In Depth Study Permission and License

By signing and submitting this agreement, I grant Olds College the non-exclusive license to archive and make accessible my Master Spinner Program In Depth Study in whole or in part in all forms of media now or hereafter known for educational, research, and scientific nonprofit uses during the full term of copyright. I retain all other ownership rights to the copyright including the right to use in future works (such as articles or books) all or part of my work.

I represent that the submission is my original work, and that I have the right to grant rights contained in this license. I also represent that my submission does not, to the best of my knowledge, infringe on anyone’s copyright and that I have obtained written permission from the owner(s) of any third party copyrighted matter included in the work.

I understand that my In Depth Study will be placed in the Olds College’s library for access to the public. I will understand that I will clearly be identified by name as the author of the submitted work and that Olds College will not make any alteration other than as allowed by this license to my submission.

Signed: [Signature]

Date: 6 July 2019
A HAND SPINNING STUDY

to produce the most suitable cotton yarn to accentuate stitch definition in cabled hand knitting. The yarn is to be suitable to create a sweater for a baby, from birth to 18 months of age.

Samples: [Book 2] Thicker spun singles Yarns plied from these singles
Egyptian Cotton
3 Different Cotton Preparation used in this study.

Pima Cotton - Ginned Only.
3 Different Cotton Preparation used in this study.

Each of the 3 samples of cotton were spun in
2 different gaits:

a) Fine twist - in Book 1
b) Thicker twist - in this Book

From each of the singles a variety of plied yarns were produced and the knitted samples compared re. the stitch definition.
Egyptian Cotton - Thicker Grist

Comprised of two different cottons:
- Cotton Content = 49
- Plyed on wheel, 11:5 ratio and 11:5 ratio, 6 twists for 6 twists per yard

This grist used in following Egyptian Cotton plyed samples:
- 2 ply yarn
- 2 ply yarn

2 ply knitted sample
Egyptian Cotton - thicker gauge

3-ply knitted sample
Knitted on 3mm needles
Opinion Survey #698

Egyptian Cotton - thicker gauge

4-ply knitted sample
Knitted on 3 1/4 mm needles

See following pull page for 4-ply knitted sample
Opinion Survey #123

Singles spun, also plied on spinning wheel.
Egyptian cotton: Thicker Grist. 4 ply

Knitted Sample
(Singles spun and plied on spinning wheel).

The above sample was knitted on Size 3.25mm knitting needles.
Opinion Survey # 123
Egyptian cotton: Thicker Garn (2 ply & 3 ply) cabled yarn
Knitted Sample and 10 g. skein
(Engles spun and plied on spinning wheel).

The above sample was knitted on size 3.75mm knitting needles. 33.3 yards of yarn were required to knit this sample.

Opinion Survey # 393
Egyptian cotton: Thicker Grist. (3 ply x 3 ply) cabled yarn
Knitted Sample and 10 yard skein
(Singles spun and plied on spinning wheel).

The above sample was knitted on size 4.5 mm knitting needles. I considered this sample to be too heavy in weight to be suitable for a baby sweater.

THIS SAMPLE WAS NOT ENTERED IN THE OPINION SURVEY.
Pima Cotton - spinning

To spin with thicker yarn than in previous spin samples, I decided to get thicker yarn when spinning from Pima.

Decided to mimic the parallel arrangement of Pima fibers when spun directly from seed. From cotton bolls, carded like Pima cotton (had to pick out seeds)

Made roving (spin semi-worsted).
Pima Cotton - thicker guist
2 ply yarn
Spin from roving prepared
singles. Plyed or wheel.
from roving preparation.

Pima Cotton - thicker guist
3 ply yarn

Pima Cotton - thicker guist
2 ply knitted samples.
Knitted on 2 3/4 mm. needles.
20 yds required to complete.

Pima Cotton - thicker guist
3 ply knitted sample
Knitted on 3 1/4 mm. needles.
27 yards required to complete sample.

SEE FOLLOWING PAGE
FOR KNITTED SAMPLE.
Pima cotton: Thicker Grist. 3 ply
Knitted Sample
(Singles spun and plied on spinning wheel).

The above sample was knitted on Size 3.25mm knitting needles.
27 yards of yarn were required to knit this sample
Opinion Survey #472
Pima cotton: Thicker Grist. 4 ply
Knitted Sample and 10 yard skein
(Singles spun and plied on spinning wheel).

The above sample was knitted on Size 3.75mm knitting needles.
30 yards of yarn were required to knit this sample.
I considered this sample to be too heavy in weight to be suitable for a baby sweater.

THIS SAMPLE WAS NOT ENTERED IN THE OPINION SURVEY
Pima cotton: Thicker Grist 4 ply Knitted Sample
(Singles spun and plied on spinning wheel).
I felt that the previous sample was knitted too tightly and the knitted fabric was too dense. This sample was knitted on larger needles for comparison.

The size of the knitting needles greatly affects the look and feel of the final knitted sample. All knitted samples were washed and blocked.

Another question, perhaps for another study, would be: Do multiple washings, and machine drying, affect the handle of the cotton knitted samples?

The above sample was knitted on size 4 mm knitting needles. 30 yards of yarn were also required to knit this sample.
Opinion Survey # 546
METHODS OF FINISHING THE HANDSPUN COTTON YARNS

I include some additional information, and some questions to ponder

All the samples presented in both Book 1 and Book 2 of the handspun samples have been finished by the following methods:

1. **Egyptian cotton**: After the yarns were spun, they were skeined and tied. They were washed in hot water with a little "liquid Dawn". The water was as hot as the hands, wearing rubber gloves, could tolerate. The skeins were rinsed, excess water was spun out, and the skeins were hung to dry. The skeins were then labeled and/or knitted into samples for the purpose of displaying in this study. The knitted samples were washed again, rinsed, and the excess water was spun out. The knitted samples were blocked and allowed to air dry.

2. **Pima Cotton**: After the yarns were spun, they were skeined and tied. They were boiled in water with a little "liquid Dawn" for 20 minutes. The excess water was squeezed out and the skeins were boiled again for 20 minutes. The rinsing and boiling was repeated once more. At this time the rinse water remained clear. The skeins and samples were then treated as for Egyptian cotton, (see above).

3. **Peruvian Cotton**: After spinning, skeining and tying, the yarns were boiled, as for the Pima Cotton. The knitted samples were also treated in the same way as the Pima Cotton samples. Also, for one sample only, (see Book 1 of samples), the yarn was boiled with a little washing soda in the water to intensify the natural green colour of the cotton. As I preferred the softer green colour of all the other samples, I did not use washing soda again.

I did wonder if a further study should be contemplated regarding methods of finishing various kinds of handspun cotton.

For this reason the two small samples being displayed on the following page have been included for additional interest. (Please refer to the following page of samples).
Pima cotton: Thicker Grist.
(0nitted samples were washed and dried by machine)

Two machine washed, and also machine dried, samples are displayed. After knitting, they have both been washed and dried in the same manner. They were machine washed, using the warm temperature setting, with a little “liquid Dawn” in the water. The machine agitated for 10 minutes, underwent 2 rinse cycles in cold water, followed by the spin cycle. The samples were then dried completely in a hot air electric dryer. The samples have not been pressed or blocked after drying.

First Sample: 2 ply.
Thick grist Pima.
Knitted on Size 2.75 mm needles.
Machine washed and dried, one time.

Opinion Survey #036

Second Sample: 3 ply.
Thick grist Pima
Knitted on Size 3.25 mm needles.
Machine washed and dried, one time.

Opinion Survey #047
Pima cotton: Thicker grist.

2 ply x 2 ply cabled yarn, NOT SPUN
3 ply x 3 ply cabled yarn, NOT SPUN

These yarns were not spun.

I considered that these yarns would be much too heavy in weight, and in knitted bulk, to be suitable for knitting a baby sweater.

For this reason, there was no 2 ply x 2 ply thick grist Pima cotton yarn included in the Opinion Survey.
Peruvian Organic Cotton

Single = 4.9
Weight of sample 1/1 gms.
Warp ratio 15:1
Weft or plying ratio 15:1
10 yds. Single

2 ply Knitted Sample.
Peruvian Organic cotton
(Iraca grass)
3mm needles
Opinion Survey #584
Peruvian Organic cotton: Thicker Grist, 3 ply
Knitted Sample and 10 yard skein
(Singles spun and plied on spinning wheel).

The above sample was knitted on Size 4 mm knitting needles.

Opinion Survey # 719
Peruvian Organic cotton: Thicker Grist. 4 ply
Knitted Sample and 10 yard skein
(Single, spun and plied on spinning wheel)

The above sample was knitted on Size 4 mm knitting needles.
22.5 yards of yarn were required to knit this samples.

Opinion Survey # 403
Peruvian Organic cotton: Thicker Grist. 2 ply x 2 ply cabled yarn
Knitted Sample and 10 yard skein
(Singles spun and plied on spinning wheel).

The above sample was knitted on Size 4 mm knitting needles.

Opinion Survey # 204
Peruvian Organic cotton: Thicker Grist, 3 ply x 3 ply cabled yarn
Knitted Sample and 10 yard skein
(Singles spun and plied on spinning wheel)

The above sample was knitted on Size 4.5 mm knitting needles.
15.51 yards were required to complete this sample.
I considered this sample to be too heavy in weight to be suitable for a baby sweater.

This sample was not entered in the opinion survey.