Alpaca Name: Snowmass Blue Divine XX

Owner name and address: Howling Hill Farm
Nelson NH

Alpaca breed: Huacaya

Alpaca age: 44 months

Alpaca color: Medium Rose Grey

Alpaca sex: Male

Data details:

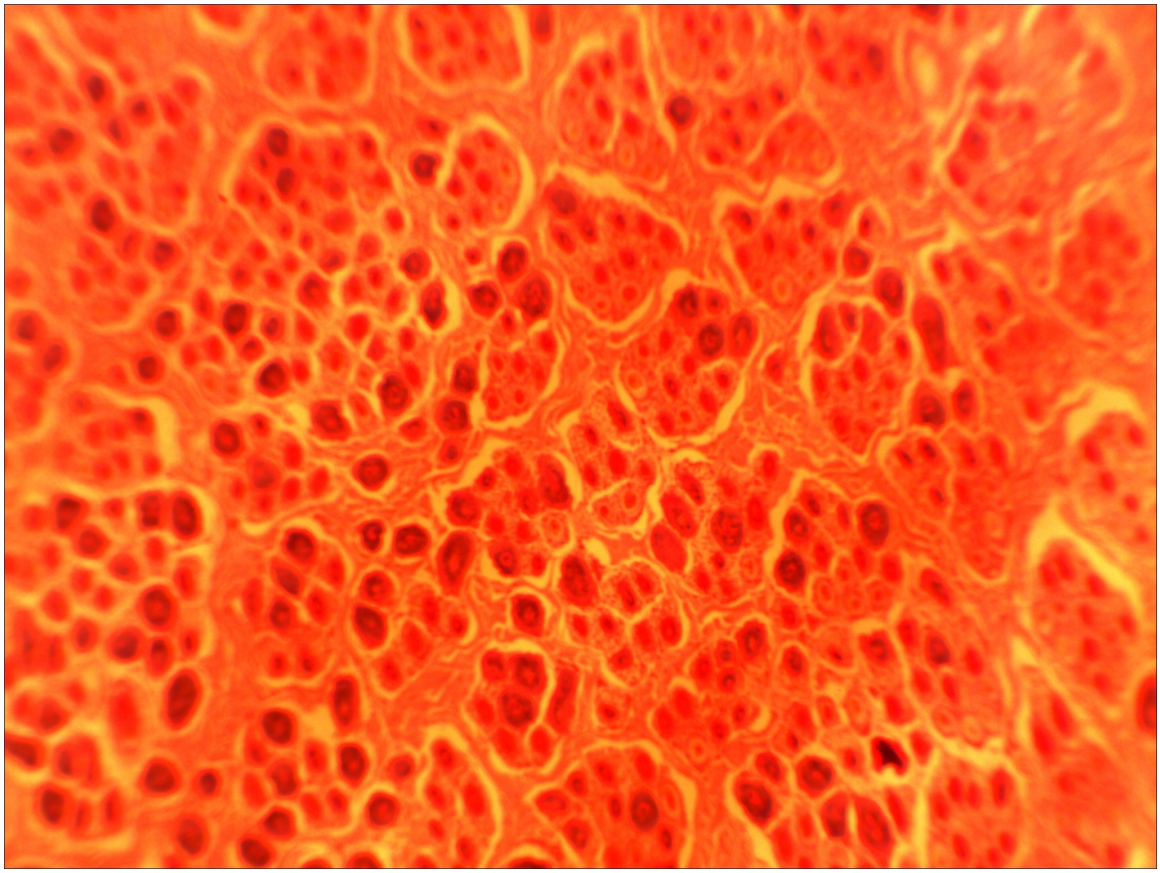
Density: 91.8 /mm

Secondary:Primary fiber ratio: 10.6:1

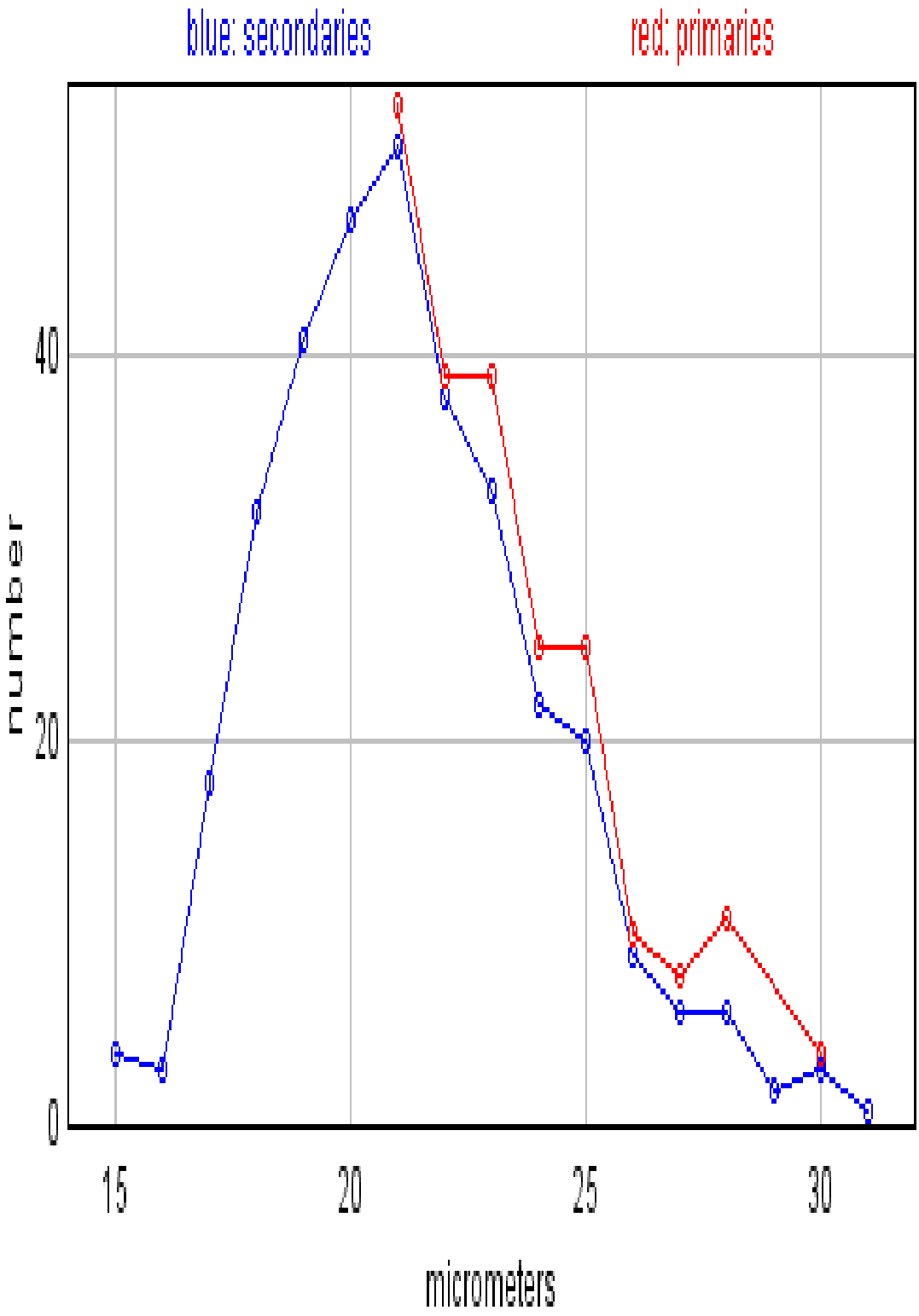
In-skin mean primary fiber diameter: 25.4 µ Standard Deviation: 3.2 µ Range: 19.3 µ to 31.4 µ

In-skin mean secondary fiber diameter: 21.3 µ Standard Deviation: 2.9 µ Range: 14.6 µ to 30.8 µ

Sample biopsy photograph:



Fiber population histogram:


blue: secondaries
red: primaries
number
0
20
40
15
20
25
30
micrometers

Comments:

This is an elite brown alpaca male as exhibited by the excellent density number (the highest I have tested for a brown), excellent fiber population differential and low SD's.

I would place no emphasis on the high maximum micron count for the secondary fiber population as this is an outlier and not representative of any number of fibers that large.

How we measure…

Our biopsies are processed in a histology laboratory that does a lot of work for research institutions, universities, hospitals and private providers. The slides are returned to us, are sampled using a mini vid camera and then read using a US National Institutes of Health imaging program. Four fields of 1.2 sq. mm of area are photographed and then blown up (using a specially formulated program) and hand read for density, identification of both follicle types and micron counts.

We measure all follicles in a field for density then we measure all follicles within the follicle groups; these measurements are collated and presented as a histogram by the imaging program. In this way, our numbers reflect the direct proportion of primary to secondary fibers as they are leaving the skin and as they are represented in the fleece.

We then measure the biopsy slice on the slide in 5 places, average them and then apply a shrinkage factor so the final numbers reflect the true density within the 10mm biopsy sample.

We do not measure or comment on gland development as we do not believe it contributes to the selection process of enhancing commercially important fleece traits.

www.alpacastats.com biopsy report number 1869