

# Applied Appaloosa color genetics

## Part IV: the fewcap pattern

By Robert Lapp and Gene Carr

**I**t's a nice spring weekend, and your friends are visiting from out of town. They're also Appaloosa breeders and are anxious to see your new foals, now a couple months old. You've got some pretty nice babies, but there's one in particular you want your friends to evaluate.

As everyone heads to the pasture, you start explaining what's on your mind:

"I've seen many few-spot and snowcap patterns, but one filly's pattern baffles me..."

"She looks more like a few-spot, is leopard-bred, but has more dark markings than I've seen on few-spots. (See photo A)

"Other times I think she might be a snowcap because of those solid markings on her neck and head. The trouble is, she doesn't

have enough solid coloring to be a snowcap. (See photo B)

"What am I going to tell potential buyers? (See photo C)

One friend asks the obvious: "Who cares? Few-spot or snowcap, she's homozygous either way, will produce color, and with the right cross, should produce a nice baby."

"True enough," you say, "but if she's a few-spot, she's more likely to produce a leopard pattern. But if she's a snowcap, the chances of producing a blanket are higher. Besides, most people are likely to ask about the pattern anyway."

Your friends understand but aren't very helpful. After studying the filly, one says she's more like a few-spot, but the other is adamant—she's closer to a snowcap.

## DISCOVERING THE FEWCAP

Like the two friends in the story, we encountered the "which is it" question early on in our research and also disagreed. After many discussions, we concluded that we'd identified a new homozygous pattern. The Appaloosas we were questioning had nearly 100-percent color production and the required Appaloosa x Appaloosa parentage with at least one leopard in the pedigree.

For lack of a better term, we called it a "combo" pattern because it exhibited markings similar to both few-spots and snowcaps yet didn't really fit the descriptions of either one.

However, the term "combo" wasn't acceptable, so we finally settled on what combo suggested anyway: fewcap—a distinctive homozygous pattern produced from a mixing of leopard and blanketed ancestors.

While the few-spot leopard pattern is produced from leopard breeding even though some ancestors may have blankets, and while the snowcap pattern often has leopards somewhere in the pedigree, the fewcap represents a combination of both pattern markings. Fewcaps aren't rare, but aren't as common as few-spots or snowcaps.

## LEOPARDS AND BLANKETS

Some may be surprised to learn that blanket patterns were the preferred pattern type in the ApHC's early years and were far more common than leopard patterns. In fact, as late as the 1970s, a survey of *Appaloosa News* readers found that the blanket was the favorite pattern type.

We don't know how or when the leopard pattern first appeared on the Appaloosa scene, but have found no evidence that the Nez Perce had leopard Appaloosas.

We do know that blanket patterns were far more common to the early Appaloosas in the Pacific Northwest, and are continuing to research how, when and where bona fide leopards entered breeding programs, particularly in Montana, Wyoming and Colorado.

We suspect that the leopard pattern

may well have originated outside the Palouse region and from non-Nez Perce Appaloosa stock. We're still trying to identify the area where the first known few-spot leopard appeared. At some point, however, leopards mixed with blankets to produce the fewcap pattern.

## FEWCAP: IDENTIFYING CHARACTERISTICS

Accurate identification of the fewcap pattern is sometimes difficult precisely because its markings resemble both few-spot and snowcap. When examined carefully, however, the fewcap exhibits characteristics that differentiate or distinguish it from both the few-spot and snowcap.

**Fewcaps aren't rare, but aren't as common as few-spots or snowcaps.**

While not common to every fewcap, the following characteristics occur in various combinations and represent the defining phenotypic (visible) indicators of the fewcap pattern:

- At least one leopard ancestor somewhere in the pedigree
- A solid-colored or partial roan neck, extending from the crest or top of the neck to the shoulder line or point of the shoulder (See photos A and D)
- Solid or dark markings around the elbow but often extending higher up on shoulder/heart girth than what's found on a few-spot (See photos E and F)
- Vertical rib striping, also known as bars or jail bars, near the heart girth, sometimes toward the front of the barrel and extending upward to just below the withers (See photo A)
- Solid markings at the flank (like the few-spot), but often more pronounced at the elbow (See photos E and F)
- Often a dark-colored head or greater smattering of darker areas than on a few-spot, but similar to the dark head found



Photo A



Photo B



Photo C



Photo D





Photo E



Photo F



Photo G



Photo H

#### HERE ARE SOME INTERNET RESOURCES ON COAT COLOR GENETICS:

##### The Appaloosa Project—

<http://pets.groups.yahoo.com/group/theappaloosaproject/>

**HorseColor.com**—[www.horsecolor.com](http://www.horsecolor.com)

**Cremello and Perlino Educational Association**—[www.doubledilute.com](http://www.doubledilute.com)

**University of California/Davis Veterinary Genetics Laboratory**—

[www.vgl.ucdavis.edu/~lvmillon/coatclr.html](http://www.vgl.ucdavis.edu/~lvmillon/coatclr.html)

on snowcaps (See photos A, E and G)

- White blanket, extending to at least the withers, but more white areas further forward than found on a snowcap (See photos A, D, E, F and G)

- Solid-colored leg markings, often covering one or more entire legs, but usually more pronounced on the front legs (All fewcap photos)

- Dark markings or graying along the side/bottom of the belly, sometimes extending from the flank/stifle to the elbow (See photos A and F)

- Usually a solid-colored mane and tail
- More solid markings scattered over more areas of the body than a few-spot, yet more white and fewer dark markings than snowcap

#### ANOMALIES

We're stymied by one Appaloosa pattern in particular. Photo H shows the famous mare Bright Delight. She appears to fit the description of a fewcap. She produced 12 foals, all colored, and 11 were from Quarter Horse or Thoroughbred stallions. Heterozygous Appaloosas don't produce such a high percentage of colored foals from multiple cross-breedings.

We're hard-pressed to call her a snowcap, yet lacking a leopard in her pedigree, can't qualify her as a few-spot or fewcap.

We believe the Appaloosas in photos F and G are fewcaps, despite the fact that both were heavily advertised as few-spot leopards. The stallion in photo F was extremely well known. His rare yearling picture shows significant dark markings, which are more indicative of fewcaps, per-

haps even snowcaps. He grayed to such a degree that he was commonly regarded as a classic few-spot.

We're also aware of other stallions with patterns quite similar to Bright Delight, who like her, lack a known leopard in their pedigrees. These Appaloosas may well represent an as-yet unidentified homozygous pattern.

#### LINGERING ISSUES

Accurate identification of the fewcap is sometimes difficult because of the age at which the horse is examined. Fewcaps are best identified during their weanling or yearling years when they haven't grayed to a significant degree.

Snowcaps can gray to the point of looking like few-spots or fewcaps. Horses described as "near-few-spots" may actually be fewcaps, depending of course on the presence or absence of spotting.

We continue to research other issues:

- Is the fewcap produced from more or fewer leopards in a pedigree?
- Does the fewcap have more blanketed than leopard ancestors?
- Do patterns on the sire or dam side of the pedigree make any difference?
- Will the fewcap produce more blanket than leopard patterns?

These issues aside, we've found the fewcap to be a distinctive and homozygous Appaloosa pattern, yet one requiring further research to understand more clearly. 🐾

*Editor's note: Watch for Part V in the June issue, which will cover other homozygous coat patterns.*