Spin·off Presents:

Down and Related Breeds

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CONTENTS

You may notice that we have taken a somewhat expansive rather than exhaustive approach to Down breeds in this eBook; only two of the four breeds profiled here are included in Deb Robson's excellent article "The Down Wools." So why did we include others? Two reasons.

First, although there are differences between true Down breeds (Dorset Down and Hampshire) and Down-like breeds (Cheviot and Black Welsh Mountain), the breeds share certain similarities: Dual-purpose breeding; mostly square, blocky staples; springy, medium-fineness wool. In her book *Practical Spinner's Guide: Wool*, Kate Larson names Cheviot among the Down-type breeds; Beth Smith counts Black Welsh Mountain in the group in her book *Spinner's Guide to Fleece*.

Second, the Down breeds and the related breeds described here share an underdog status among handspinners. Not long ago, Down breeds were dismissed as "meat sheep" (which makes their defenders wince). Recently the tide has begun to turn, and I hear of spinners seeking out Hampshire, Cheviot, and Suffolk fibers.

Perhaps more spinners will be moved to take up a study of the Down breeds and will share their findings in future issues of *Spin·Off*. In the meantime, enjoy learning more about these quirky breeds.

Happy spinning,

Anne Merrow
Editor, *Spin·Off*

Spin·off

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The Down Wools

Quiet and Unsung Heroes of the Fiber World

BY DEBORAH ROBSON

Curious Suffolks.

Although they look a little boring at first glance and it can be hard to get your hands on a good fleece—which consequently can make them a bit challenging to spin—the Down wools have a whole lot going for them. I emerged from the experience of spinning literally hundreds of types of wool for *The Fleece and Fiber Sourcebook* with both respect and a special affection for these unassuming performers.

The breeds I'm talking about are Dorset Down, Hampshire, Oxford, Shropshire, Southdown, and Suffolk. The fleeces of many other breeds have been called Down wools, but expanding the group beyond that core makes the boundaries fuzzy and blurs the definition. I capitalize the word *Down* when I talk about the core breeds to distinguish them clearly from the other types of *down* that we encounter, primarily the soft, fine, short undercoats of other species: the luxury fibers like cashmere, yak, camel, and qiviut.

If we start adding to this group with what I call *Down-like* wools, we can come up with quite a list, in part because *Down wool* has been used to describe all sorts of wools that aren't especially fine and aren't double coated. Applied to all the midgrade wools, the description becomes almost meaningless, although if we want to find close relatives, we'll start with the Norfolk Horn, Dorset Horn, Clun Forest, Kerry Hill, and Polled Dorset (also called, confusingly, just Dorset)—and go on from there, until we don't know exactly what we're talking about.

Those six core breeds have a lot in common, and we can defend the definition that includes and is limited to them. They developed about the same time (over the eighteenth and nineteenth centuries), for the same reasons (to supply meat for a burgeoning and increasingly urban population), and in about the same part of the world, under similar environmental conditions (the chalk hills, or *downlands*, of southern, especially southeastern, England). They are all polled (they don't have horns) and all of their faces and legs are colored, most of them dramatically so, although some strains of Southdown, the breed with an influence over all the others, have been bred to have more subtle coloration. They all grow midgrade wools, primarily white (with minor exceptions that I'll mention later), that are crimpy in a way that gives them bounce and loft.

Down wools aren't soft or cushy or sleek or glamorous. They are workhorses of the textile world with some unusual properties—such as a reluctance to felt—that warrant our attention for making textiles that we can use constantly for a long time. They are *practical* wools.

QUEST FOR QUALITY FLEECE

It can be hard to get your hands on a good fleece. These breeds were developed in response to an increasingly industrialized world on the food

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Grazing Oxford ewes.

side, while at the same time, their wool fails on the industrial side of fiber processing. It has comparatively little commercial value and is considered a necessary, and not very desirable, by-product of meat production. The reasons for that low value on the world market? The colored faces that came along with the traits of producing meat more efficiently (growing quickly into particular body types) mean that there will almost certainly be some colored hairs in the clip. When you are mass-processing wool, those hairs are contaminants that can ruin a run of fabric. Because of this, shepherds don't pay much attention to the quality of the fleece throughout the year and shearers don't pay much attention to second cuts. It's also not a finewool, and in the global wool market, finewools reign supreme. It can cost more to get the wool off the sheep and ship it somewhere than can be regained from the sale. You can find Down wools in compost heaps and stuffed into bags in attics.

WHAT A WASTE!

For spinners, those small amounts of darker hairs are not a deal-breaker, as they are for industry. They can either add a *soupçon* of character to a yarn or be removed in hand processing (they are most common in the parts of the fleece closest to the face and legs). It's true that the history of a Down fleece before it has gotten to the handspinner means that it can be challenging to work with, but with faith that the results will be uniquely worth the effort (and they definitely can be), we can easily find ways around those difficulties.

Finewools drive today's wool market and constitute most of the processed tops and yarns we can buy. Although they are lovely, and I suspect I like them as well as you do, they can't perform all the tasks we require of wools. The more we experience some versatile alternatives, the more we can understand that. When I call the Down wools workhorses, I mean that they can be used to make the items that we live with constantly, depend on, and may take for granted—hats, gloves, mittens, sweaters, blankets, shawls, scarves, soakers, pillows, and more—and that often they will do those jobs far better than the finewools. They have more bounce, inherent durability, and insulating capacity. Plus there's that resistance to felting, which is incredibly useful. It's also true that these wools have a relatively matte surface. They're not flashy. But they are dependable.

Let's talk about color for a minute. Mostly the wools are white. The most reliable source of natural, non-white color within these breeds is the Southdown, of which there are at least three strains of varying sizes. The smallest, the Babydoll Southdowns, are

Shropshire sheep (in the foreground) are pastured here with horned Hebridean sheep.

A Dorset Down ram photographed at the Australian Sheep and Wool show.

This Hampshire has the classic Down trait of a naturally colored face.

kept most often as pet-type rather than commercial sheep, and that's the group from which you'll most likely find colored fleeces: I've seen blacks, grays, and soft gray-browns. For a while, there were some black Hampshires in New England, but I don't know if the flock still exists. I'd love to hear that it does—they were delightful wools. Suffolk lambs are born dark but lighten to white fleeces (with black faces and legs) as they age. I've come across two examples of naturally medium-gray Suffolk wool, both from flocks where that color in adulthood was associated with genetic defects that curtailed the animals' lifespans. There is a "grey Suffolk sliver" sold as a prepared spinning fiber that's good wool and enjoyable to work with, but in texture, length, crimp, and other qualities is not the Down wool grown by the Suffolk breed. The fibers in that sliver are far longer than any true Down wool and are quite low in crimp, and the mix contains both hair and wool as well as kemp (there should be no hair or kemp in the body of a Down fleece). In researching *The Fleece and Fiber Sourcebook*, we engaged in a team effort to see if we could trace that sliver back to its origins and determine exactly what it is. We got close to the sources but ended up without answers other than that the naming of the product might be "poetic license." It's fun to spin, and useful in projects that call for a carpet-type yarn, but it won't perform like Suffolk wool grown by the Suffolk breed.

SPINNING TRUE DOWN WOOLS

Fiber lengths tend to be between 2 and 4 inches (5 and 10 cm). Although they can be longer, mostly they aren't—and I've seen a lot at around 1½ to 2 inches (4 to 5 cm). That's mighty short. In addition, the blocky staples may be slightly stuck together at their bases, and there's frequently very fine vegetable matter throughout the locks. This is once you get past the second cuts caused by too-fast, totally pragmatic shearing (better to cut the wool than the sheep). It's best to deal with those second cuts before you ever unroll a fleece by brushing them off the outside of the mass (which, if it's been rolled normally, puts the cut ends of the fibers right where it's convenient to do this). You won't get them all, but you'll get a lot. Then roll out the fleece and take a look. If the fleece has just been stuffed into a bag willy-nilly, tease it out into as coherent a mass as you can, with the cut ends up, and get rid of most of the second cuts. Skirt vigorously: if this wasn't grown or shorn with spinners in mind, there will be more dirt than in a handspinner-specific fleece. You can also pull off the bits around the legs, where you'll find most of the dark hairs as well as the shortest fibers, and the back of the neck, which is likely full of dirt and vegetable matter. If this is one of those by-product fleeces, you've probably bought it so cheaply that you can be very picky (and the shepherd was delighted to cover the shearing costs and not to have to figure out what to do with the wool).

The "classic" way to prepare and spin wools with these characteristics—short fiber length, bouncy

Rare-breed status for the core Down sheep

Dorset Down: Rare Breeds Survival Trust minority

Hampshire or Hampshire Down: still holding its own

Oxford or Oxford Down: Rare Breeds Survival Trust at risk; Livestock Conservancy watch

Shropshire: Livestock Conservancy watch

Southdown: Livestock Conservancy recovering

Suffolk: successfully ubiquitous

crimp—is by carding and using a long draw. That's a possibility, although unless you have a well-tended fleece, be prepared to have even beautifully carded rolags turn into a lightly textured, slightly gray yarn because of the fine grains of dust and vegetable matter scattered throughout. The best way I've found to get rid of the extra stuff is by combing. I use minicombs. Then I either pull top from the combs or spin directly from one comb held in my hand or I take my combed fiber and card it into rolags. That sounds like a lot of extra work, but the fiber combs up quickly, and it's amazing how much more of the debris gets removed. Work over a towel if you want to be orderly about it. (Many commercial mills faced with this problem *carbonize* the fiber, treating the contaminants with acid, heat, and pressure that affect the vegetable matter more than it does the wool.) Keep in mind that a worsted-spun yarn from a fiber with built-in bounce will have more resilience than we have any right to expect from wool prepared with worsted techniques.

For my basic samples, I've used a very short and difficult fleece to demonstrate what nice yarns you can get out of wool that doesn't look at all promising—especially if you keep your eyes on the goal and don't restrict yourself to the techniques you "ought" to use for fibers of a particular type. This white fleece was a bit of a pain. It has extremely short staples that are clumped together at their cut ends with tiny bits of fibers, not second cuts, that all want to turn into lumps in the yarn. It also has that seems-to-be-characteristic dirt and vegetable matter throughout the staples. With most breeds, this sort of dirt tends to collect at the outer ends of the fleece. With the Down wools, it somehow saturates the whole. Each of those teeny additives wants to become a lump, too.

Raw white Suffolk (thanks to Harold F. Davis of Odell, Illinois)

Raw white Dorset Down (thanks to Diane Fisher of Murmuring Wheel, Great Britain)

Photos by Joe Coca

To show what happens if we approach this wool as most published guidelines suggest, I carded some rolags and spun them long draw. I took a snapshot of the rolags. They were pretty! (And there are a couple of hairs from our dogs there, standing in for the sheep-origin hairs that would be present for a commercial processor to refuse to deal with.) Smooth spinning? Nope. It's good that I like a little texture.

Then I used my minicombs and spun directly from the combs (short draw) to show how much more of the extra stuff can be removed with that technique, and how the yarn nonetheless has a lot of body and bounce because of the structure of the fiber rather than of the yarn.

Finally, I combed some wool, pulled it off, and then carded it and spun it long draw.

How would I use these yarns? First, I'd probably use the second or third techniques to prepare them, because I'm not fond of the slightly dingy look and the extra lumps that result from the first technique. Then I'd use the worsted-spun version for a shawl or for anything in which the slightly smoother surface and better stitch definition would enhance my results, such as an everyday shawl with lace patterning, and I'd use the woolen-spun version for items in which the additional cushiness and insulating capacity would be beneficial, such as mittens or an ear-hugging hat. I also think of the Down wools as quintessential sock-yarn fibers because in my experience, they can be machine washed and dried without shrinking or felting, and they offer reasonable amounts of durability and cushioning loft as well.

Overall, the Down wools are underestimated and underused. I love them! You might, too. Check some out. The more seriously we take these fleeces, the more seriously the growers will—and the better the chances that we'll be able to get delightful, clean, well-shorn Down fleeces for our spinning pleasure.

Top, left: Combing the fleece before carding removes most of the debris and yields a creamy, springy yarn. **Top, right:** Both of these swatches have been combed and spun directly from a minicomb. **Bottom, left:** A rolag of picked and carded fleece retains vegetable matter that makes its way into the yarns. **Bottom, right:** Southdown is the breed most likely to produce colored fleeces. Here, short staples reflect the breed's springy character (and the often messy state of the fleeces). Photo by Joe Coca

Deborah Robson is a former editor of *Spin·Off*. Her publications include *The Fleece and Fiber Sourcebook* and *The Field Guide to Fleece,* both in collaboration with Carol Ekarius, and she is at work on a project about Shetland sheep (www.dreamingofshetland.com). Natural fibers in all forms enchant her, but she's especially fond of wool (www.drobson.info).

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Dorset Down

by Nola Fournier

One gloomy Saturday morning, my husband and I set out for Korere, a small rural settlement about an hour's drive south of Nelson, at the top of the South Island of New Zealand. Edward and Erica Newport farm about three thousand Dorset Down sheep there and I wanted to buy a fleece. That morning they were planning to shear the lambs born the previous spring, and they said we were welcome to visit. About fifteen minutes out of Nelson we ran into a light drizzling rain. I crossed my fingers, hoping the shearing would not have to be postponed and that the sheep had not gotten wet.

We were in luck; the shearing shed was abuzz, with the shearers bent over like staples, hard at their work. The large building resounded with hit songs coming at high volume from the radio. The dogs sounded very pleased with themselves as they worked the sheep, some of whom were rather anxious, although most patiently waited their turn to surrender their fine, woolly coats.

Most spinners I know—and I am no exception—experience a particular exhilaration on entering a shearing shed. The sight and smell of that fresh warm fleece goes straight to the head, and the concentration and dexterity of the shearer is a joy to behold. As do others, New Zealand shearers pride themselves on skill and speed. If you're good at the job, it takes about two minutes to shear a sheep, on average. Although most farmers are able to shear, they usually contract a specialist team to handle a flock of any size.

The shearer knows how to hold a sheep, using his or her legs for positioning and control. The sheep must be comfortable, so it won't fight or struggle. A quiet sheep makes the job easier for the shearer and lessens the chance of injury to the sheep. The handpieces glisten as they are raised to begin each new blow (a stroke of the comb over the body of the sheep to remove the wool), until the fleece slides gracefully to the floor. The wool is then carefully gathered up by the wool handler and taken to a table for skirting and classing.

The Dorset Down, which takes its name from the English county where it was originally bred, is the result of crossing Southdown rams with Berkshire, Hampshire, and Wiltshire ewes. It is primarily a meat sheep, prized for early-maturing, prime lambs. Dorset Downs are often used as terminal sires, that is, the rams are crossed with ewes of other breeds to produce market lambs.

The sheep are medium sized, with brown faces and ears (unlike Dorset Horn and Polled Dorset, which have white faces). They are hornless and have wool on their faces and legs. Dorset Down flocks have been successfully established in Australia, New Zealand,

Sample 1 is a three-ply yarn, suitable for use in durable socks or a lightweight sweater. Sample 2 shows how this wool can be spun into a relatively lightweight two-ply yarn which still has enough body to show off an embossed pattern with distinction. Sample 3 builds on the wool's insulating qualities, using a crochet stitch which would make a delightfully warm, soft blanket.

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Photo by Joe Coca

Left: *It isn't often we have a photograph of the very sheep who grew the wool in the samples. Here's that critter in person, with the shearer who provided the haircut.*

Right: *You can see that shearing this flock was a major effort, pursued with the necessary diligence to ensure clean fleeces.*

and South America, but they have never been popular in the United States.

The fleece is relatively fine, with a count of 56s to 58s (29 to 26 microns). It is lofty, resilient, and somewhat crisp in handle. Although the staple length is only 2 to 3 inches (5 to 7.6 cm), the fiber length is much greater because of the well-developed spiral crimp. The staples are indistinct and appear almost flat-tipped. The wool has almost no luster, so yarns tend to have a cotton-like, matte finish. A Dorset Down fleece usually weighs between 4½ and 6½ pounds (2 and 3 kg) and the wool is similar to that of other finer, down-type breeds, such as the Southdown.

The full hand of this wool makes it suitable for the manufacture of high-quality hosiery, or socks and stockings. It is also often blended with other wools to improve the body and elasticity when it is spun for use in knitting yarns, flannels, and other garment applications.

Breed association: Dorset Down Sheepbreeders Association, Mrs. June Pither, Greenway Farm, Bishops Lydeard, Taunton, Somerset TA4 3DD, United Kingdom.

Working with Dorset Down

I originally intended to obtain a hogget fleece, if possible. A hogget fleece is from an animal aged about 9 to 18 months. The selection of these was limited. After much thought, I chose a freshly shorn lamb fleece. This particular fleece had a staple length of 3 inches (7.6 cm)—longer than one might expect from a lamb of this breed—and had a good handle. There were a few pigmented fibers in the wool from around the face, but they were easily removed with further skirting.

I washed the fleece in a mesh bag, spun it in the washing machine to remove as much of the water as possible, then spread it flat to dry. Down-type fleeces usually wash and dry easily, because they have relatively little wool wax and the fleece stays open even when damp.

Although down-type fleeces are not known for their felting properties, I wanted to try felting this fleece anyway. I prepared a 6-inch (15-cm) square of layers of flick-carded fleece, each layer positioned at a 90-degree angle to the previous layer. I sandwiched the prepared wool between two sheets of mesh and basted the layers together. After twenty-five minutes of hand felting, nothing much seemed to be happening, so I tried the washing machine. Three complete hot-water wash cycles effected some felting, but the fabric could still be pulled apart very easily. I would certainly not bother to use this type of fleece for felting projects. However, the experiment confirms the value of Dorset Down wool for use in fabrics that will be subjected to heat, moisture, and movement.

Dorset Down wool with a staple length at the long end of the range is suitable for all preparation methods. Shorter fleeces may be awkward to comb or flick-card, and are probably best hand carded, picked, or drum carded. I chose to flick-card most of this fleece, and the clean, open staples were quickly prepared with a minimum of effort.

Sample 1

This is a three-ply yarn spun from flick-carded locks, drafted backward in a hybrid short-long draw.[1] It was a delight to spin, and the finished yarn admirably fulfilled my intention to make a yarn suitable for transformation into durable yet comfortable socks. The felting experiment suggests that Dorset Down socks will not felt with wear and will survive careful machine washing. The yarn would also make fine, lightweight sweaters.

The knitted swatch is soft and has excellent body. The yarn measures about 2,375 yards per pound (4790 m per kg) and 15 wraps per inch (2.5 cm), and has a 40° angle of twist.

[1] Drafting methods are difficult to describe. Once spinners have mastered the basics of long draw, short draw, spinning from the fold, and a handful of other options, most spinning tends to proceed with the combination of movements that the individual spinner finds most compatible with the fleece in hand.

While thumbing through a library book, *Knitting the New Classics* by Kristin Nicholas, I came across an appealing Bobble Border pattern, used on the lower edge of a sweater. I included it on the edge of the swatch. The main pattern, chosen to complement both the yarn and the edging, arrived quite unexpectedly in the form of Pattern 25 from Lesley Stanfield's *The New Knitting Stitch Library,* sent by a kind friend in the United States. I adjusted the pattern slightly to align it with the edging.

Bobble Border

Multiple of 10 stitches plus 1.

MB—make bobble: (K1, p1, k1, p1) in next stitch; turn (reverse side facing), k4; turn (right side facing), k4; lift the 2nd, 3rd, and 4th sts onto the lefthand needle one at a time and in that order, over the 1st stitch; knit the 1 remaining stitch.

Row 1 (right side): P5, * MB, p9 * ; repeat from * to * across, ending with p5.

Rows 2, 4, 6, 8, 9, and 10: Purl all stitches.

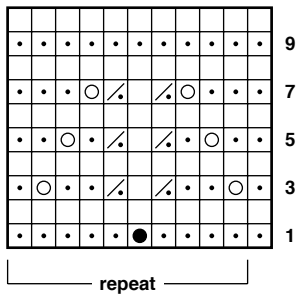
Row 3: P1, * yo, p2, p2tog, k1, p2tog, p2, yo, p1 * ; repeat from * to * across.

Row 5: P2, * yo, p1, p2tog, k1, p2tog, p1, yo, p3 * ; repeat from * to * across, ending with p2.

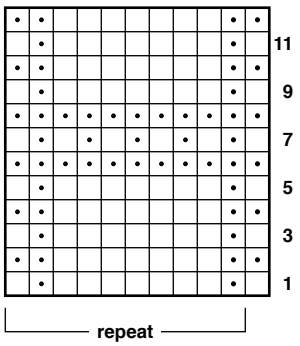
Row 7: P3, * yo, p2tog, k1, p2tog, yo, p5 * ; repeat from * to * across, ending with p3.

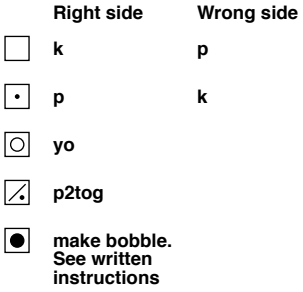
These 10 rows complete the edging.

Bobble Border chart



Pattern 25 chart





Pattern 25

Multiple of 10 stitches plus 1.

Rows 1, 3, and 5: * K1, p1, k7, p1 * ; repeat from * to * across, ending with k1.

Rows 2 and 4: K2, * p7, k3 * ; repeat from * to * across, ending with k2.

Row 6: Knit all sts.

Row 7: * K1, p1 * ; repeat from * to * across, ending with k1.

Row 8: Knit all sts.

Rows 9 and 11: * K1, p1, k7, p1 * ; repeat from * to * across, ending with k1.

Rows 10 and 12: K2, * p7, k3 * ; repeat from * to * across, ending with k2.

Repeat rows 1 to 12.

Sample 2

The light and lofty nature of Dorset Down wool suggests that it would be ideal for a knitted fabric with an embossed pattern. The extra yarn and layers of stitches required to produce these patterns can make a garment heavy and dense. This two-ply yarn is round enough to show the pattern to good advantage, yet airy enough to keep the fabric lightweight.

I spun the yarn from flick-carded locks. This yarn was not nearly as easy to control as the finer yarn in sample 1, and I was disappointed that it was not more evenly spun. The short staple and loft of the fleece make it difficult to produce a very consistent medium to heavy yarn. Even a slight increase in the diameter of the yarn or an inconsistency in the fibers can fluff up into a significant slub.

The yarn measures about 1,400 yards per pound (2,822 m per kg) and 10 wraps per inch (2.5 cm), and has a 42° angle of twist. The swatch is knitted in Blackberry Bobble Pattern from *A Treasury of Knitting Patterns,* by Barbara Walker.

Blackberry Bobble Pattern

Multiple of 20 stitches plus 1.

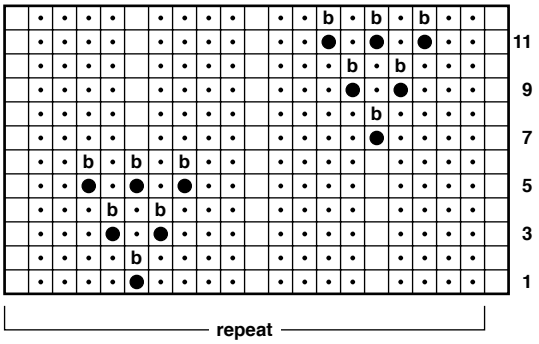
MB—make bobble: (K1, yo, k1, yo, k1) into the same stitch, forming 5 bobble stitches; turn and p5 across the bobble stitches; turn and k5, then pass the 4th, 3rd, 2nd, and 1st stitches separately over the last stitch knitted, completing bobble.

Row 1 (right side): K1, * (p4, k1) twice, p4, MB, p4, k1 * ; repeat from * to * across.

Abbreviations

b—work into the back of the stitch
ch—chain
dc—double crochet
k—knit
p—purl
rep—repeat
st(s)—stitch(es)
tog—together
tr—treble crochet
yo—yarn over

Blackberry Bobble Pattern chart



	Right side	Wrong side
□	k	p
•	p	k
b		pb
●	make bobble. See written instructions	

Row 2: P1, * k4, p1b (into bobble stitch), (k4, p1) three times * ; repeat from * to * across.
Row 3: K1, * (p4, k1) twice, p3, MB, p1, MB, p3, k1 * ; repeat from * to * across.
Row 4: P1, * k3, p1b, k1, p1b, k3, p1, (k4, p1) twice * ; repeat from * to * across.
Row 5: K1, * (p4, k1) twice, p2, MB, (p1, MB) twice, p2, k1 * ; repeat from * to * across.
Row 6: P1, * k2, p1b, (k1, p1b) twice, k2, p1, (k4, p1) twice * ; repeat from * to * across.
Row 7: K1, * p4, MB, (p4, k1) three times * ; repeat from * to * across.
Row 8: P1, * (k4, p1) twice, k4, p1b, k4, p1 * ; repeat from * to * across.
Row 9: K1, * p3, MB, p1, MB, p3, k1, (p4, k1) twice * ; repeat from * to * across.
Row 10: P1, * (k4, p1) twice, k3, p1b, k1, p1b, k3, p1 * ; repeat from * to * across.
Row 11: K1, * p2, MB, (p1, MB) twice, p2, k1, (p4, k1) twice * ; repeat from * to * across.
Row 12: P1, * (k4, p1) twice, k2, (p1b, k1) twice, p1b, k2, p1 * ; repeat from * to * across.
Repeat Rows 1 to 12.

Sample 3

This sample was spun with a light, warm blanket in mind. The crochet pattern is one I have used successfully several times. It's from *A Complete Guide to Crochet,* edited by Pamela Dawson. Cellular crochet patterns make wonderful blankets and throws. The air trapped between the stitches provides good insulation and adds considerably to the warmth of the fabric.

To maximize the airiness and warmth of the wool, I decided on a two-ply yarn spun from hand-carded rolags. Here I ran into trouble! I opened out the staples by hand before carding them, but there were neps in the finished rolags.

Because this was lamb's wool, I immediately suspected the birth coat, which often remains in the first fleece as curly, brittle tips. In the previous two samples, which I had flick carded, I surmised that flicking had probably removed the tiny tips. When the fiber was simply hand carded, it was likely that the tips broke off and remained in the fiber to produce neps in the rolags. The solution was easy—I simply pulled the tips off the staples as I loaded the cards—and so I continued.

Still I encountered neps! After very careful examination, these appeared to be coming from the butt ends of the staples, not the tips. When tested for strength, the fleece was sound. There was no visible sign of anything amiss. I later talked about this to the grower and he was unable to throw any light on the matter.

It is possible that there was some double shear that I did not notice and the resulting short fibers were creating the neps. Double shear occurs when a portion of already shorn fleece is accidentally re-cut on a subsequent blow, leaving very short pieces of wool at the butt ends of the staples.

Annoying though they were, in the final analysis the neps did not detract significantly from the yarn. I spun the rolags with a long draw. The yarn measures about 813 yards per pound (1,639 m per kg) and 7 wraps per inch (2.5 cm), and has a 38° angle of twist.

Cellular Pattern

Multiple of 8 chain plus 2. Pattern is written in American terms, based on double crochet (dc). For English original, substitute term treble crochet (tr) for each double.

Row 1: Into 4th ch from hook, work 1 dc; 1 dc into each ch to end; turn.
Row 2: Ch 3 for 1st dc, skip first dc, (1 dc into next dc, inserting hook from the front of the work horizontally from right to left under the vertical bar of the dc in previous row, so that the hook is on the front of the work) 3 times, (1 dc into next dc, inserting the hook from the back of the work from

right to left over the vertical bar of the dc in the previous row, so that the hook is on the back of the work) 4 times. Continue working 4 dc to the front and 4 dc to the back of the work to the end of the row, working last dc into 3rd st of ch-3; turn.

Row 3: As for row 2.

Row 4: Ch 3, skip first dc, work 1 dc to the back of each of the next 3 dc, work 1 dc to the front of the next 4 dc. Continue in this way, reversing the checked effect to the end of the row, working the last dc into the 3rd of ch-3; turn.

Row 5: As for row 4.

Repeat rows 2 to 5.

Nola Fournier lives in Nelson, New Zealand. With almost thirty years of spinning experience, she is well known as a teacher at regional and national workshops, and sometimes teaches internationally. As a spinner who has no desire to raise her own sheep, she appreciates the efforts of the sheep and wool growers who provide us with diverse, high-quality raw materials. Nola has recently been experimenting with ways to incorporate beads into her yarns. She's a co-author (with her daughter, Jane Fournier) of In Sheep's Clothing: A Handspinner's Guide to Wool *(Loveland, Colorado: Interweave Press, 1995).*

Resources

Dawson, Pamela, ed. *A Complete Guide to Crochet.* London: Marshall Cavendish, 1976. Page 98 for cellular stitch.

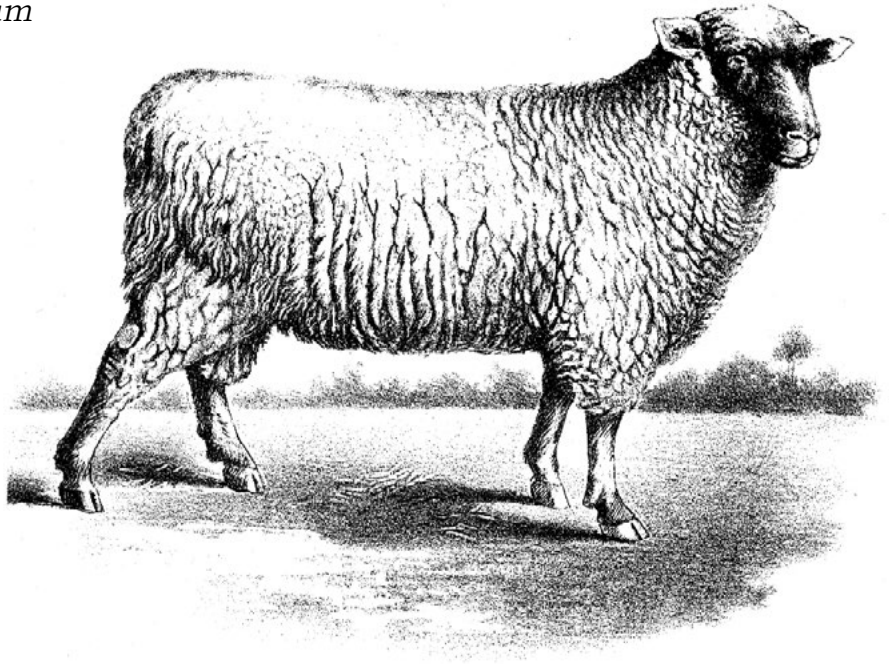
Nicholas, Kristin. *Knitting the New Classics: Sixty exquisite sweaters from Classic Elite Yarns.* New York: Sterling/Lark, 1995. Page 38 for Bobble Border pattern used at bottom of sweater.

Stanfield, Lesley. *The New Knitting Stitch Library.* Asheville, North Carolina: Lark Books, 1998. Page 33 for Pattern 25.

Walker, Barbara. *A Treasury of Knitting Patterns.* New York: Scribner's, 1968. Pages 145–146 for Blackberry Bobble Pattern. (Barbara Walker's *Treasury* series has been recently reissued. Pittsville, Wisconsin: Schoolhouse Press, 1998.)

Hampshire

by Deborah Pulliam



Hampshires are all over the place, although you might not have noticed them because they're mostly raised for meat. An established and adaptable breed, they produce excellent wool for making everyday clothing, like socks and sweaters. The lithograph shown above was found in an old book for which we have no identifying information, although we know this is a Hampshire ram named Baron, imported to New York by someone named James Wood.

LIKE MANY OTHER BREEDS, Hampshire sheep take their name from the region in southern England where the breed was originally developed. They are well suited to the local country of open rolling hills called *downs,* and in Britain the breed is still known as Hampshire Down.

These large, mild-mannered animals are equally at home on managed pasture or on the open downs of their native Hampshire county. Their adaptability and the ability to produce fast-maturing, crossbred market lambs have made this a popular breed overseas. Flocks of Hampshires flourish in the United States, South Africa, Australia, and New Zealand.

A long-established breed, Hampshires were first introduced into the United States in the second quarter of the nineteenth century, although there is no indication that they survived the Civil War in North America. The breed association believes that Hampshires began arriving in the country again as soon as the war ended in 1865, but the first recorded importation didn't occur until 1879. In the United States, the largest populations of Hampshires are in the midwest, but at least a few of these sheep can be found in most states. The Hampshire Down Breeders' Association was formed in England in 1889, the same year the American association was formed. Both are still active.

Like many of the other down breeds, Hampshires are open-faced sheep, with dark brown or black faces, ears, and legs. Both sexes are hornless. They are large sheep; in the United States mature rams are expected to weigh at least 275 pounds and ewes at least 200 pounds.

Hampshire wool is generally very springy and airy. Staple lengths can range from 2½ to 5 inches (6.4 to 12.7 cm), and the wool exhibits a well-developed and resilient crimp, which gives the wool its remarkable elasticity and springiness. The nature of this crimp can be easily demonstrated by comparing the length of a staple at rest with that of an extended staple. The average fiber diameter of the wool gives it a count range of 46s to 58s (23 to 35 microns). The breed standards call for a year's growth of fleece to weigh about 8 pounds (3.6 kg), and you can usually expect at least 50 percent of a fleece to be clean, usable wool. While not lustrous, Hampshire wool doesn't look flat and chalky, as does the fleece of many other down breeds.

Because Hampshires are raised in the United States primarily for their meat, their wool tends to be more variable than that of breeds raised for fiber, and husbandry

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practices used with Hampshires may not be designed to preserve fleece quality. However, there are lots of Hampshires, and it is possible to find good quality, fine, springy fleece—perhaps closer than you imagine.

Breed Associations: American Hampshire Sheep Association, PO Box 277, Whiteland, IN 46184-0277; (317) 535-7601. Hampshire Down Sheep Breeders' Association, 21 Strangeways, Larkhill, Salisbury, Wiltshire, England; 44 053 6 420161.

Working with Hampshire fleece

Because it is usually considered a meat breed, you won't generally see advertisements for Hampshire wool, but don't let that deter you. When I was looking for raw fleece to sample for this article, I wrote for a copy of the association handbook, which lists all registered breeders. I found the breeder closest to me, called her up, and within several days had a good supply. Breeders are also easy to find at sheep and wool fairs, and at local county or state fairs.

Handspinners often overlook the great possibilities of Hampshire fleece for producing bouncy, durable yarns. Few Hampshires wear coats to protect their fleeces, so the fiber may contain more vegetable matter than you'd like, but I have found otherwise stunning fleeces that have been well worth the effort of heavy skirting and careful processing.

Hampshire fleeces tend to be off-white, rather than a bright white. I usually think of their color as "oatmeal." Although kemp and black fibers are considered undesirable, you will find them in some fleeces. On the whole, I haven't found kemp to be a problem, and I enjoy the depth that black fibers add to my yarns. If you don't care for this quality, check any fleece carefully for kemp or colored fibers before buying it and then skirt carefully.

Because there is often considerable variation in the wool throughout a fleece, I usually send my Hampshire fleeces to a small mill near my home, which does an excellent job of cleaning and then thoroughly blending the fibers. Preparation methods that help to blend any variations in fiber characteristics are usually best (such as drum carding or hand carding), especially if you need a large quantity of wool for one project and do not want the variations to be obvious in your finished article. With the commercially carded sliver, I've successfully spun a wide range of yarns, including a heavyweight four-ply as well as sport- and fingering-weight yarns with two, three, and four plies.

Like most other down breeds, Hampshire has little tendency to felt and a relatively low proportion of wool wax. It usually washes very clean without special care. Because the wool is so easy to clean, I've found Hampshire yarns to be ideal for articles that need frequent washing, like socks, work clothing, and children's clothes.

This registered Hampshire, owned by Denise and Kyle Preuit, of Fort Collins, Colorado, earned the name Dragon (for "dragon-breath").

Photo by Joe Coca

One of the Preuits' registered Hampshires, chowing down.

Yarn and Swatch Details

Sample 1

This plain, balanced three-ply is intended for sweaters and heavy socks. Because the wool has an abundance of natural loft, it's easy to spin medium- to heavyweight knitting yarns that are remarkably light and elastic for their diameter. The same properties carry over into the knitted fabric, resulting in a garment that has excellent shape retention and is very warm for its weight. The yarn's lightness makes it particularly well suited for surface patterning, such as cables, where the density of stitches adds to a garment's weight.

The singles were spun with a woolen-style long draw from commercially carded sliver. The finished three-ply, at 750 yards per pound, measures approximately 8 wraps per inch (2.5 cm) with a 42° angle of twist. The swatch was knitted in a tangled cables pattern.

Sample 2

When a friend asked for a pair of lightweight socks, I used a Hampshire fleece I'd bought literally off the back of the ewe. It was slightly finer, and therefore softer, than the fleece in sample 1. I lightly spun the singles woolen-style from commercially prepared sliver and then plied three strands together, with a bit of extra plying twist to add springiness to the yarn and to compensate for the untwisting that occurs during knitting. I find Hampshire wool particularly appropriate for socks, and not only because it washes well. The fiber's resilience creates a knitted fabric that cushions feet inside footwear and doesn't compress or felt with wear.

This finished yarn, at 1,500 yards per pound, measures approximately 14 wraps per inch with a 45° angle of twist. The swatch was knitted in Gull Wings pattern, from *A Knitter's Almanac* by Elizabeth Zimmermann (New York: Charles Scribner's Sons, 1974).

Knitting Abbreviations

c4f—Slip 2 stitches to cable needle, hold in front of work, k2 then k2 from cable needle.
c4b—Slip 2 stitches to cable needle, hold in back of work, k2 then k2 from cable needle.
k—knit
p—purl
ssk—Slip the first and second stitches knitwise one at a time, then insert the tip of the left-hand needle into the fronts of these two stitches from the left, and knit them together from this position.
tog—together
yo—yarn over

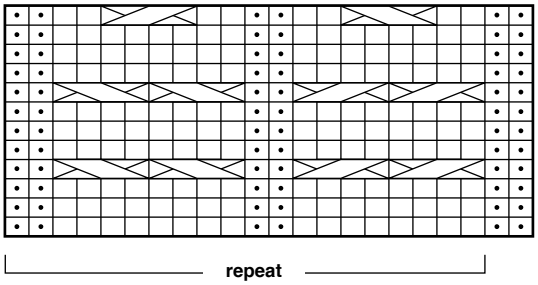
Sample 3

When I began to think about using some of this springy, resilient wool in a hooked rug, I wondered how it would comb. Traditionally, down-type wools are prepared and spun into woolen yarns, but there's no reason they can't be combed if the fleece is long enough to anchor in the tines and still leave a fringe of fiber through which to pass the opposing comb.

Using double-pitch Viking combs, I prepared a batch of fleece and spun two- and three-ply samples that were smoother than most I had been spinning from the carded wool. I also tried flick carding, using the flick carder to quickly open both ends of the locks. This, too, worked well and resulted in a smoother preparation and yarn than the carded fiber. Flicking also removes any vegetation and short cuts, which make for unpleasant spinning if they remain in the preparation.

I spun the yarn for hooking from combed fiber with a short, worsted-style draw. The yarn was what I consider "firmly plied." When I began hooking, however, I realized that more plying twist might have helped! I dyed the gold yarn with cutch, using an alum mordant. The yarn, at 525 yards per pound, measures approximately 10 wraps per inch (2.5 cm), with a 38° angle of twist. The swatch was worked on a medium-coarse, 100-percent linen fabric with a size B (2 mm) aluminum crochet hook.

Chart for "Tangled Cables" pattern used in Sample 1. The key to the symbols is below.



Tangled Cables

Multiple of 20 sts plus 2.

Row 1 and all following odd-numbered rows: (Wrong side) K2, * p8, k2; repeat from * across.

Rows 2, 6, and 10: P2, * k8, p2; repeat from * across.

Rows 4 and 8: P2, * c4b twice, p2, c4f twice, p2; repeat from * across.

Row 12: P2, * k2, c4f, k2, p2, k2, c4b, k2, p2; repeat from * across.

Repeat rows 1 to 12.

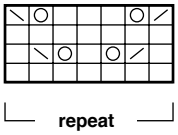


Chart for "Gull Wings" pattern used in Sample 2, a design from Elizabeth Zimmermann's A Knitter's Almanac.

Gull Wings

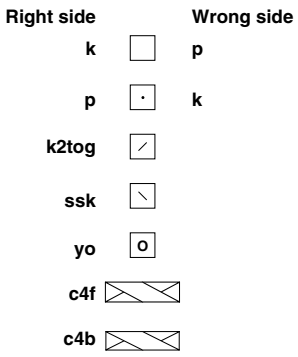
Multiple of 7 sts.

Row 1 and all following odd-numbered rows: (Wrong side) Purl.

Row 2: K1, k2tog, yo, k1, yo, ssk, k1; repeat from * across.

Row 4: K2tog, yo, k3, yo, ssk; repeat from * across.

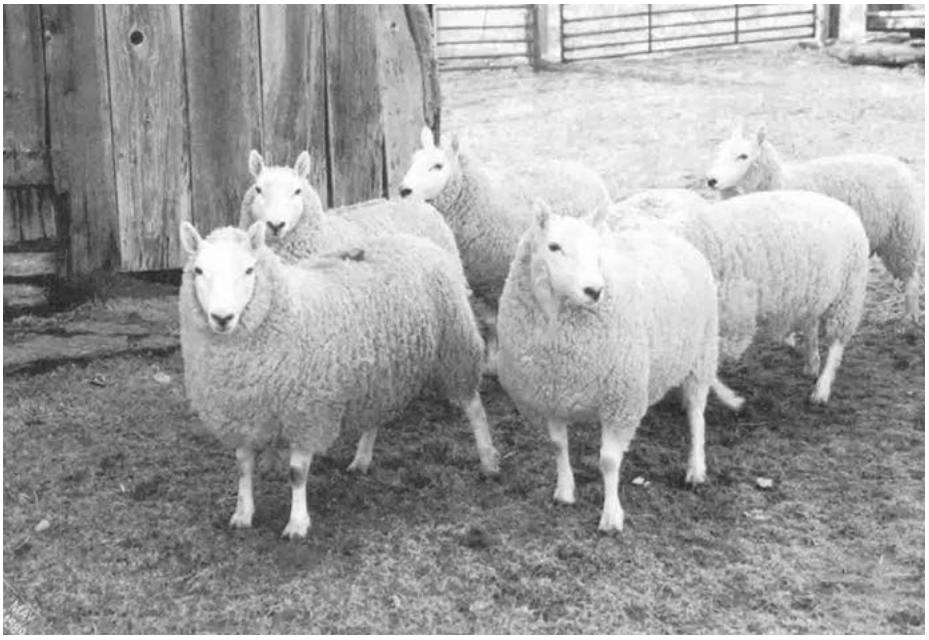
Repeat rows 1 to 4.



Thumper, a registered Hampshire with a bouncy gait, and Denise Preuit in 1982. All Hampshire photos by Kyle Preuit of Fort Collins, Colorado.

Border Cheviot

BY LINDA BERRY WALKER



Yearling Cheviot ewes bred by Charles and Laurie York.

Breed origin: Native to the Cheviot Hills, the border area between Scotland and England.

Most prevalent location in North America: Eastern farm flocks.

Animal size: Rams—160 to 200 pounds; ewes—120 to 160 pounds.

Fleece weight: 5 to 7 pounds.

Wool type: Medium wool.

Numerical count: 48s to 56s

Staple length: 3" to 6"

Sheep tips: The stylish, alert Cheviot is a compact, short-legged animal of medium size with a bald head, erect ears, and ruff of wool behind the ears. Bred since the Middle Ages to withstand extremely hard conditions, the Cheviot stands up particularly well to cold and wetness.

The Cheviot ewe is a utilitarian, hardy animal, with good mothering and milking qualities, which she passes to her crossbred progeny along with a tolerance for cold, humidity, and extremes of climate. Although these sheep do not herd well, they are known for their ability to shepherd themselves.

Choosing a fleece: Once commonly available to handspinners, good Cheviot fleeces are now something you'll have to search for in the United States. However, in Scotland this breed accounts for approximately one-fifth of the total wool production.

Look for a fleece with square, blocky staples and a full, springy hand. Avoid a fleece with a harsh handle, especially one which shows hairy britch or kemp fibers. Expect a good fleece to be chalky white in color and light in weight.

Spinning pointers: Cheviot is an easy breed to spin without carding, because the locks are not well defined. For more control in spinning an even yarn, card first and spin with a firm tension. Aim to retain the springy lofting characteristics of the fleece in a resilient, full-handling, light yarn. Cheviot wool makes great general-purpose, no-nonsense, durable knitting and weaving yarns, able to take dye in delicate, clear, pastel shades, as well as brighter colors. Try using a relatively large needle and loose tension in knitting, and set a woven piece on the open side, to preserve the light, lofty feel of the fiber.

Breeder's association: American Cheviot Sheep Society, Ruth Bowles, Secretary, R. R. 1, Box 100, Clarks Hill, Indiana 47930.

Originally published in *Spin·Off*, Summer 1991.

Fiber Basics:

CHEVIOT

BY CAROL HUEBSCHER RHOADES

Jimmy, the sheepdog, is hard at work on Littledale Farm in Wisconsin herding one North Country Cheviot in a group of Scottish Blackface sheep. Both breeds can be found in the mountainous regions of Scotland and Northern England.

PHOTOS BY GRAHAM PHILLIPSON

Cheviot sheep, which originated in the Cheviot Hills on the eastern border between England and Scotland, are a hardy breed with easily processed, durable wool. The sheep are distinctive looking with erect ears and Roman noses. Originally noted for their fine wool, they eventually became more useful as a meat breed and in crossbreeding. Cheviots are classed as mountain and hill sheep in the United Kingdom, with several recognized breeds, including North Country, South Country or Border, and Brecknock Hill Cheviot. I will discuss the most common Cheviot sheep here rather than the breeds that developed in various parts of Scotland and Wales.

The North Country Cheviots from Graham and Margaret Phillipson's farm, Littledale, in Richland, Wisconsin, are the Caithness type. This means that the bloodlines are from Caithness in the very far north of Scotland. Caithness-type Cheviots have a heavier bone structure and thicker wool than other types of Cheviots.

History of the Cheviot breed

Most sources indicate that there was a hardy breed of sheep roaming the Cheviot Hills as early as 1372. These sheep were small but able to withstand the region's harsh, windy conditions. It is likely that the sheep native to the Cheviot Hills were selected and improved in monastery flocks during the fourteenth to eighteenth centuries. However, after Merino sheep were introduced to Britain in the fifteenth and sixteenth centuries, the importance of Cheviots as a fine wool source diminished.

Originally published in *Spin·Off*, Winter 2006.

Two men in particular are cited as improving and stabilizing the breed in the late eighteenth century. James Robson mated large rams from Lincolnshire with short-wool ewes to produce sheep with a higher wool yield. Sir John Sinclair, who wrote County Agricultural Reports covering several Scottish counties, is credited with naming the Cheviot breed. He improved and promoted the breed after introducing it to his estate in Caithness. As David Kinsman notes, "Sheep perfection in the eyes of Sinclair was a large bodied animal, with white fairly fine wool and reasonably hardy; in all these features, the Cheviot met the bill" (Kinsman 2001, 54).

By the nineteenth century, Cheviots were more widely found in the northern parts of the United Kingdom—to the detriment of the people who were cleared from the land so that landlords could maximize profits. In Shetland, Cheviots were crossed with Shetland sheep to produce a heavier wool clip and lamb size. Unfortunately, the larger sheep needed more to eat and were not viable on the sparse grazing lands of the Shetland Islands.

Cheviots were also exported to other countries. Norway imported Cheviots in the 1860s and used them extensively for crossbreeding with the native northern short-tail primitive sheep. Cheviots contributed to the development of several modern Norwegian sheep breeds, including Dalasau, Rygja, and Steigar sheep. Purebred Cheviots are now listed among the "Norwegian" breeds.

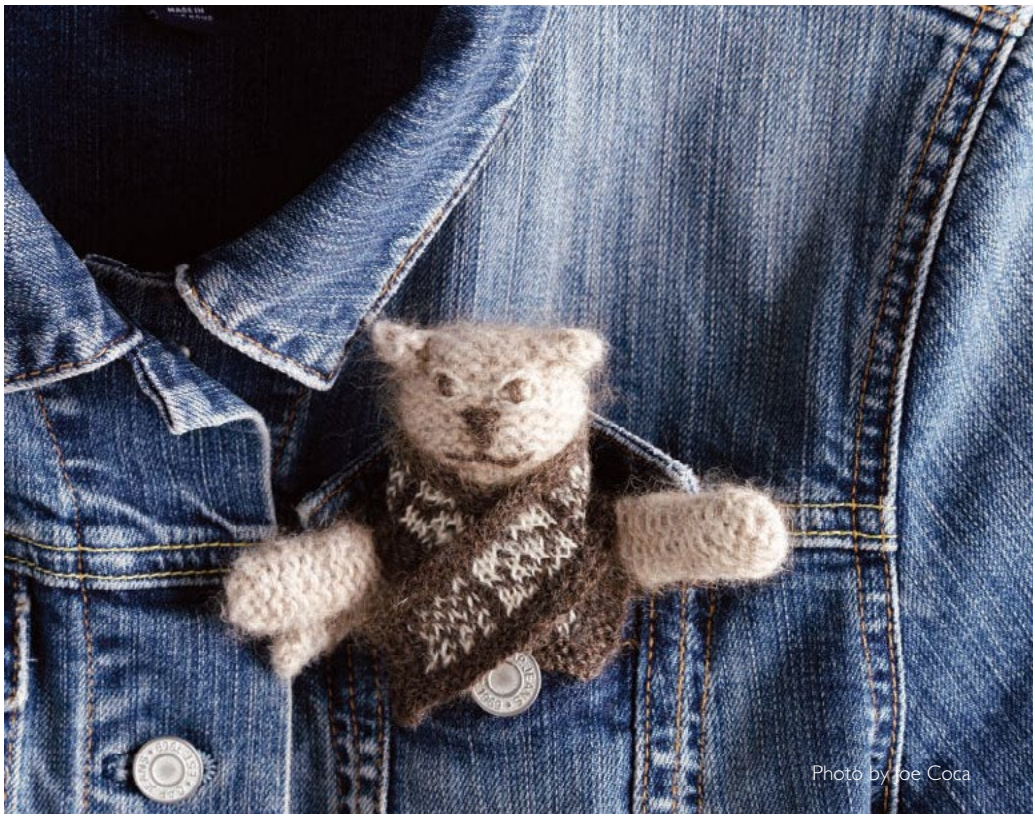
Cheviot sheep are also found in the United States (first imported in 1838), Canada, Scandinavia, Australia (introduced in 1938), and South Africa. Cheviots were one of the first sheep to arrive in New Zealand (as early as 1845), but their numbers have remained small. Wherever they live, they are most often bred for terminal sire rams or crossbred ewes.

Breed characteristics

Cheviots are small- to medium-size sheep with rams averaging 160 to 200 pounds and ewes 120 to 170 pounds. Although some rams are horned, most Cheviots are polled (hornless). Their heads and legs are free from wool, and their bodies are compact with short legs. Cheviots have long been recognized for their excellent survival, lambing, and mothering qualities. They are described as "very alert, active sheep, with a stylish, lively carriage."[1]

The chalky white wool has a rather large range of fiber diameter, from 28 to 33 microns or Bradford 56s to 48s. Coarser fleeces or those from hill flocks are more likely to have kemp, a positive feature that separates the wool fibers for better insulation on the sheep. Cheviot fibers have a helical crimp that gives the wool resilience and springiness. Even the finer fibers feel crisp and bouncy. The staples are blocky (not well defined) with slightly pointed tips and an average length of 3 to 5 inches. The dense fleeces,

[1] www.ansi.okstate.edu/breeds/sheep.



weighing 3 to 7 pounds or more, are not overly greasy and yield 50 to 75 percent clean wool. Because the breed has become so widespread and breeding goals differ, the wool will not necessarily be uniform from source to source.

Cheviots produce excellent meat with plump cuts but little fat. The lambs mature quickly to market size and their natural vigor means that most survive for the market. Cheviot wool is most often used in the tweed and carpet industries. Whether alone or blended with coarser wools, it adds resilience and durability to finished products. Finer fleeces make lightweight blankets, knitwear, and hosiery.

Preparing Cheviot wool

All of the Cheviot fleeces I sampled were easy to prepare and spin. Because the wool is usually from meat or cross-breeding flocks, you cannot expect it to be exceptionally clean or have consistent quality. You might find kemp (very coarse, brittle, short fibers) in sections of the fleece as well as some vegetable matter and/or manure.

The amount of sorting for Cheviot fleeces is really up to the spinner. None of the fleeces I obtained had belly wool, but some needed additional skirting (removing the undesirable parts of a fleece). I tossed out britch wool, which had too much vegetable matter and kemp. I put aside yellow-tinged sections of the fleece for dyeing. If the wool had too much vegetable matter, especially fine bits, I took it outside and shook it well.

The sections of wool most typical of the fleece are put into one large pile and the remaining wool is sorted into smaller lots that can be combined if desired. The New Zealand Cheviot was a very nice well-skirted fleece that did not need any further sorting. It cost considerably more than the others but was well worth the price.

None of the fleeces had very much oil, and they all washed quickly in one hot soapy wash (about ¼ cup Orvus Paste in a kitchen sink full of water) and two rinses in the same temperature water. Since I always place wool in a nylon net bag for washing, it is easy to spin out the extra water outside by grabbing one end of the nylon bag and twirling the bag vigorously or with a quick spin in the washing machine. I then spread the wool out to dry on a rack outside. When the fleece is dry, I can shake it outside to remove more of the fine bits of vegetable matter if necessary.

The staple length and springy quality of Cheviot wool make it an excellent fiber for handcarding. The locks feel crisp but not harsh, and that crispness holds the shape of the rolags. All of the Cheviot fleeces I sampled were easy to card with only three to four strokes, transfer, three to four more strokes, transfer, and roll up. Because some Cheviot fleeces have 4- to 6-inch staples, the fiber could be combed or flick carded.

A clean, open fleece can also be drum-carded easily. Be sure and open the locks well and feed in only small amounts at a time. If the fleece has a lot of fine vegetable matter, shake it out first and vacuum around the drumcarder frequently so that those particles won't damage the carder's bearings or motor.

Spinning Cheviot

Cheviot wool is a prime candidate for woolen spinning. With well-carded rolags, the core of air is maintained during woolen spinning. The resulting yarn is light and springy, ideal for lightweight sweaters, mittens, caps, and socks. Even yarns spun with a short forward or backward draw will have a nice bounce. Of course, a lot of twist in

Sample 1: Kitty. 1) White Canadian Cheviot lamb's wool and copper satin angora (2JP Ranch); 2–4) White, dark gray-brown, and gray Cheviot/Polwarth from New Zealand (used for embroidering kitty's features and for scarf); 5) Two butterflies of Cheviot/Polwarth spindle-spun yarn (25 wraps per inch); 6) Small skein of 2-ply Cheviot lamb/satin angora yarn, 100 yards per ounce, 14 wraps per inch.

Photo by Joe Coca

Photo by Joe Coca

Sample 2.

the yarn will make it dense and prickly; it would be difficult to get a smooth, sleek yarn from Cheviot wool.

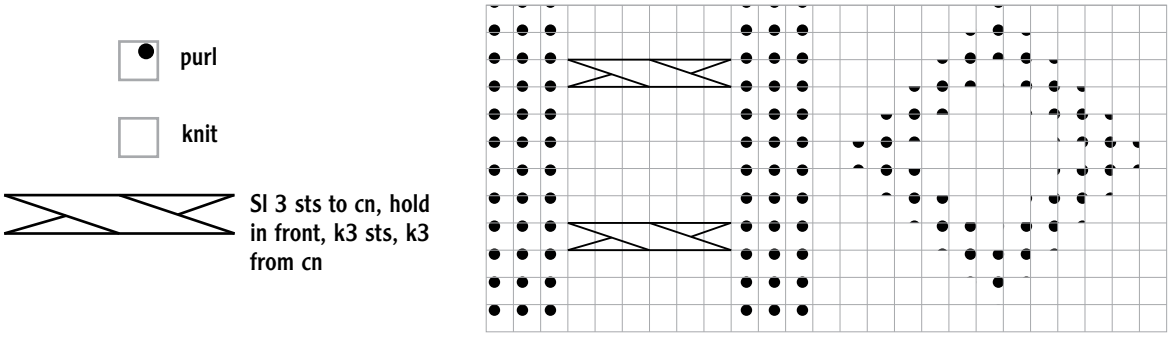
Finishing Cheviot yarn should be quick—wash in warm water with a small amount of woolwash, rinse once or twice, and then hang the skein to dry. When you are measuring Cheviot wool yarn on a niddy-noddy, make sure you account for the yarn's elasticity. I always round down the number of yards counted, especially if I need a certain amount for a project.

Yarn and swatch details

Sample 1

The yarn for my knitted kitty is about 25 percent copper angora (Satin Angora from 2JP Ranch) and 75 percent white Cheviot lamb (obtained in Alberta, Canada). Both fibers were 1½ to 2 inches long. The Cheviot lamb had a few fine kemp fibers but most fell out as I carded. I blended the fibers on my Louet cotton cards. I started with only wool on the card, carded two strokes, and then added the angora, sandwiching it between layers of wool. It only took a few strokes and two transfers to blend the fibers and roll the rolag. I carded very gently so that these two short and fine fibers would not enmesh in the carding teeth. I spun the forty-four rolags long draw on my Lendrum at 12:1 and plied at a 15:1 ratio. When spinning the singles, I checked occasionally to make sure there was enough twist. The ¾-ounce skein had 75 yards at 14 wraps per inch. I washed the skein in warm water with a teaspoon of woolwash, rinsed it, and hung it, un-

Chart for Guernsey cap.



Sample 2: Guernsey cap. **1)** Locks of light and dark New Zealand Cheviot fleece (obtained from Treenway Silks); **2)** Small skein of 3-ply, 54 yards per ounce, 12 wraps per inch.

weighted, outside to dry. A light breeze fluffed the yarn nicely.

The pattern for the double-knit kitty comes from *Usynlege trådar i strikkekunsten (Invisible Threads in Knitting* by Annemor Sundbø, 2005;[2] www.annemor.com). I knitted my cat on U.S. size 3 needles (3.25 mm). For embroidering the features, I used mini-combs to comb tiny amounts of 4-inch-long white, gray, and dark gray-brown Cheviot/Polwarth fleece and spun the rovings into a fine two-ply yarn (25 wraps per inch) on my Cascade St. Helens spindle with a short forward draw. I spindle spun a little more gray-brown when I decided kitty needed a Sanquhar check scarf (in honor of his Cheviot Hills Scottish heritage).

Sample 2

The New Zealand Cheviot wool was softer than the other fleeces I tried. Although the locks felt a little flat compared to those of the other fleeces, the carded batts were lovely and lofty. I couldn't wait to spin them. I carded six batts on my Patrick Green Supercard electric drumcarder. It was easy to tease the wool and let the infeed roller take it from the tray a few well-opened locks at a time. I stripped each batt into six lengthwise segments and spun each with a short backward draw on my Lendrum at a 12:1 ratio. I was careful to keep the singles a bit on the thin side for the three-ply yarn that measured 54 yards per ounce and 12 wraps per inch. Eventually, I want to knit a Guernsey with this fleece, but for now the cap is a wearable gauge swatch for the yarn and motifs.

The design for the cap was inspired by motifs on various Scottish fleet sweaters described in *Patterns for Guernseys, Jerseys and Arans* by Gladys Thompson (see Resources). I knitted the cap on a U.S. size 2 (3 mm) circular needle. The welts are four purl rounds followed by four knit rounds. I worked the 25-stitch repeat 5 times around (125 stitches), and on round 9 of the third diamond, I began decreasing on every round at each side of the diamond blocks. After that, I decreased on alternate rounds within the purl stitches and, finally, at the center of the cables.

I deliberately spun and plied the yarn for the cap so that it would be smooth and somewhat dense to show off the Guernsey motifs. I prefer a softer yarn for knitting but that wouldn't have been suitable for this project. The three-ply yarn will be just right for a Guernsey as well as socks and sturdy mittens.

Sample 3

I chose a North Country Cheviot from the United Kingdom for the crochet bag. The fiber was quite lively. After working on the other projects, I had an idea about how to process the wool. I carded the fiber into batts on my Patrick Green Supercard drumcarder and then divided each batt in half lengthwise. Each segment was then rolled across the length into a long sausage, attenuated to thin it down, and spun S (counterclockwise) on my Lendrum at 12:1. With the fiber arranged like a very long rolag, I was able to spin it with a modified long draw as for spinning cotton. I drew out a section that was a bit lumpy, pinched off the fiber at the rolag and the yarn near the orifice (so twist wouldn't enter), and then pulled back to even out the yarn. As that yarn moved onto the bobbin, I drafted, pinched, and repeated the process. The yarn was not as lofty as a true woolen yarn, but it was still plenty lively. The yarn was plied in the Z direction (clockwise). An S/Z yarn works better for crocheting for me than a yarn spun Z and plied S.

The three batts yielded 105 yards at 78 yards per ounce and 13 wraps per inch.

The original plan was for a slip-stitch crochet bag, but the yarn had enough surface fuzz that the pattern was obscured and it was hard to work the stitches. I quickly found an alternate pattern in *The Harmony Guides 300 Crochet Stitches* (see Resources). My bag,

[2] The 2006 English translation of this book is available through Schoolhouse Press.

5 inches long by 4½ inches wide, is worked back and forth over 48 sts in ridged chevron stitch. I used a size E crochet hook to get a gauge of 5⅓ sts and 2½ rows per inch. I worked 13 rows and then 4 more rows over only the first 24 sts of the row, with 7 chain stitches for the button loop between the center increases on the last row. In a looser gauge, this yarn and pattern would make a nice scarf.

Ridged Chevron Stitch (the original pattern from *The Harmony Guides 300 Crochet Stitches*—[see Resources]) has been translated into U.S. crochet terms)

Multiple of 12 sts + 3 for base chain

Row 1: Miss 3 ch (= 1 dc), 1 dc into next ch, *1 dc into each of next 3 ch, (over next 2 ch, dc 2 tog) twice, 1 dc into each of next 3 ch, (2 dc into next ch) twice; rep from * and end last rep with 2 dc once only into last ch; turn.

Row 2: Ch 3 (= 1 dc), 1 dc into first st (always inserting hook into back loop only of each st), *1 dc into each of next 3 sts, (over next 2 sts, dc 2 tog) twice, 1 dc into each of next 3 sts, (2 dc into next st) twice; rep from * and end last rep with 2 dc once only into top of turning ch; turn.

Repeat Row 2 until piece is desired length.

All in all, I found Cheviot wool very easy to process and use. I like lofty yarns for knitting, and this wool provided that. For any project with Cheviot, sample first, as you will probably find that you'll need a larger needle/hook size or wider sett than typical for that diameter yarn. The yarn feels and looks nicest when it is not compressed. Cheviot wool is an excellent choice for socks, mittens, and caps as well as blankets and tweed suiting.

CAROL RHOADES *lives in Austin, Texas, where she plays with wool almost every day, even when it is 112°F outside.*

Fiber Sources

British North Country Cheviot, British Wool Marketing Board, Wool House, Roydsdale Way, Euroway Trading Estate, Bradford, West Yorkshire BD4 6SE United Kingdom; Tel: 01274 688666; Fax: 01274 652233; www.britishwool.org.uk.

Canadian Cheviot lamb, Tracy Jarratt, tracy jarratt@shaw.ca.

Littledale Farm, Graham and Margaret Phillipson, 21925 County Highway ZZ, Richland Center, WI 53581. (608) 647-7118; littledalefarm@apmt.com; www.littledalefarm.com.

New Zealand Cheviot and Cheviot/Polwarth, Ashford fleeces purchased from Treenway Silks, www.treenwaysilks.com.

Satin Angora rabbit, Polly Holmes, 2JP Ranch, 4735 W. Quince Ave., Silver Springs, NV 89429-8801; (775) 577-2100; holmes2jp@pyrimid.net; www.2jpranch.com.

Resources

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Walker, Linda Berry. "Know Your Sheep Breeds: Border Cheviot." *Spin·Off* 15, 2 (Summer 1991), 23.

www.ansi.okstate.edu/breeds/sheep

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www.rala.is/beta (contains the results of a research project funded by the Nordic Gene Bank).

www.rarebreeds.co.nz/cheviot.html.

Photo by Joe Coca

Sample 3: 1) Crocheted bag with blue button. 2) Small skein of 2-ply, 78 yards per ounce and 13 wraps per inch.

Fiber Basics:

Black Welsh Mountain

BY CAROL HUEBSCHER RHOADES

PHOTOS BY SUZANNE CORREIRA

Black Welsh Mountain ewes at Fire Ant Ranch.

The distinguishing feature of the Black Welsh Mountain sheep is its rich black wool.[1] These small sheep also have black faces, noses, legs, and horns. Rams have beautifully curved horns while the ewes are polled (hornless). Black Welsh Mountain sheep are classed as Mountain and Hill breeds, a group known for its hardiness, ability to forage on marginal lands, and good mothering qualities. They can be used to control the vegetation on rough land and the herbage in parklands.

The black color, which does not gray, is the result of a dominant black gene. That means when a Black Welsh Mountain sheep is crossed with a white sheep, the lambs are black. The origin of the breed and the color is not documented, but Welsh Mountain sheep with black fleeces were sought after during the Middle Ages in Britain. Breeders who selected for the black wool in the nineteenth century established the breed. Dr. David Kinsman[2] conjectures that the dominance of the black gene may have come about through crosses with Jacob sheep when both breeds were popular as exotics in parklands and estates.

When Black Welsh Mountain sheep lived primarily in mountains, they needed wool with coarse fibers for protection against the elements. The quality of their wool improved when they were moved onto parkland. The average Bradford count for the wool is now around 48s to 56s or 33 to 26 microns, a medium to slightly coarse quality. The average staple length of 3 to 4 inches makes the wool most suitable for woolen spinning. Locks are blocky, with short pointy tips; the staple has a wave down the length, but individual fibers are crimpy and live-

Black Welsh Mountain Sheep

For more information on Black Welsh Mountain sheep in North America, contact:

American Black Welsh Mountain Sheep Association
Oogie McGuire, Secretary-Treasurer
Desert Weyr, PO Box 534
Paonia, CO 81428-0534
(970) 527-3573; www.blackwelsh.org

The United Kingdom contact is:
Lesley Lewin
Secretary, Black Welsh Mountain Sheep Breeders Association
Lake Villa, Bradworthy
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[1] Examined closely, the wool is actually a very deep brown with reddish overtones.

[2] David Kinsman, *Black Sheep of Windermere: A History of the St. Kilda or Hebridean Sheep* (Windermere, England: Windy Hall Publications, 2001), p. 206.

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ly. The loft of the wool gives the yarn, whether woolen or worsted, a bouncy feel. The wool's quality makes it suitable for tweeds as well as upholstery and rugs. It's usually left undyed but is often blended with white wools for a range of gray shades. Fleeces weigh about 3 to 4 pounds.

Because Black Welsh Mountain sheep graze on natural herbs and grasses in Britain, they yield a lean and tasty meat. In mid-Wales, various Welsh Mountain sheep grazing on moorlands help to maintain the lands as habitats for birds like curlews and black grouse. Meat from these sheep is organic and can be sold to a select market. The dual integration of the sheep with the landscape and the market establishes a worth that helps ensure their viability as a breed.

Black Welsh Mountain sheep are found throughout the United Kingdom, including Ireland. Flocks have also been established in the United States. Although there are not many Black Welsh Mountain sheep in North America, the numbers in the United Kingdom are high enough that the breed is not considered endangered.

The first meeting of the American Black Welsh Mountain Sheep Association (ABWMSA) was held in October 2004. The association has more than forty members who shepherd about 800 sheep. One important function of the association has been to publish a flock book that records dam and sire information on the live Black Welsh Mountain sheep in the United States and Canada. Black Welsh Mountain sheep were imported to the United States in 1973 by Tom Wyeman, and those sheep formed the basis of the flocks now in North America. Genetic diversity in the flocks is obtained through artificial insemination.

Working with Black Welsh Mountain wool

While participating in the Sixth World Congress on Coloured Sheep in New Zealand recently, I met several people from England and Wales who responded rather negatively when I mentioned that I was working with Black Welsh Mountain wool. They did not consider the wool very suitable for handspinning or knitting. My approach to wool has always been that every fleece has some use and purpose. I analyze the wool or fleece on hand and design a project that utilizes its best qualities. I found all the Black Welsh Mountain fleeces used for this article easy to clean and work with. The crisp, but not at all harsh, handle of the wool makes for quick carding and rolags that hold their shape. The short, straight fibers that spinners find annoying help keep the sheep warm by creating air pockets between the soft fibers. While the wool would not be pleasant worn next to the skin as an undergarment or for baby clothes, its loft and fiber grade combine well for mittens, socks, caps, and sweaters.

A Black Welsh Mountain ram at Fire Ant Ranch.

When you purchase a Black Welsh Mountain fleece, expect to get wool that is black with no gray or white fibers. There should be no kemp (thick, short, and straight hair fibers). The wool is short, with a firm handle and resilience when squeezed. Although none of the fleeces I sampled had coarse kemp fibers, all had short fibers that I would call fine kemp or kemplike. They fell out as I carded, spun, and knitted or crocheted the wool.

To wash the fleece samples, I put the raw wool into a nylon net bag and submerged it in a sink full of hot tap water and a small amount (about 3 tablespoons) of Orvus Paste. I let the wool soak for 5 to 10 minutes, then removed the bag from the water. While I gently squeezed water from the wool, I refilled the sink with hot rinse water. The wool soaked in the rinse water for a few minutes, had another rinse, and then went outside to dry. I spun the water from the wool outdoors by rapidly twirling the net bag in one direction. I then removed the wool from the bag, shook the fleece out a bit to open it up, and placed it on a drying rack in the backyard. When the top of the fleece was dry, I turned the wool over to dry the underside.

Yarn and swatch details

Sample 1

A silk spinning class with Celia Quinn taught me a good trick for livening up a dark color with small amounts of multicolor bits. For this sample I chose Treenways multicolor silk waste to add sparkle to the bag that I planned to crochet with the Black Welsh Mountain wool from a Desert Weyr ewe, Carwen, whose 25 percent United Kingdom

Sample 1: (1) Crocheted bag; (2) Singles woolen- and spindle-spun yarn, 16 wraps per inch; (3) Fleece sample from Carwen, a ewe who is 25 percent United Kingdom blood from recently imported semen. Fleece donated by Oogie McGuire; (4) Fiber sample of multicolored silk waste distributed by Treenway Silks.

Project Photos by Joe Coca

blood came from recently imported semen. To avoid blending the fibers too much, I first carded the wool alone until it was almost ready to roll into a rolag. Then, with wool on each card, I sprinkled a bit of silk waste on the wool on the passive card and carded the two fibers together for about 3 to 5 strokes to form the rolag. The ounce yielded 30 rolags.

I spun the rolags with a long draw on a Greensleeves top-whorl spindle weighing 1.15 ounces. Since I planned to use the yarn directly from the spindle, I was careful to spin with enough twist to keep the yarn together but not so much that it would kink up while I crocheted. Because the wool had varying fiber diameters and the silk waste was also lumpy, I aimed for a relatively even yarn but accepted that it wouldn't be dead even. The singles yarn averaged 16 wraps per inch.

I crocheted the bag with a size 2.0 (U.S. size A) hook directly from the spindle. The single-crochet bag starts with 6 sts, with increases on every round to 12, 18, and 36 stitches. After that I increased 9 sts per round until there were 90 sts. I worked straight up in rounds for 3 inches, then made a round of holes (ch2, skip 2 sts, sc in next st around) for the cord and finished with a scalloped edging (sc, hdc, 3dc, hdc, sc in each ch 2 around). See page 96 for crochet abbreviations. A twisted cord of 2-ply yarn decorated with beads finished the bag. Although the silk waste lightened the value of the yarn a bit, it was still not easy to see the stitches. When you work with Black Welsh Mountain yarn, be sure that you have good lighting and count stitches regularly.

Sample 2

For the second sample, I chose another Desert Weyr fleece, this time a lamb's fleece from Caidwen who is 25 percent from United Kingdom bloodlines. Although, at 2½ inches, the fleece

was technically too short for a worsted yarn, it was easy to process on single-row minicombs. The clean, soft fiber needed just two passes on the combs. The fleece had much less kemplike fiber than the others that I sampled. I combed 15 minirovings and spun them with a short forward draw on my Lendrum set at 12:1. I spun slowly to control the yarn size and smoothed in the more lively fibers. The singles were 3-plied on the Lendrum at 12:1. For the best chance of showing up the knit and purl patterns chosen for the swatch, I tried to balance the plying between retaining some loft and keeping the yarn smooth.

I chose the Church Windows pattern on page 85 of Rae Compton's *The Complete Book of Traditional Guernsey and Jersey Knitting*. The windows are framed with purl stitches that move diagonally on every other row. The pattern was difficult to see, but its simplicity made it easy to count the stitches. The pattern might have shown up better if I had knitted on needles smaller than the U.S. size 1 that I used, but then the yarn would have felt harsh. If I were going to knit with this yarn for a full-sized garment, I'd use U.S. size 2 needles and stockinette stitch combined with a large cable and/or blocks of knit and purl stitches.

Sample 3

The fleece used for the felted coin purse was donated by Suzanne Correira. The wool from her 2004 ram lamb was soft and short (1½ to 2 inches long). Even this fleece had some short, thick fibers, but they didn't adversely affect the nice handle of the wool. The wool was easy to card into batts which I arranged in 4 batts by 4 layers for a quick and easy felting project. The batts were sandwiched on a piece of flexible plastic screening cut larger than the desired square of wool. To start the felting process, I poured hot water slowly over the wool through the screening (supported on a flat, waterproof surface) and then massaged in Ivory Snow bar soap that I'd grated, dissolved in boiling water, and set with cold water the night before. I slowly rubbed across the wool in small circular

Sample 2: (1) Swatch with Church Windows pattern. (2) Skein of 3-ply worsted-spun yarn, 15 wraps per inch. (3) Fleece sample from Caidwen—a United Kingdom bloodline lamb. Fleece donated by Oogie McGuire. (4) Roving combed on single-row minicombs.

Sample 3: (1) Felted sheep coin purse. (2) Fleece from a 2004 ram lamb. Fleece donated by Suzanne Correira of Fire Ant Ranch. (3) Yarn butterfly—50 percent Black Welsh Mountain (ram lamb), 50 percent Ryeland.

motions with my hand protected by a rubber glove. When the fibers started sticking together, I turned the sandwich over and repeated the process on the other side. I added water and soap as necessary to keep the surface slick.

When the fibers started pilling off onto the screening and were cohering well, I removed the screening and placed the square of wool on a bamboo mat (sushi mats work well) and rolled up the mat. I poured hot water over the mat and rolled it rapidly between my hands while I counted to 100. I then rotated the wool square 90 degrees, rolled it up again, and, with more hot water poured on, rolled it for another 100 counts. In less than 5 minutes, I had a piece of felt. I rinsed the square in cold water and hung it on the clothesline to dry.

To shape the coin purse, I traced a paper pattern around a sheep-shaped cookie cutter and cut two sheep from the felt. Except across the back, the pieces were joined with a simple running stitch around the perimeter. I spun the 2-ply sewing yarn on my Greensleeves spindle using Black Welsh Mountain carded 50/50 with white Ryeland. A snap centered on the back completed the purse.

All in all, I found Black Welsh Mountain wool very easy to process for woolen yarn. Fleeces with a longer staple length could be combed or lightly flick carded for worsted spinning. Despite the kemp-like fibers, the handle of the fleeces was not at all harsh or prickly. To emphasize the soft fibers in the wool, work with a loose gauge or sett. Because the short fibers came out easily from both fleece and yarn, I worked with the fiber outside or well away from food and eating areas. The lovely results of working with the wool make Black Welsh Mountain well worth such precautions.

CAROL RHOADES *enjoys spinning many kinds of wool at her home in Austin, Texas.*

Resources

American Black Welsh Mountain Sheep Association. www.blackwelsh.org.

Black Welsh Mountain Sheep Breeders Association, Touchstone, 3 Quarry Cottages, Bourton on the Hill, Moreton in Marsh, Glos GK56 9AJ, England.

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