

a look into the diversified world of hackle

Then Apply the Hackle...but How?

by
Stephen P. Hessel

Then there is the discussion, or it might be more properly designated controversy, over the matter of hackling the fishing fly. It is utterly amazing the different forms this relatively simple operation takes in the hands of various fly dressers. When reviewing these multiple-choice methods a short time ago to provide information for the students in one of my fly tying classes, I realized that this information might be of interest to a greater number of people, hence the beginnings of this article.

Apparently the earliest patterns may well not have been dressed with a hackle as we know it today. In the *Treatyse of Fyshynge Wyth An Angle* the patterns listed by that author may either have had a hackle or not, there is no real way of knowing positively although authors since have made their case in either direction. From all accounts, however, it would appear to be most likely they had not, the feathers called for being used for wings instead, with the legs being picked out body material.

Using W. H. Lawrie's *English Trout Flies* (first American edition, A. S. Barnes, 1969) as a reference point, we find the first mention of the use of the hackle in Richard and Charles Bowlker's *The Art of Angling*, dating at least from 1747. I take the liberty to quote from this volume. Note now how the hackle is worked when tying the fly using the Bowlker method: "...taking your hackle feather, tie it fast at the bend with the point of the hackle upwards; next, your fur or dubbing being ready, which it to make the body of the fly, take a little of it and twist it gently round your silk, and work it upwards to the butt of the wings, and there fasten it; then take your hackle and rib it neatly over your dubbing, and fasten it...". It is evident from this that in at least some of the patterns of that era, they list the hackle as palmered, with the butt of the hackle at the rear of the fly, much like the modern Wooly Worm pattern. The feather? A cock's hackle.

This matter of the hackle feather is rather interesting of itself. It was not unusual in those early times to see the

use of a capon's hackle. This feather is not unlike a rather longish hen's hackle, lacking the stiffness and glossiness of the feather from his uneunuchised relative. The point of this was not lost on one H. C. Cutcliffe, who made the following comment in *Trout Fishing On Rapid Streams*: "All hackles should be plucked from a cock's neck; hen's hackles (he would undoubtedly include the capon's hackle by extension, s.h.) are worse than useless in rapid streams; they have no stiffness, cannot resist the force of the water washing on them, and consequently lie flat along the hook, lose all the little colour they have when dry, and make your fly hook more like a little oval black mass of dirt, rather than a living insect. Few fish would attempt so uninviting a morsel as this represents. The shape of the feather should be an isosceles triangle, having its base at that end which is inserted into the skin, and its elongated apex slenderly, gradually, and evenly tapering off to a fine point--many will be found suddenly ending in a rounded extremity, these are not so good, but some of them, if of fine color, may be retained. Then the hackle must be stiff and elastic, the fibres standing out independently and boldly from the mid-rib or stalk of the feather, like so many bristles set each at exactly the same angle. A common mode of trying or examining a hackle is, after pulling or stripping off the down at the root, to take it by the stem, and with the bright side upwards, place it on the sleeve of a coat, if black, or on any dark object, where the brilliant lustre of the feather will be displayed. Then by pressing the apex against the cloth, bend it, by which we judge of its shape, the regularity of tapering of the fibres, and its stiffness and elasticity in regaining its natural shape after being impressed and bent in any direction." Cutcliffe then notes that the best hackles are from the Old English Game Cock, then, as now, being difficult to obtain of any quality. Does this description ring with any familiarity? It sounds much like the modern description of a good dry fly hackle; and this was in 1863, fully twenty-three years before F. M. Halford's *Floating Flies and How to*

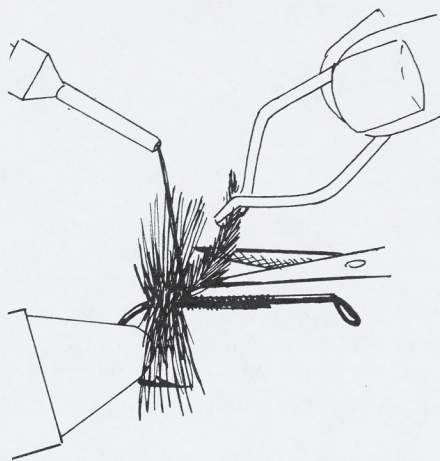
Dress Them! (True, the first mention of the deliberate floater was in 1851, but the technique was not considered very practical, or popular, until the latter date.)

Cutcliffe's flies were all what are termed "hackles", the last six having a very bushy hackle; and all, save one, being without wings. In this matter we find him in agreement with our next example, though the feathers used be different.

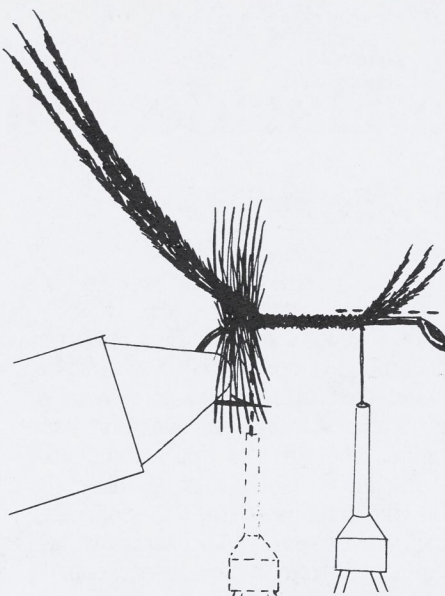
In 1885, T. E. Pritt wrote a book entitled *Yorkshire Trout Flies*, retitled a year later *North-Country Flies*. The patterns contained therein have recently been brought back to our attention by Sylvester Nemes in his two fine volumes on the subject of soft-hackled flies.

That latter remark contains the key to Pritt's flies. He used hackles from, among others, the following: Starling's neck, Golden Plover's breast, Brown Owl's wing, Woodcock's wing and many others. It is obvious that many of these feathers are not now available, being numbered among the protected species, and would need to be substituted with other more available feathers. This of course has nothing to do with our present discussion, or does it? The north-country flies were very slim, scantily built creations having but one to one and one-half turns of hackle. I have unfortunately not found Pritt's method during my researches. I have, however, noted that Sylvester Nemes, in his first book on the subject of soft-hackled flies, showed us his method of hackling the fly using a body feather. He tied the hackle in after the body was constructed, binding the feather down by the butt and then wrapping it for the prescribed number of turns. Keep this body feather business in mind, as we come back to it later on and we might find a plausible method T. E. Pritt could have used.

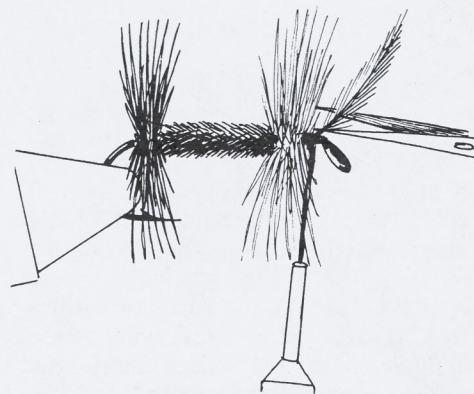
Speaking of F. M. Halford, as we were a few lines back, we recall that in *Floating Flies and How to Dress Them* (1886, a book we could consider his greatest work) he had the best of British dry flies of the time, and set the standard for the arrangement of materials in the dressing of dry flies even down to



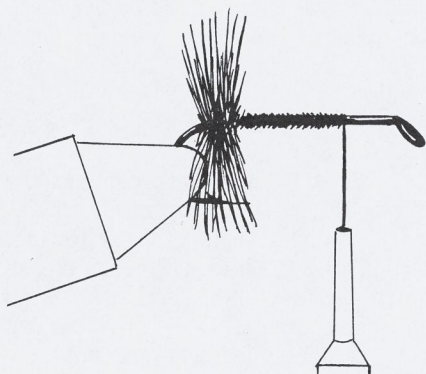
Step 4. Wrap the hackle forward 4 or 5 turns and bring the thread back to tie down the tip. Trim off the unused tip of the hackle.



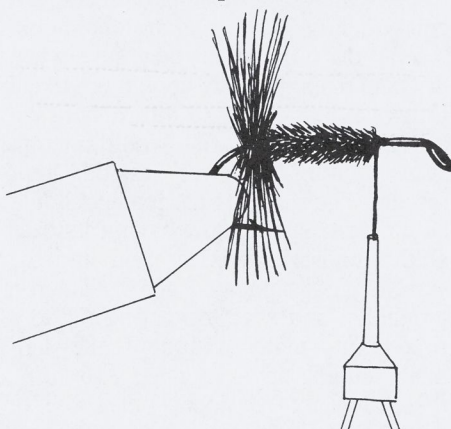
Step 7. Wrap over the herl back to where you tied off the hackle and then back forward to the tie-in point. Trim off the butts of the peacock herl.



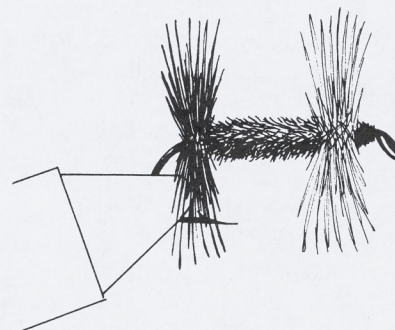
Step 10. Wrap the hackle forward 4 or 5 turns, tie down, and trim off the tips.



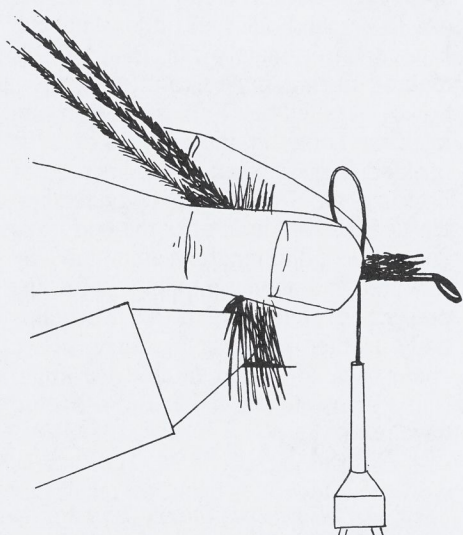
Step 5. Wrap the thread forward to the original tie-in point.



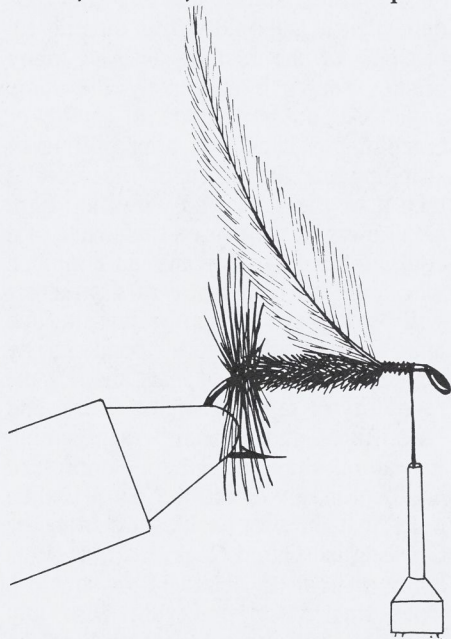
Step 8. Wind the herl forward to the thread, tie down, and trim off the tips.



Step 11. Form a neat head and whip finish.

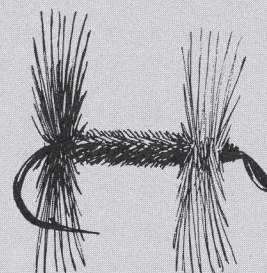


Step 6. Tie in 3 or 4 strands of peacock herl, using the soft loop.



Step 9. Tie in the butt of the light colored hackle and wrap the thread forward to one eye-width back of the eye.

FORE AND AFT



HOOK: Mustad 94840 or Partridge H1A
HACKLE: Brown and white (or light badger) dry fly hackle
BODY: Peacock or ostrich herl

our own day. However, it is worthy of note that we take a look at his Green Drakes and Spent Gnats, for in these we find a departure from his usual format. The patterns are to be found in their entirety in Lawrie's *English Trout Flies* and a few are to be found in Bill Blade's *Fishing Flies and Fly Tying* (Stackpole and Heck, 1951). I reproduce two of these patterns below, take particular attention to the hackle arrangement:

Green Drake (F. M. Halford)

Hook: 2X long Limerick, TUE, #6-8
Tail: brown mallard, four strands
Body: detached, white horse hair over raffia, worked on two strands of nylon
Ribbing: waxed yellow thread
Wings: wood duck trimmed to shape
Hackles: first hen pheasant dyed pale olive; fronted with blue dun rooster
Head: bronze peacock herl

Spent Gnat-B (F. M. Halford)

Hook: 3X long Limerick, TUE, #6-8
Tail: brown mallard, four strands
Body: white floss
Ribbing: unstripped peacock herl, cinnamon color at root and dark at point, start with dark portion at tail
Ribbing Hackle: badger cock
Shoulder Hackle: grey partridge
Wings: four Andalusian hackle tips, tied spent, having ginger points
Head: bronze peacock herl

It is interesting, is it not, that the great dry fly man would use wet fly hackles in his patterns? This he did apparently to represent the legs of these flies, utilizing the second hackle to float the pattern. In this he might have influenced Dr. Baigent, who knows?

Let us take an aside here on the subject of Dr. Baigent's flies. Sometime, not long after the turn of the century he and M. E. Mosely (Halford's nephew) devised what we now call the variant style of dry fly. In Baigent's case, he used a sparse short hackle to represent the legs and a very long hackle to float the fly high over the water.

Around this same time in Britain a Mr. Horace Brown came up with another style of dry fly, later to become quite popular here in the American west. This was, and is, the "fore-and-aft" floating fly, a type that has a dry fly hackle on both ends of the fly body. If it seems that we have been concentrating a bit on the British aspect of this matter of hackling the fly that would be correct, as the greater part of the past history of the art is to be found in the

Isles. Let us cross the Atlantic now and come to more recent times.

Mr. Hewitt of the Neversink watershed would be a good person to start with as we have been discussing variant hackles. It appears that he discovered a means to produce a "fly" that consisted of nothing more than an extra-wide hackle on an extra short, undersized hook. But this he did with a rather unusual twist, as the base of this hackle was nearly the length of the hook shank but the tips of the wound hackles came together. Hewitt would not let anyone know how he constructed these Neversink Skaters, but that did not seem to deter Vincent Marinaro of Letort fame, who discovered that not only were the hackles wound dull sides toward each other (that is, the rear hackle having the dull side wound facing the eye of the hook and the front hackle in the opposite direction) but that they were wound over a spaced thread base and then pushed together as one would with spun deer hair. If you intend to copy this style remember that it requires a very wide and very stiff hackle, (the resulting fly at times is all of two inches in diameter) the best feathers being those that guard the throat of the bird and are to be found on the edge of the neck skin.

In or about 1914, George LaBranche started popularizing the palmer hackled dry fly in this country, although the style existed long before that time, as we have noted earlier. This period brought favor to the bivisible fly with its full body hackle. Generally these were dressed with the body hackle dull side forward and the contrasting face hackle wrapped in the same fashion, although some would wrap the facing hackle shiny side forward. This palmered dry fly hackle is also tied in by the tip of the feather and wound, as opposed to the Woolly Worm or Bowlker's method.

At this point I would like to divert us from the dry fly for a moment. I know that I may well be out of chronological order here but we shall turn for a moment to "Big Jim" Leisenring's wet flies and their hackles. Remember T. E. Pritt's north-country style of hackling wet flies, the sparse use of body feathers for hackle? Leisenring also used such feathers, plus hen hackles and others, but he worked them a little differently. Instead of tying his feathers in by the butt after the body was dressed, he tied them in by the tip before the body was wound and wrapped them after the rest of the fly was constructed. The result is a natural tapering

of the body and a small head on the fly, a point that should not be lost on tyers today.

While we are still on the subject of wet flies (again), there are two forms of hackle manipulation that are worthy of note. J. Edson Leonard in his much used *Flies* (A. S. Barnes, 1950) took care to bring these to the attention of his readers, as have those authors touting Atlantic Salmon fly dressing. They are: The split or half hackle, which utilizes a feather (either body or neck) with the barbs or fibers on one side stripped off and then wound, generally by the tip--a method that is used to achieve sparseness. The second is the folded hackle, which is much used as a body hackle on Atlantic Salmon flies, and is simply a folding of the feather barbs on one side of the stem to lay with those of the other, dull side to dull side.

To get back to a discussion of the dry fly. We shall next take notice of the hackling styles of several of the best tyers of the Catskill school. Some information is to be found on the subject in *Catskill Fly Tyer* by Harry Darbee (with Mac Francis: Lippincott, 1977). Among other things we find the following: Herman Christian, friend and guide to Theodore Gordon, wound his dry fly hackles in a figure-of-eight style, crossing (apparently alternately) between the wings and on the underside of the hook. Roy Steenrod, a student of Mr. Gordon's, when using two hackles, would have one facing the rear and the other facing forward, much as in the previously discussed Hewitt Neversink Skater, with the exception that the hackles were wound mixed, one through the other. Harry Darbee himself, reasoning that with high quality hackles there is very little difference in which way the hackle is wound (after commenting that some tyers would have the dull side of the hackle foremost to increase stiffness, using the feather's inherent qualities) states that he dressed his dry flies with the shiny side forward as they look more attractive that way.

Due to the rather rough and tumble sort of rivers to be found in Western America, the generally accepted form in the tying of dry flies is somewhat different than that of the Eastern areas. Whereas the accepted procedure in the East is to divide the shank of the hook into thirds and to reserve the forward third (often less) for the hackle and head of the fly; we find the tyers of the West normally spreading the hackle out over a wider base,

sometimes using as much as one-half of the hook shank for this element of the fly. We can see this somewhat when we peruse a Dan Bailey catalog. Jack Dennis (in his *Western Trout Fly Tying Manual*, Snake River Books, 1974) does similarly and it is interesting also that he will wrap two, sometimes three, hackles simultaneously. This, we may add, is only possible if the base is very flat and we use our fingers instead of hackle pliers. It is also noteworthy that Dennis often uses high quality saddle hackles for his dry flies, something for the rest of us to keep in mind when tying the larger dry flies.

I would like also to highlight two prominent fly tyer/authors of the far west. First, E. H. "Polly" Rosborough, in his latest edition of *Tying and Fishing the Fuzzy Nymphs* (Stackpole, 1978) we find that he advocates at least ten turns of saddle hackle for some larger dry flies of his devising. Secondly we mention the late Roy Patrick, who, in his privately printed *Tie Your Own Flies* (1970) tells us to use five turns of hackle for either wet or dry flies, making sure that the shiny side of the feather is kept facing forward on wet flies and rearward on dry flies (Just as Harry Darbee states some tyers have done on the opposite coast). His reasoning has to do with the natural bend of the feather fibers, enhancing the characteristics of the feather in each instance (Again agreeing with Harry Darbee's comments).

Some other styles of hackling the fly:

The *Spey Hackle*, originating in Scotland, generally used heron body feathers for a long, flowing palmered hackle. The feather was tied in by the tip due to the thick stem of the feather. Today we see substitutes for the outlawed heron feather, such as coot breast. This is a hackle style that is gaining in popularity with the west coast steelhead fishermen, due in no small part to Syd Glasso's fine patterns.

The *parachute or gyro hackle*, is so named for the horizontal plane of the wound hackle. The two terms are used for hackle being above or below the hook respectively. Often the hackle is wound around the bare stem of the feather itself, a gallows or Barlow tool, as used in Britain, facilitates this. Popular in this country is the winding of the hackle around the base of a single, upright wing of some hair as is the case with the Geronimo and Buzek's Floatin' Fool patterns. Regardless of the type of horizontal hackle, gyro or parachute, the feather is wound with the dull side of the feather down.

The *reverse-hackle*, generally seen in use on dry flies, is relatively rare in utilization. Several tyers consistently use it, but otherwise it is seldom seen. Remember the palmered dry fly, the various bivisibles and etc.? Where these are dressed by tying the tip of the hackle at the rear of the body and wrapping forward as a concluding operation, the reverse-hackle instead is tied in by the butt of the feather at the head of the fly and is wrapped back to the bend as a concluding operation, being held at the rear with wire tinsel and ribbed with the same. The example just described is the Elk Hair Caddis, a Montana fly and probably the only really popular fly with this type of hackle. This same principle has been used in tying standard dry flies, the hackle being tied in ahead of the wing and wound to a position behind the wings where the finish knot is placed. Oftentimes the thread is left at the head position while the hackle is wound and is carefully passed through the hackle to a point behind the wings for the tie-off, thereby effectively binding the hackle firmly to the hook. This method can be rather clumsy, so Veniard notes the reverse: as he ties the hackle off at the rear and proceeds to wind the thread through the hackle to finish the fly at the eye of the hook.

One tyer in my locale binds his dry fly hackles (for standard patterns, not palmered ones) by the tip, reasoning that the best feather barbs are in the tip section and that the natural shape of the feather will slightly taper the wound hackle so that the longer fibers are at the front of the fly, an effect he desired.

When considering unusual hackle forms, we should also mention a couple of wet fly hackles that are not wound, but which achieve the effect of one that is. One is rather tidily called the false hackle. This utilizes a section of hackle feather with the stem intact, which is tied in by the stem and is then adjusted by pulling on the stem, which protrudes toward the hook's eye on the underside. When finally bound down tightly, the stem is then trimmed and the fly head finished. The other "unhackle" is simply a bunch of hackle fibers stripped from a feather and tied underneath the fly's head. This is commonly termed a beard hackle. Both of these mimic a wound hackle that is divided on top of the fly and pulled down the sides where a few turns of thread secure it. The reason for using either of the aforementioned mimics is to reduce the bulk in the head area of the fly, especially as regards some of the more involved Atlantic salmon patterns.

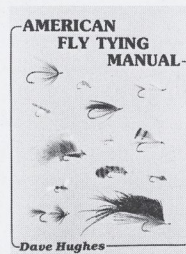
We have gone thus far and as yet have not considered: trimmed hackles, separated hackles (as for dry flies, Dan Byford's method), synthetic hackles (John Betts' favorite), and hair hackles (a la George Grant and others). And there are undoubtedly other styles that I have not mentioned, or heard of as yet.

It is easy to see that further investigation might prove to be both enlightening as well as interesting. And who knows, we might well improve our own tying efforts as well. I would therefore heartily recommend to anyone muddling their way this far to carefully look into whatever volumes of angling literature they own (or can borrow) and discover for themselves the benefits of some of these fly hackling methods.

Editor's Note: The author presents several methods of applying the hackle used by diverse fly tyers from many styles and schools of thought. The article was composed by Stephen P. Hessel, owner of Red's Fly Shop, 839 S.E. 5th, Albany, OR 97321.

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Heavenly Hackle

by Dick Talleur

Many of you may recall that a few years ago I wrote an article for Fly Fisherman magazine called "Finding Fabulous Feathers". This is the second installment.

In the initial piece I wrote mainly about the attributes of today's genetic hackle and how to evaluate it. I want to carry that further, and also focus on applications, for these fantastic feathers enable us to tie in ways that were heretofore infeasible, if not impossible. I will also demonstrate ways in which to conserve this commodity by using one feather in place of two or even three.

There are several attributes which characterize top-grade hackle that were seldom seen prior to the fly fishing renaissance and the concomitant evolution in hackle culture. Several of the most important ones have to do with the barbs.

Barbs are the actual fibers attached to the quill which, when the feather is wrapped, form the hackle. Short barbs allow us to successfully hackle smaller flies without having to resort to one compromise or another, such as trimming or using oversized hackle. On a quality feather the barbs are consistent in length throughout the usable portion.

Strong barbs do a much better job of supporting a fly on the water. They are thicker than weak barbs, and their heft is maintained nearly to the tips, whereas weak barbs tend to taper off to nothing. Naturally, straight barbs are a feature of premium-quality feathers, and are highly desirable in dry fly work.

A high barb count refers to the population of barbs along the quill. Prime feathers have what I like to refer to as high barb density, which yields more hackle per turn. Top-quality cape feathers in common sizes, such as twelve and fourteen, will have a barb count ranging from the mid seventies to as high as ninety or so per inch, counting both sides.

A long "sweet spot" is another valuable feature. The sweet spot refers to the length of feather which carries quality

hackle, meaning barbs of the desired length, strength and stiffness, and relative absence of web near the base. When I was relying on those small imported capes from places like India and the Philippines, I was lucky to find a true sweet spot of 3/4 inches (19 mm) on a size twelve. With the current generation of prime genetic capes I find 1 1/4 inch (31 mm) sweet spots to be commonplace, and 1 1/2 inches (38 mm) not all that unusual.

The nature of the quill is most underrated in terms of benefit. Thin, flexible quills are very much a phenomenon of genetic hackle culture, and have evolved through selective breeding over generations. The fact that today's roosters become prime early and can be harvested younger also contributes to this characteristic. Quill thickness and flexibility seems to vary with color as well as strain, why I do not know.

These characteristics, in combination, add up to effective, carefree hackling and create joy in the hearts of fly tyers. Also-and fineness of quill has a great bearing on this-they facilitate innovative hackling techniques. One feather can take the place of two or even three. Palmered hackles; that is, hackles wound over the body become much more feasible. Novel hackle styles, such as parachute and thorax, are far easier to execute. With parachutes, which I tie a lot of, I pay little attention to quality other than the quill attributes, which conserves true top-grade hackle; it really isn't needed on parachutes.

I must emphasize that what I say here must be kept in context. Perfect hackle is rare, and one seldom finds a cape which is ideal in all categories. Thus, compromises are necessary; we weigh the various attributes of a cape one against the other. When doing this, I tend to assign a very high value to quill flexibility and fineness. Given an imminently-windable quill, I can do things which allow me to compensate for deficiencies in other categories. For example, if barb count is down a little, I can take more turns without getting into trouble.



*First reproduced in black and white in Ed Leonard's book *Flies*, these original Carrie Stevens trolling flies are shown here for the first time in full color.*

for years. The fly before me, as I write this, is a distinct gold, more orange than yellow, equivalent to Pantone 150. Today's versions are too yellow.

Body ribbing is tied in reverse, that is, wound under and over, as opposed to over and under, perhaps another holdover from Carrie Stevens' millinery days.

It appears there was no attempt to taper the body nor to graduate the spacing from the tip forward, as seen in certain salmon flies. Carrie Stevens' personal signature is not always recognized, especially by those who have only one of her flies or by others who have used for reference an illustration of one in a catalog. But the signature is there, in the finishing of the head. Three successive bands of tying thread, equally spaced: black, red, and black.

Many are the flies picked apart by curious tyers and collectors; flies tied by Carrie Stevens and other famous tyers. I wonder what such picking apart really reveals. I did it years ago and regret it to this day. Picking at the head of a fly to find the tying thread, then unwinding it in search of a hidden technique, accomplishes nothing but to learn that tyer A, using 6/0 thread, took twice as many turns as tyer B using 3/0. Maybe there is a value somewhere. If so, it is beyond my grasp. What a waste of art;



art that can never be replaced.

Although Carrie Stevens never read a book on how to tie a fly, or watched another tyer make one, she, in kind, left no written description of how she tied a fly.

Surely, she must have had flies to study for general arrangements, at least, for she was a clever, seasoned fisher. However, the thoughtful milliner turned fly tyer who became Maine's first lady of flytying, left the fly-fishermen of the world over two dozen patterns of her fly art for squaretails and landlocked salmon, copied to this day and even enlarged for luring saltwater gamefish. Today her flies are the collector's treasure.

I know no finer tribute to Carrie Stevens' skills as a fly tyer and fisher than the one contained in correspondence to me from Herb Welch, originator of the streamer fly, wherein he listed his first favorite fly, the Gray Ghost, and his second favorite, his own Black Ghost.

Editor's Note: Flies has just been reissued in both a limited and trade editions by Nick Lyons Books of New York

A word about sizing hackle. We all know that barb length determines the size fly a given feather will properly tie. Often we use feathers from different capes in combination, in order to achieve a certain color or texture mix. Most common is the mixing of grizzly with brown, ginger, cream or whatever. This requires strict attention to size-matching, because barred rock feathers tend to be shaped somewhat differently than others, which can be deceptive.

Top-grade brown and ginger hackles are often very slim in appearance, because the barbs tend to lie at a flatter angle along the quill. In other words, they point more towards the tip end of the feather. The barbs on grizzlies tend to lie at a greater angle from the stem, which causes the feather to seem wider. Thus, when size-matching, we often have two feathers which to casual observation appear to be a hook size or two in disparity, but are actually the same size. The key, of course, is to always judge the feathers in the flexed position.

I must state that not all barred rocks (grizzly) manifest this characteristic, or at least, not to an extreme. Apparently, selective breeding is having an effect here.

One can also be fooled when trying to assess how long a sweet spot a given feather has. This also has to do with the angle at which the barbs lie along the quill. A typical good quality feather is more-or-less spear-shaped, which makes it seem as though the barbs gradually become shorter towards the tip. To a large extent, this is an illusion, caused by the fact that the barbs nearer the tip tend to lie at a flatter angle. At the very tip, they do indeed drop off sharply, but that's outside of the sweet spot; it is, in fact, the place where the hackle pliers grip the feather.

If you stroke a feather towards the butt end, so that the barbs stand out at roughly a right angle to the stalk, you will

be able to see its true shape. On a decent-quality feather, and even on many that aren't so great in some respects, you will notice that barb length is essentially uniform from about a half-inch from the tip (on a size twelve or fourteen) throughout the usable length of the feather, and even beyond. The barbs do get longer towards the butt end, but that part of the feather will be discarded, so it doesn't matter.

Something that does taper through the sweet spot is the center quill. I applied a micrometer to a prime size 12 cape hackle, and determined the following: at the beginning, or tip end, of the sweet spot, the diameter is .004, or four thousandths of an inch. At the lower end of the sweet spot, the diameter is .008, or double. This varies between feathers, but even the most desirable of quills will almost double in thickness from one end of the sweet spot to the other. Some will actually more than double, which is due cause for alarm; these feathers may not be as good as they otherwise seem.

In fact, the point at which the quill becomes too thick to wind essentially marks the end of the sweet spot. There are other factors, of course, such as the presence of a lot of webiness at the base or the barbs lengthening out, but even if those characteristics are still within limits, I consider the sweet spot to have ended when the quill becomes too thick for my liking.

At this point I will interject a helpful technique for preparing hackle feathers. As the material beyond the sweet spot will be done away with, it's a waste of time to fool with it at all. Simply locate the lower end of the sweet spot, allow a bit of stalk for tying on and locking in, and cut off the rest forthwith. Now you can very easily and quickly strip back to the sweet spot and proceed from there.

Often I am asked whether tying

in a hackle feather dull-side or shiny-side forward makes a difference. The answer is, sometimes. Most feathers wind best when tied in shiny-side-forward. The reason for this is that the curvature of the barbs, however slight it might be, is convex as regards the shiny side. In other words, the curvature follows the contour of the bird's body. Thus, the barbs tend to fall behind the quill with each succeeding turn, and are not bound down as the feather is wrapped forward. Those of you who have learned to make an ostrich herl butt on a salmon fly can relate to this. However, there are feathers—saddle hackles, mainly—on which the barbs bend the wrong way. If the curvature is slight, there may be no problem. If it is significant, you will find that the barbs tend to lie forward at an angle, and are thus in the way of the next turn.

It is best to avoid purchasing such feathers. If you do have to use them, try tying them in dull-side-forward. This may solve the problem. If you have to mix two hackles which have opposing barb curvatures, tie in each one in accordance with how the barbs are conformed. And don't hesitate to stroke the barbs into a more normal position as you go.

Having mentioned saddles, let's shift our attention to them. At one time, saddle hackles were not looked upon with favor by the dry fly set, and for good reason. That's all changed. Over the twenty-year period from the late 1960's to the late 1980's, saddles have evolved to an even greater extent than capes. They have now reached a point where, in certain respects, they are superior to cape hackles.

That's not to say that every genetic saddle you pick up will be terrific, any more so than with capes; however, a really good one can open up a whole new range of tying possibilities. The principal beneficiaries are those who tie larger dry



flies, but that's not to say there isn't some value for the tyer of average-size flies, for I have seen saddles that will tie down to a size eighteen. I have a couple of saddles off birds raised by Henry Hoffman, one a grizzly, the other a brown. The feathers are so long and of such quality that I can tie four or even five size fourteen Adamses with a single pair of feathers. No kidding.

Saddle hackle is evaluated in essentially the same manner as cape hackle. Throughout its evolution, improvements have taken place in all of the categories examined heretofore. The most remarkable one, especially from a tying-techniques standpoint, is the quill; we seem to keep getting back to that, don't we? It is even more critical in saddles than capes, because quality saddles have sweet spots which may run as long as three to four inches (75-100 mm) and more. In order to utilize this, the quill must be fine and flexible enough to permit a great many wraps.

Today's premium saddle hackles fall mostly in the size 8-10 range, with some 6's and 12's. Sweet spots run as long as four inches. A typical quill "mikes" .004 at the tip end of the sweet spot, quite fine for a large hackle, but what's really remarkable is that it may only measure .005 at the butt end of the sweet spot. The quills tend to be extremely flexible. The long sweet spot combined with the fine quill enables me to fully hackle a bushy fly like a Wulff or Variant with one feather. This involves winding the hackle back and forth over itself, something that was a no-no for many years, but is quite feasible with today's sensational thin-stalked saddle feathers. The technique for doing this will be demonstrated further on.

Saddle hackles tend to have more aberrations than cape hackles, and must be closely examined before purchase, as they

often appear at first glance to be much better than they actually are. The criteria listed previously still apply. In addition, there are other things to watch out for.

1. Excessive barb curvature.
2. Reversed curvature, as mentioned.
3. Barbs too coarse.
4. Barbs too fine.
5. Barbs different in length on either side of quill.
6. Excessive web.
7. Excessive cupping.
8. Tendency to roll or twist during winding.

These terms are pretty much self-descriptive, but I would like to expand upon them just a little. The first one, watch out for excessive barb curvature. This means just what it says; the barbs on saddle feathers aren't always straight, and curved ones don't wind into a very nice hackle. Quite often this is coupled with coarseness of barbs and difference in barb length, one side of the quill versus the other, thus exacerbating the tyer's grief. Throw in the reversed curvature mentioned earlier, and you have a real mess.

Item 4 was addressed in the dissertation on cape hackles; overly-fine barbs tend to be too weak to properly support a fly.

Item 5 is particularly intriguing, as it is confined almost entirely to saddle hackles. Cape hackles very seldom exhibit this disparity, except in feathers from around the periphery of the cape, which are actually throat and breast hackles. It's not really common on saddles either, but does occur frequently enough that you should check for it when selecting saddles. If the condition

is moderate, and the feathers are good in other respects, buy the saddle anyway; it will produce satisfactory results.

*Excessive web is more apt to be present in saddles than capes. It can occur in saddles which have no other detriments, and are otherwise superb. Unless the web is really pervasive, one can live with it; I've made some really excellent hackles out of feathers having a fair amount of web. Usually the web line doesn't start until well into the sweet spot, and some web-free hackle is wrapped into place before web is encountered. Also, the fine quills which characterize these saddles allow the wraps to be closer together, which gives support to the webby portion.

Impregnating the web with head cement or some other adhesive also helps. If properly applied, the adhesive will be absorbed neatly into the web, and will not affect the rest of the hackle. When dry, it stiffens the webby part and helps prevent it from absorbing a lot of water. Super glue works best, but is somewhat difficult to apply without making a mess. The idea is to get the adhesive down into the web area without getting it all over the rest of the hackle. A neat way to accomplish this is to put some head cement into one of those little dispensers that are used for oiling sewing machines, reels and such. They have long, slender tubes which allow the tyer to place the cement precisely where it is wanted.

Cupping was mentioned earlier in connection with cape hackles, and it is also found in saddles, more often in larger ones. It frequently accompanies several other undesirable attributes; curvature, coarseness and tendency to twist or roll. Sometimes you can flex a feather and just know it's going to be trouble from the way it behaves; curvature is visible in the barbs and that knife-like edge we look for isn't there. However, some feathers look okay and still cup when wound, and I get fooled occasionally.

Twisting and rolling is also more prevalent in saddles than capes. It happens with those "stemmy" feathers, which have heavy, inflexible quills. However, it can also occur in good-looking feathers. When evaluating a saddle, flex the feathers and look for a thin, knife-like edge. If the barbs appear to flare coming off the quill, or if they look as though they are coming off both sides in different directions, you probably have a twister.

When considering saddles, keep in mind that they offer a limited range of sizes, as compared to a quality cape. On many, you will find only one or two sizes among the usable feathers on the saddle, and three is about as good as it gets. The real quality is usually found in the long feathers on the sides and middle rear. The shorter feathers in the front portion are of questionable value, although on some saddles, they're pretty good. The sweet spots being much shorter, it is generally necessary to use more than one of them per fly, as with average-grade cape hackles.

At the rear of the saddle, just ahead of the long tail feathers, are some soft, very webby feathers known in the tying business as schlappen. Salmon fly and streamer tyers are familiar with these. Schlappen from common white chickens takes dye extremely well, and is used on everything from salt water flies to bass bugs. The main applications are bearded hackles on salmon flies and larger streamer wings. Schlappen is also used as a substitute for heron feathers on Dee and Spey-type salmon flies, although it is seldom of comparable length.

Sometimes there is some usable schlappen attached to the rear of a saddle patch, but usually not much. You might find some nice stuff for Matuka-style or conventional streamers. The most beautiful Gray Ghosts I've ever tied utilized schlappen from the rear of saddles I bought primarily for larger dun dry fly hackle. These feathers are all web, or virtually so, and produce a lovely opaque wing on a streamer. However, there are very few which have the proper shape for this application. There are more

on the birds, but they get trimmed off, because of lack of a ready market. This may change, as growers and tyers become more aware of their value.

Earlier I mentioned that today's genetically-grown feathers make it easier to do Palmer-style hackle, including the unique hackling methods employed on wet bugs and bombers by Atlantic salmon fly tyers. This is where premium saddles really shine, with their fine quills and long sweet spots. These feathers have changed the tying of such flies from a study in frustration to a euphoric experience.

Often, in order to get something, one must give up something else. In the case of genetic hackle, that something-else is tailing material. With growers breeding for quality in the small hackles centered on the cape, the large throat hackles have been sacrificed, to a great extent.

In the summer of 1987 I had the pleasure of meeting Chip Stauffer, a spry octogenarian from Buck's County, Pennsylvania. For many years, Chip raised Old English Gamefowl for hackle. His flock was kept very small by the limitations of his facilities, and the hackles were not publicly sold. Most of the time he had only two mature roosters on premises, with others boarded out here and there. Art Flick kept a modest-sized flock.

Chip gave me a large selection of hackles in envelopes, and they are most interesting. There is no small stuff; apparently the Old English Gamefowl strain did not have any of that. But the larger hackles are divine. What Variants and Spiders! And the tailing material from the so-called spade hackles is unbelievable; half a dozen barbs will support a good-sized fly.

While on the subject of Chip and his birds, I want to mention another point of interest. He did not kill and skin out his roosters; rather, he plucked them once a year, when prime. The Old English Gamefowl is a slow-maturing strain, and the hackles weren't of good quality until the birds were at least two years old. They lived to be eight or nine, producing good hackle until well into their dotage. This is quite different from modern genetic strains.

The birds seemed to hold quality very well over time. I have tied with hackles which came off six and seven year old roosters, and the quills wind very nicely. What's truly remarkable is how well they have stored. One of the envelopes is marked, "Old Charley, 1942". The feathers are in perfect condition.

Getting back to tailing materials, I want to mention that there are feathers on different parts of a rooster which have excellent properties for that application. One such location is what we might call the armpit, or more properly, the scapula. These feathers lie atop the wing towards the rear, close to where it joins the body. They are shaped like spade hackles but more so, almost palmate. The barbs are long, strong and sometimes a bit coarse. The sweet spot is practically nil, so it is necessary to be attentive to the web line, using only that portion of the feather that is well outside of it.

I am aware that at this writing these feathers are not generally available. I am hoping that by dramatizing their value, I can create sufficient demand that the growers can afford to package them for sale. Raising birds for hackle is only modestly profitable at best, and the tireless people who do it need to get more bucks per bird. Secondary markets for such items as schlappen, tailing feathers and certain body feathers would contribute to the cost-effectiveness of this enterprise, and would benefit growers and tyers alike.

In any event, it is important to obtain full utilization from prime tailing feathers, when one encounters them. Here are two things which have helped me do this:

1. Unless you are going to use all of it at one sitting, don't remove

a nice spade hackle from the cape. Simply preen the barbs to even up the tips and cut or pull what you need from the quill. Thus, the remainder of the feather is there when you want it.

2. When you do remove such a feather, treat it as follows: strip the poor-quality barbs from the quill, working progressively towards the tip until the barbs that remain are of tailing quality. Then use these a bunch at a time, again working towards the tip. In this manner you will get all of the good stuff from a given feather without any waste.

Having raised the issue of profitability for the hackle-grower, I must mention another matter that adversely affects this. I've written about it before in books and periodicals, and I believe it's worth repeating here. This is the issue of color. Throughout the entire history of fly tying, there has been tremendous emphasis placed on proper and precise coloration of hackle. Sometimes the arguments have reached truly esoteric levels, comparable to those epic medieval debates about how many angels could stand on the head of a pin; or was it the point of a pin? Rather extreme, in either case.

Most standard or "classic" patterns stipulate rather specific hackle colors. The Hendrickson calls for medium dun, as does the Quill Gordon. The Pale Evening Dun calls for water dun. The Light Cahill calls for light ginger or straw cream, the Royal Coachman for dark chocolate brown. And on and on and on.

I have an abundance of reverence for tradition and I love these timeless patterns as much as anyone; however, I am also a pragmatist, concerned with function and practicality. As such, I do not feel bound by overly-restrictive absolutes in hackle coloration, unless I'm tying for framing or exhibition. When it comes to flies for fishing, I go for quality first, and I don't get terribly anxious about color. If I'm reasonably close, that's good enough. After all, if George Harvey can catch fish on Hendricksons with pink wings, why should I get all bent out of shape if my hackle is a shade or two off?

The point I'm trying to make is that a narrow-minded approach to hackle color does a disservice to everyone—the grower, the retailer and the tyer. Fine quality capes and saddles languish in showcases because they fail to match the tying public's mental picture of a classic shade. This is particularly true of those which are marked or barred in some way, such as ginger grizzlies and other crosses.

I say to you once again, don't pass up these feathers. There is no earthly reason not to dress a Light Cahill with a barred cream hackle, or a Hendrickson with a dun which is a bit on either the light or dark side. I even go so far as to use lightly-bared grizzly on flies which call for pale water dun, so as to take advantage of some top-quality hackles I happen to have. And the flies produce perfectly well.

This brings up another controversial subject, natural vs. dyed dun. Historically, dyed dun has been disparaged, and understandably so, because the dying processes left much to be desired. This was altered considerably with the advent of photo-dyeing, which produced far better results than conventional hot dyes while sparing feather quality. Now we have cold dye processes which employ hair color agents, the same stuff used in beauty parlors and hair salons. These produce very lovely and natural-appearing feathers indeed. Much credit is due Eric Leiser, who was instrumental in adapting hair dyes to feather-dyeing.

Great as these feathers look, there is still an argument as to their fish appeal. Much of it centers around "light patterns", as they are called. It is widely contended that even the best dye jobs produce a flat color, whereas natural dun is actually a complex shade which casts a spectrumized light pattern when light passes

through it.

There is no denying that certain dun feathers have unique color components which really come alive when exposed to light. This is particularly noticeable in so-called rusty dun or bronze dun. However, not all natural duns manifest this characteristic. Further, we as yet have not been able to establish that the fish care one bit.

Using a macro lens and various lighting techniques, I have done photographic studies of an array of dun feathers, both natural and dyed. I do see differences, both between dyed and natural feathers and between naturals. Some duns cast a more complex or spectrumized light pattern than others. Often, I have great difficulty distinguishing between the dyed and natural. While they may not be highly complex, the dyed feathers do have a good sheen and a generous amount of liveliness and brilliance, often more than in dull-colored natural feathers. That, I feel, is what's important; a healthy, glossy sheen. If this can be produced using a dying process—and quite obviously, it can—I have no problem with using dyed feathers.

Something else that has been lost in the breeding-refinement process is good hen hackle. By good, I mean good and webby, just the opposite of rooster hackle. Hen hackle today is starting to resemble some of the rooster hackle we were getting twenty-five years ago—and, it's just about as useless.

Hen hackle has two major uses; cut wings on dry flies and hackle on wet flies. It is particularly good for folded-and-wound collars on hair-winged salmon flies. For both of these applications, webiness is the essential attribute; the webbie, the better. The elongated, roosterish hen hackle produced by genetic birds is not the ticket.

The hen capes used for hackling salmon flies are usually plain old white leghorns. They are practically all web and take dye very well, most important with salmon flies. The quills are soft and flexible, so the hackles wind well. As long as these are available, the salmon fly tyers will be in business.

Those of us who tie a lot of cut-wing dry flies and/or depend on natural-shade hen capes for wet fly hackle have a problem. This stuff, which used to be practically a giveaway, is now quite scarce. Gray or dun is particularly hard to obtain, it being in great demand for cut wings. I am at a point where I am considering dyeing up some white hen capes, using the hair color process.

Maybe some chicken grower will read these words and decide to raise some good old-fashioned heterosexual hens. I do hope so. Barring that, this commodity will remain in short supply.

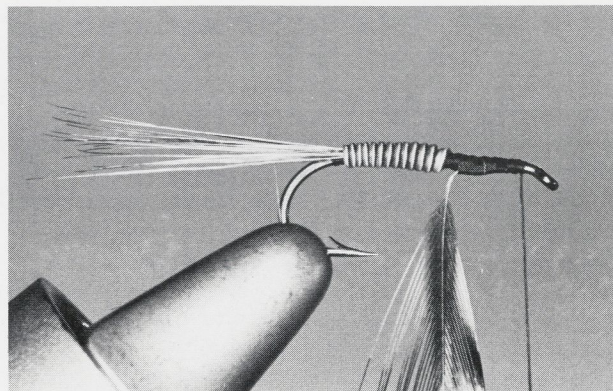
So where is the hackle business headed? Onwards and upwards, from all indications. I would say that market demand for premium hackle, which is not even close to being met by today's suppliers, will lure new investors into the game, and growers who have expertise and a flock with top blood lines will find themselves in an enviable position. I see much larger operations forthcoming, producing fine-quality birds in quantity, supplying overseas production tyers as well as the more elite private market in this country. Watch for developments.

I think higher prices are also a realistic expectation, although not astronomically so. This is a dynamic of supply and demand as well as increased costs. However, this may actually work to the American tyers' advantage, in that lesser quality feathers will bring the growers a fair profit from the off-shore commercial houses, so that they can concentrate on serving the domestic private tyer, who generally demands the best. My prediction is that the quality will be so good that the modest increase in price will not work a hardship on us, because of the

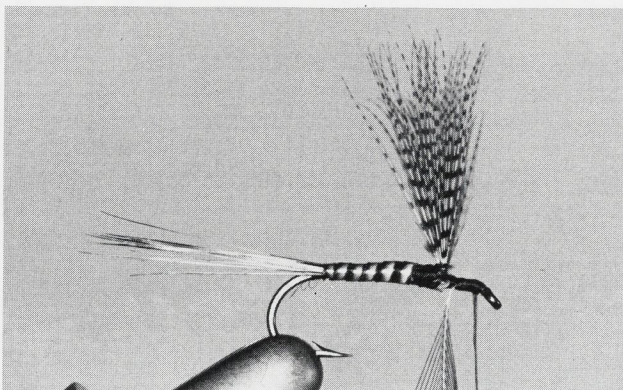
enhanced utility of the product.

I'll close with a couple of tying exercises which I believe will dramatize the words that have gone before. In the first one, I'll hackle a conventional dry fly with a single feather from a superior-grade cape, using an unconventional technique. In the second, I'll use a premium saddle hackle to tie a one-feather Gray Fox Variant, using a truly heretical procedure. Please refer to the photos and captions.

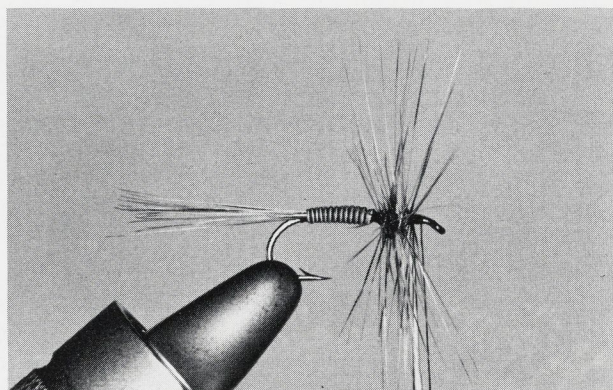
Oh, I nearly forgot. My sincerest thanks to Henry Hoffman, the Super Grizzly man, and Ted Hebert of T. H. Genetic Hackle for their assistance in developing the information for this article.



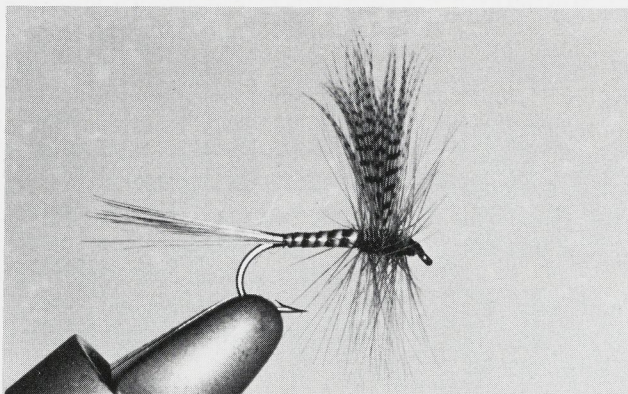
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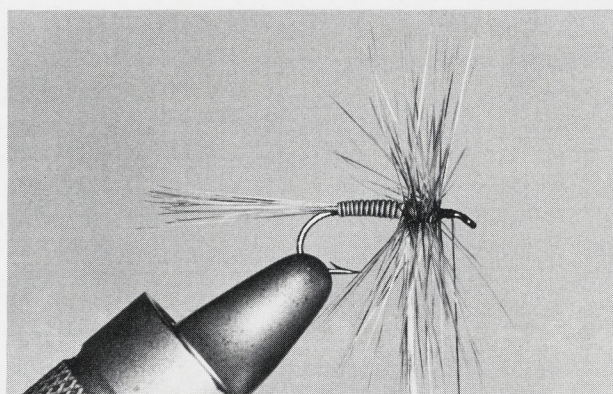
1. Feather tied in, positioned for single feather winding



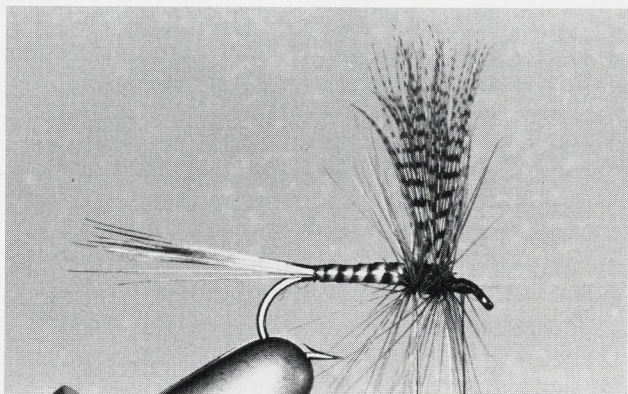
2. Feather wound forward first time. Note space left at front and rear.



2. Feather wound in front of and behind the wing



3. Feather wound back over and through itself, filling in space at rear.



3. Feather wrapped forward, over and through itself. Fly finished



4. Feather wound forward a second time. Fly finished.



Pheasant Flash

by Ron Landis

Down on the lower Madison, below Quake Lake, I watched my friend nailing them, one after another. He was nymphing, something puzzling since the day was perfect for emerging caddis and he loves to fish the Coachman Trude. After an hour of unfulfilled searching in pocket water with an H & L Variant and a caddis emerger, I sauntered towards him to discover his secret.

"What are you catching them on?" Standard opening for any skunked fisherman who knows when he's been bettered by both trout and fishing buddy.

"Your experimental fly," he shouted over the roar of the ripping pocket water.

"Huh?" That narrowed it down to about four or five. Last winter I was laid up with an injury and had plenty of idle time to concoct invertebrate imposters galore. Convinced it was a caddis I shouted back, "You mean the Finch?" a hybrid I crossed between a traditional soft hackle fly and Gartside's Sparrow and so named it Finch in his honor.

He misunderstood through the din of the ruffle and nodded approval, so for the ensuing hour I fished with the wrong fly, watching him catch five more in the 18 inch class (one I think was a Whitefish he cleverly blocked from my sight with his legs, but his less than graceful release suggested a coarse fish). Well, it happens some days that luck is not with you even though you think you're using the right fly; however, I was getting great satisfaction from knowing his fish were being fooled by my creation.

While drifting my fly into the seams of the current, my buddy came up from behind my blind side, breathless and excited.

"I need more bait,"—a humorous metaphor loosely translated as "I don't tie many flies myself, and even if

I did I adhere to strict traditional recipes, so can I please have another fly because the last fish, most likely a 22 incher, cleaned me off."

Without responding I opened my wet fly wallet to the fly I thought he meant.

"No, not that one. You know, the one you tied for me in Vermont".

Stabbing him with a dirty look for having misled me into using the wrong fly, I switched to the box with my nymphs. "You mean these?" pointing to three size 14 pheasant tails tied with green Krystal Flash bodies and peacock herl wing cases.

"All you've got is three?" His face filled with horror.

"How many did you plan on losing?" I asked rhetorically. "Don't worry, between the two of us we'll not lose all three before day's end." I gave him one (not two) and promptly switched to the Pheasant Flash myself. He caught two more and I none. Fortune was not with me this day.

More times than this the Pheasant Flash has saved the day. In Vermont for brookies, in Connecticut for browns, in the Yellowstone for cutthroat, and in the Madison for rainbows and browns. It seems given the right conditions it catches fish—chub, suckers, and whitefish as well, so it's truly a fly with no prejudices. I've tied it in green, gold, copper, and even once in red with a white wing case and peacock herl thorax to see if it would do anything. I caught a dumb "cut" in just enough water to cover my ankles and had to carry the 18 incher over to my friend to prove to him that a Royal Coachman Pheasant Flash was indeed pricked inside its jaw.

Why does it work? Just another variation on the old saw that you've got to give them something different to look at, close enough to the natural but different enough to get them to key in on it. When

fish are locked onto a particular emergence coming up in extraordinary numbers such as they were one day to the Hendrickson, a copper bodied Pheasant Flash was enough for them to distinguish my fly above the naturals. It also works well on overcast days or in early spring when runoff discolors the water, or in very deep pocket water. The flash is enough to pick up what little sunlight might be available, and therefore draw the attention of an errant trout. I must admit I have no explanation for that cutthroat mentioned before, given the water clarity and lack of depth, but it worked. In fact, earlier that day and in the same spot I fooled three other "cuts" on a Golden Pheasant flash, and a passing stranger who was low on luck and flies caught a "hook jaw" on a Copper Pheasant Flash I loaned him. Sometimes trout behavior defies explanation, but that's the fun of our sport—it keeps us guessing.

It's not difficult to tie but it needs some special attention, so I share with you my technique and hope it does as well for you as it has for my buddy and me.

- Hook:** Mustad 3906B, size according to local needs.
- Thread:** Size 6/0; color depending on body color
- Tail:** Pheasant tail barbules; a variation is dyed pheasant tail according to body color
- Body:** Krystal Flash; color according to local flies
- Thorax:** Pheasant tail; dyed if desired.
- Wingcase:** Peacock herl
- Legs:** Pheasant tail barbule points that are left when winding the thorax forward to the eye of the hook, tied back and clipped.

A breed Apart:

Genetic Hackle

A Comparative Look

TED LEESON

TO ANYONE who ties dry flies, hackle is undoubtedly the single most important material in the dressing. Aside from contributing to the appearance of the finished pattern, hackle determines a number of physical characteristics—flotation, silhouette, durability, even behavior—all of which govern a fly's effectiveness in taking fish.

Thus fly tiers have long been concerned with procuring top-quality hackle, but only in the last 10 years or so has supply begun to keep pace with demand. A few domestic breeders have produced strains of birds genetically selected solely for feather quality, and, as a result, excellent hackle in nearly every size and shade is now available—for a price. A premium genetic hackle neck may run nearly \$60, with grade-2 capes averaging \$35. At these rates, even a few necks constitute a sizeable investment, and tiers who wish to get the greatest value should exercise care in buying hackle capes.

Grading Systems

Since genetic necks are graded by the breeder, selecting a cape appears to be a relatively straightforward affair—a #1 neck is superior to a #2, which is better than a #3. Unfortunately, too many tiers take this shortcut when buying hackle.

In assessing the quality of a neck, breeders consider a wide range of criteria: barb stiffness, density, uniformity and web; length, color, quantity and sizes of feathers. What is important to remember is that all grading systems are a trade-off among these criteria. A #1 neck may not be perfect in every grading category—merely the best practical compromise among all of them.

For example, a neck with feathers of very high quality may be graded down because the cape shows off-color streaks, or is deficient in smaller sizes of hackle, or is sparsely feathered in general. On the other hand, a cape with individual feathers of good but not outstanding quality may get top marks because it is thickly hackled in all sizes and exhibits a true and uniform color with good sheen.

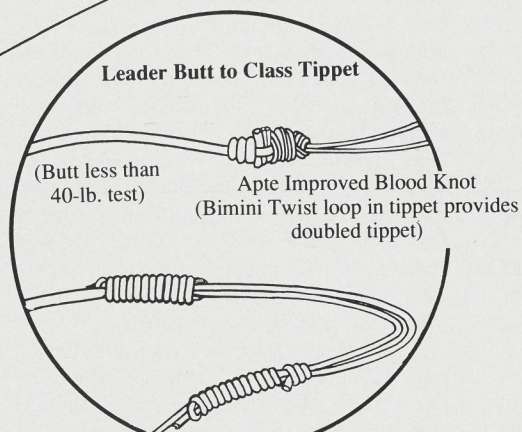
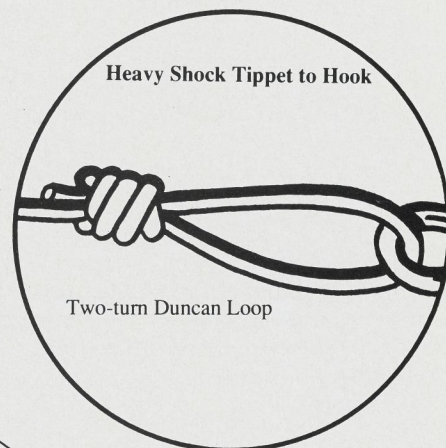
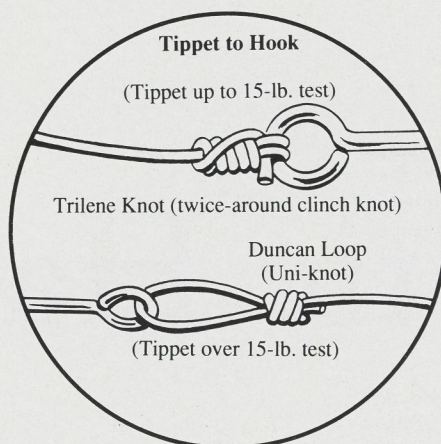
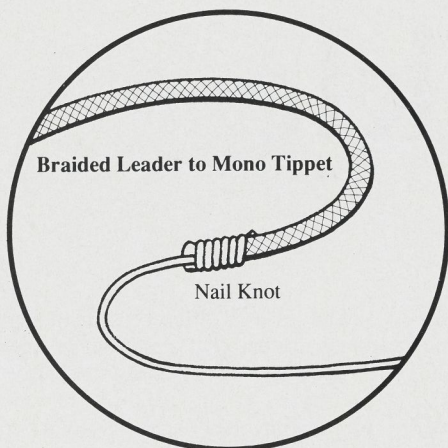
Moreover, different breeders grade necks differently; grade #1 in one brand doesn't necessarily mean the same thing as grade #1 in another. Of the four breeders involved in the following comparisons, each had a different emphasis in breeding objectives and grading. For example, Franklin Carter, of Colorado Quality Hackle, notes that their company places a premium on long, flexible quills and purity of color. By contrast, Ted Hebert, of Hebert Hackle, minimizes the importance both of color and of very small hackles, working instead to produce a neck heavily hackled in the #14-#16 range, with well-shaped barbs. Henry Hoffman, of Hoffman Hackle, pays more attention to the smaller hackles, breeding as well for consistent quill thickness and uniform quality at both ends of the neck. Buck Metz, of Metz Hackle, focuses on producing capes thickly hackled in all sizes, with good color consistency in a wide variety of shades.

Breeders are concerned with many criteria, biased to some extent by individual preferences, characteristics of their flocks, and their perceptions of the market. In evaluating necks, a breeder may well rank and weigh these criteria differently than you do. Thus the grade does not necessarily reflect the value of a cape in your terms—only the breeder's.

Buying Neck

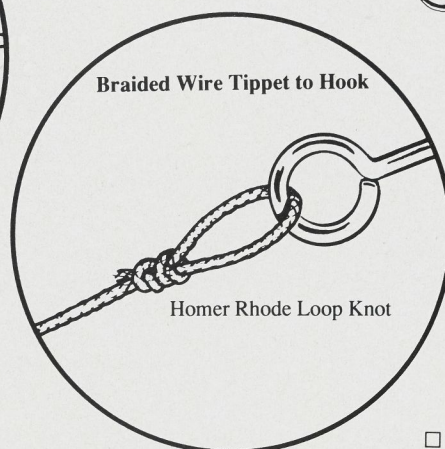
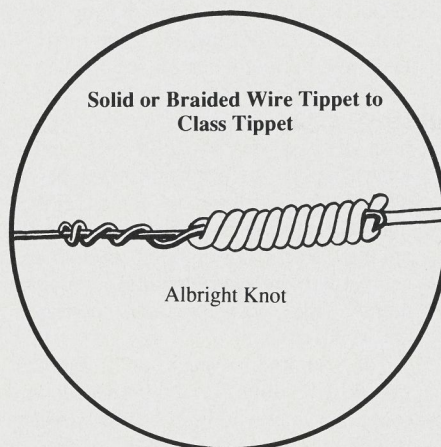
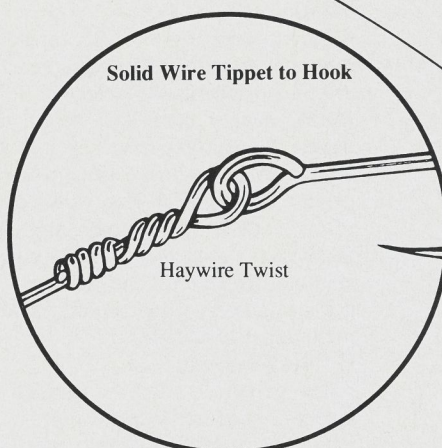
When purchasing hackle, then, you should first decide what you want from a neck, and this is to some extent determined by the kind of tying that you do. If, for example, you tie flies mostly between sizes 14 and 18, a cape that will hackle #10 to #28 may not be worth a premium price to you. Or if you're looking for that precise shade of blue dun, you might accept a bit more web or a sparser cape to get the exact color. In short, let the purpose you have in mind be the guide in your selection.

Assessing the quality of a neck is really a two-part process that requires evaluating both the quality of the individual hackle feathers and the cape as a collection of these feathers. In general, here is what to look for:



Improved Albright Knot (folded-over tag of butt is tapered with a razor to reduce the bulk of the Albright) tied with a Bimini Twist loop in the tippet

Class Tippet to Shock Tippet
Same as above; note that many tarpon guides prefer to tie class and shock tippets together beforehand, then simply loop-to-loop the class tippet to a permanent leader butt of approx. 24".



lb., it's also constructed differently. Use spliced loops in 30-lb. backing and conventional fly line cores.

3. Every knot on these pages can be improved with a drop of glue.

4. On braided leaders: the plastic locking sleeves that some manufacturers supply tend to slide off; ignore them and use these connections. And Orvis's quick-change braided leader system supplies prefab loops in a wide variety of leader sections and lets you custom-build leaders simply by looping pieces together.



METZ HACKLE COMPANY

•**The Feather.** High-quality dry fly hackle must have barbs that are sufficiently stiff to support the fly, and the first indication of stiffness, or "hardness," is a minimum of web in the usable portion of the hackle. Web is both soft and absorbent, and hence unsuitable to a floating fly. Hardness can be gauged by flexing a feather into an arc and flicking these flared barbs with a fingertip; stiff, resilient fibers will spring quickly back to their original position.

While indisputably important, stiffness is often overemphasized, as it is really meaningful only in conjunction with another, often neglected, characteristic: barb density. Stiff barbs are worthless if there are not enough of them, so barb density—the number of fibers per unit length—is an important index of usefulness. A high-density feather will put more barbs underneath the hook with each turn of hackle, thus providing better support and flotation. Conversely, a feather with fewer barbs per inch requires more turns of hackle, adding extra stem to the hook with each winding and thereby increasing both the bulk and weight of the finished fly.

A magnifying glass of 10 power or so is ideal for checking barb density, especially since webby hackle will appear, to the unaided eye, denser than it really is. While carefully flexing a feather, look closely at the base of the barbs where they meet the quill. The closer the spacing, the better. The barbs themselves should be straight, not curved (though optimum barb shape is debatable), but barbs that are excessively thin or taper dramatically to a wispy tip will collapse on the water, giving poor support to the fly.

Since shorter hackles have fewer uses than longer ones, it is worthwhile assessing the usable length of the feather—that section of the hackle with consistent barb length. A hackle that begins as a #12 and tapers to a #18 is of limited value, even if the feather itself is long.

Finally, the stem, or quill, should be thin and flexible for ease in winding. Thick quills may be difficult to work with, since they are often brittle and prone to twisting or splitting.

•**The Cape.** Though it is impossible to sit in a fly shop and count each feather on a neck, you will want some idea of the amount of mature hackle it contains. Physical size alone, however, can be deceptive, as the dimensions of a cape can change in processing. Instead, flex the neck at a few points, and get a sense of feather count by seeing how dense the hackles are on the skin. Pay particular attention to the middle third of the neck, since the most commonly used sizes are located there. A thick, cushiony cape is also a fair indication of high hackle count.

Just as important as feather count is size distribution. Obviously, a neck should



1. Feathers from a Hoffman brown (L.) and an imported neck; note the dramatic difference in barb density.



2. The hackle on the right shows good, uniform barb length, while the other feather tapers and is of limited use.



3. A well-barred Hoffman grizzly feather (L.) compared to a poorly barred example from a barnyard neck.



4. Skin patches: CQH cream (R.) and a Hoffman grizzly. The smaller skin had about 50% more feathers, showing how difficult it is to judge the fullness of a neck by its dimensions, which depend greatly on how the neck was processed.

be hackled thickly in the sizes you tie most, so again, knowing what you need from the neck is the best guide in evaluating its distribution of feathers.

In judging capes, no characteristic is more subjective than color. If you are seeking a particular shade, or "cast," in a neck, by all means rank color high on your priorities. But as both Buck Metz and Ted Hebert point out, color probably gets more emphasis than is really warranted in most hackle purchases. Feathers or necks with slight variations—"splashes"—of color (which rarely affect the actual quality of the hackle) can make pleasing and effective flies. And while grizzly is quite popular, other barred hackle ties up beautifully, and is often of slightly higher quality than solid colors. But in response to consumer demand, some breeders put a premium on uniform coloration, and tiers may find excellent values in lower-graded necks that are really first-rate in every respect but color consistency. Whatever the color, capes should have a glossy sheen to them. Barred hackles tie up best when the contrasting bands of color are narrow and run straight (rather than in a V shape) across the feather, thus maximizing the lifelike variegations of color for which these necks are prized.

Finally, excessive numbers of pinfeathers or broken hackle stems diminish the usefulness of a neck. But, contrary to popular wisdom, broken tips on feathers rarely present a problem. Since the tip is normally lost to trimming anyway, such hackles work perfectly well.

Fortunately some of these criteria are quantitative, and the following tables that summarize important measurements should assist the tier in assessing the specific characteristics of genetic necks. As suggested earlier, there is really no "best buy" for all tiers; it depends upon your individual priorities and the particular requirements of the flies you tie.

The purpose, rather, is to indicate what you get for the \$45 or \$55 you hand over for a cape, to specify the strengths of certain brands of hackle so that you can evaluate them according to your needs and make an informed purchase.

Test Criteria and Methods

The measurements were taken on both barred and solid color necks—grizzly and brown when possible, since these are the most commonly purchased colors—from four different breeders: Colorado Quality Hackle (dun grizzly and cream), Ted Hebert Hackle (ginger grizzly and brown), Hoffman (grizzly and brown), and Metz (grizzly and brown). The necks were chosen by the breeders themselves to be typical, representative grade #1 necks. Finally, a brown imported neck was included as a kind of comparative reference point, since imports are the most readily available alternative to genetic capes.

A word of caution about the results: the

Table I: Cape Measurements

Brand	No. of #10-#12 (% Usable Range)		No. of #14-#16 (% Usable Range)		No. of #18-#20 (% Usable Range)		No. of #22-#24 (% Usable Range)		Total in Usable Range	
	Barred	Solid	Barred	Solid	Barred	Solid	Barred	Solid	Barred	Solid
CQH \$45	122 (18.6)	162 (22)	161 (24.4)	144 (19.6)	159 (24.1)	150 (20.4)	217 (32.9)	279 (38)	659	735
Hebert \$44	172 (21.5)	138 (18.9)	263 (33)	299 (40.8)	188 (23.5)	150 (19.7)	175 (22)	151 (20.6)	798	732
Hoffman \$53	239 (24.9)	141 (15.8)	212 (22)	204 (22.9)	226 (23.5)	264 (29.7)	285 (29.6)	281 (31.6)	962	890
Metz \$48	150 (18.1)	133 (16.5)	221 (26.8)	231 (28.5)	283 (34.3)	199 (25)	172 (20.8)	245 (30)	826	808
Import \$12		114 (38.8)		84 (28.6)		77 (26.2)		19 (6.4)		294

Table II: Feather Measurements

Size/Brand	Usable Length (inches)		Barb Density (barbs/inch)		Stem Thickness (inches)	
	Barred	Solid	Barred	Solid	Barred	Solid
#10-#12						
CQH	1¾	1½½	45	56	.0085	.0082
Hebert	2⅛	1¾	50	52	.0079	.0077
Hoffman	2¼	1¾	65	61	.0076	.0075
Metz	1⅞	2¾	57	48	.0080	.0095
Imported		1½½		48		.0070
#14-#16						
CQH	1½	1⅝	54	69	.0076	.0073
Hebert	1¾	1¾	55	57	.0075	.0075
Hoffman	1⅝	1½	66	66	.0073	.0068
Metz	1⅞½	2	61	52	.0075	.0085
Imported		¾		52		.0063
#18-#20						
CQH	¾	1½½	71	72	.0063	.0057
Hebert	¾	1¼	72	69	.0050	.0060
Hoffman	1⅞	1½½	84	83	.0062	.0060
Metz	¾½	1¾½	83	64	.0047	.0066
Imported		¾		68		.0050
#22-#24						
CQH	½	¾½	86	88	.0040	.0036
Hebert	½	¾½	85	82	.0043	.0048
Hoffman	¾½	¾½	85	85	.0040	.0048
Metz	½	⅝	88	75	.0044	.0049
Imported		¼		72		.0042

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tabulated measurements should be interpreted judiciously. Birds raised for hackle are not mass-produced like cars (for which we may all be thankful); biologically, each is an individual, so the figures in the table won't correspond precisely to every grade #1 neck that a breeder produces in that color. There is always some variation. Moreover, the cross-color comparisons require additional care since, across the spectrum of colors, all capes are not created equal. Browns and grizzlies, for instance, are generally of better quality than duns and blacks. Nevertheless, extra care was taken to procure necks that would furnish the most valid comparison. Finally, certain decisions—for example, whether an individual feather was in fact usable and should be counted—were subjective in some cases. Other tiers evaluating the same necks might arrive at slightly different figures.

Cape Measurements: Table I

The sizes tested, #10 through #24, represent the most commonly used dry flies. On the average, this range accounted for about 70 percent of the total number of feathers on the neck. A hackle was counted if it met one criterion: "Would I tie a fly with it?" This is a subjective standard, but since it was uniformly applied, the tables are internally consistent. I like to get the most from my necks, so a feather with a broken tip counts, if it's still long enough to use. Similarly, feathers on the perimeter of the cape, typically shorter and more tapered than the rest, were counted if two such feathers would hackle a fly. In all genetic capes, however, these shorter feathers constituted less than 10 percent of the total. Hackles that were broken off well beyond the tip, that had damaged barbs, or were of insufficient usable length, were not counted. Retail prices are 1986 rates.

Feather Measurements: Table II

Usable Length: This a bit of a judgement call, since some tiers will tolerate more web than others. For the purposes of the test, usable length began at a point where the webby section of the barb was about 20 percent of total barb length and ended where the barbs dropped to the next smallest hook size.

Barb Density was measured along one side of the quill. The fiber count represents an average for the feather, since barb density in fact varies along the length of the quill. The fibers are packed most closely together near the butt end, and the space between barbs increases as you move toward the tip. That is, density is highest near the butt, lowest near the tip. This difference suggests that to maximize the number of barbs underneath the hook, you are probably better off paying more attention to the butt end of the feather rather than trying to squeeze on an extra wrap from the hackle tip.

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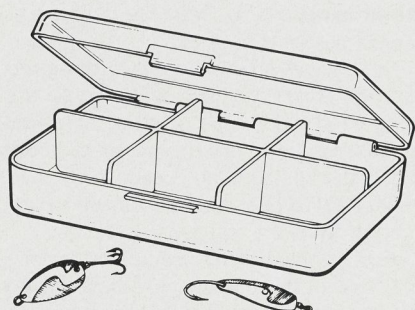
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By the same token, barb density increases as the feathers get smaller. Thus smaller flies require proportionately fewer turns of hackle to support them—rather considerate of the chicken, since most tiers like to keep small flies sparsely dressed. One might also achieve better flotation on larger flies by dropping down one hackle size for greater barb density, and lengthening the tail to maintain balance.

Stem Thickness was measured on the axis parallel to the barbs, at the tie-in point.

What became clear in these tests was an interdependence of characteristics that often goes unappreciated. No single measurement tells a whole story. For example, the brown Metz neck showed the very long, uniform feathers that have become the hallmark of genetic capes. But the extra length carries a price: In nearly all the cases, these feathers had thicker stems (because the tie-in point was closer to the butt end) and a lower barb density. Such a feather may produce a bulky fly. Conversely, thin-stemmed, thickly barbed feathers are typically short; they may be ideal for conventional hackle, but may prove unsatisfactory for palmered flies, which require more feather length. While a long feather is more versatile, the relationships of length, barb density and stem thickness suggest that no single feather is best for every application.

The measurements also suggested these more specific conclusions:

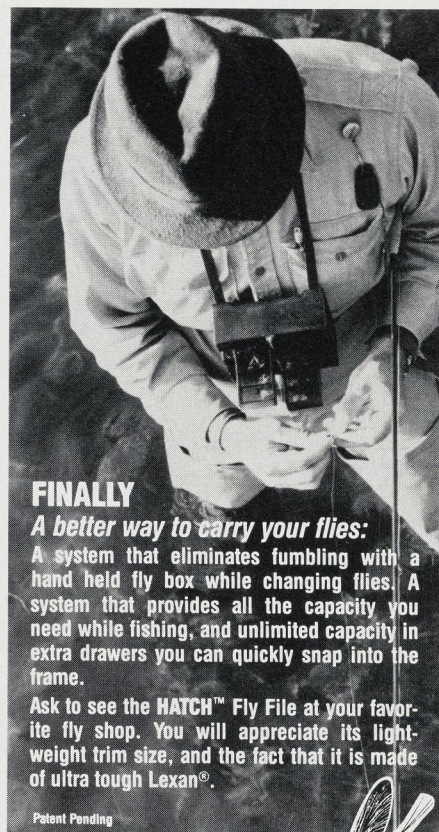
CQH: These necks demonstrated CQH's concern with color; both capes showed true, uniform coloration throughout. Moreover, for devotees of color, these capes come in 16 shades, with a heavy emphasis on varieties of dun.

The feathers themselves tended to be a bit shorter than other brands. While the solid-color necks showed very good barb density, the dun grizzly was sparsely barbed and thicker-stemmed in larger sizes. On the average, these necks had the lowest feather count, though they are also at the low end of the price range. Both necks had a majority of feathers in the #18 through #24 range.

These capes will probably have the greatest appeal to tiers who like pure, consistent color and smaller fly sizes. CQH is sold nationally by many retailers.

HEBERT: These capes are in some ways the opposite of CQH. While Hebert necks also come in 16 colors (with an emphasis on shades of ginger and honey), individual capes show some color variation, generally growing paler in the larger sizes. This is, however, consistent with the breeder's regard for color as only secondary.

The hackles on both necks were generally average in length and barb density. What is most unusual about them is the high percentage of feathers in the middle ranges, particularly #14 through #16,



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where the brown neck had 40 percent of its hackle and the barred neck 33 percent.

Feather count was very slightly below average, though as the lowest-priced of all the domestic necks tested, they may be just the item for the tier less concerned with color who ties predominantly in the mid-sizes. At present, however, there is only one distributor, so Hebert capes can be somewhat hard to find.

HOFFMAN: Both of these necks were of very fine color—a uniform, consistent brown and a tightly barred, high-contrast grizzly. Those seeking a wide range of natural shades, however, will have to look elsewhere. Hoffman breeds primarily grizzlies, though brown, and to a lesser extent cream, are also available.

While the brown hackle was of average length, the grizzly was long; both had a high barb density. The combination of length and fiber count make this grizzly a versatile hackle. Both necks had a majority of feathers in the smaller sizes, particularly the brown, which had 60 percent of the hackle between #18 and #24.

These were the most heavily feathered capes of all—and the most costly. A tier willing to pay top dollar for lots of usable feathers, especially smaller ones, might find this neck a real value—if he can find it. The Hoffman output is small and the demand for these capes quite high.

METZ: Like the Hoffman capes, these had very good color: finely barred grizzly, and a brown uniform throughout the usable portion of the feather. Metz capes come in 15 standard colors, five of which are barred necks other than grizzly.

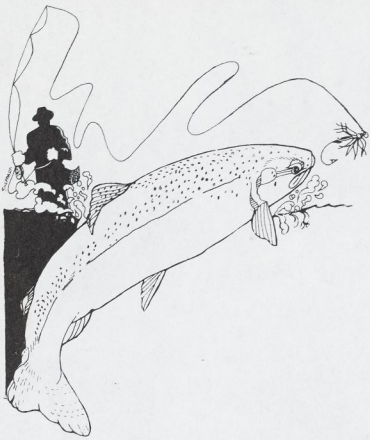
The grizzly neck produced feathers of above-average length and barb density; the brown neck, as mentioned, had very long feathers of a low fiber count. Perhaps the most distinctive feature of these capes is a very even distribution of sizes from #14 through #24, with a high total number of usable hackles.

These capes should appeal to those who look for good coloration and who tie regularly in a wide range of sizes. Metz production is high, making these the most widely distributed of all genetic capes.

IMPORT: This neck was, unsurprisingly, inferior in every category but color. Of particular note is the length—it takes at least two of these feathers to hackle a fly, making the tying more cumbersome and effectively cutting feather count in half.

Yet imports can be of good quality, and tiers who use specific colors or sizes seldom find imported necks a bargain for those once-in-a-while purposes.

While these figures should help in selecting hackle, there is, finally, no substitute for getting your hands on some necks and looking closely at them. The slightly different emphases of these breeders give the buyer a wide and varied range in which to indulge both needs and taste. □



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