How Many Turkeys Did It Take to Make a Blanket?

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Yucca cord blanket framework
99 X 108 cm

Blanket with intact feathers
80 X 77 cm

Both blankets probably date to the AD 1200s
Blankets and photos courtesy of Edge of the Cedars State Park Museum, Blanding, Utah

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A genetically distinctive variety of domestic turkey occurred widely in the Pueblo Southwest from very late BC-early AD times until the late 18th or early 19th century. Most of these birds were fed a predominantly maize diet.

Left: archaeological sites from which turkey remains were analyzed by Speller et al. (2010)
Left: rabbit-fur blanket, worn by Mohave man, early 20th century.
G.W. James, *Indian Blankets and Their Makers*. 1914

**Rabbit-fur blankets**

Blankets or robes made of strips of rabbit hide with fur intact were widely used in western North America from the Archaic period on. The hide strips were wound around cords of yucca or *Apocynum* fiber.

In the Pueblo Southwest, turkey feathers began to replace or supplement rabbit fur in blankets by the late Basketmaker II period, ca. AD 1 to 500. Feather blankets became a standard part of the personal equipment of most individuals. They apparently lasted many years and were warmer and more durable than rabbit fur blankets.
Turkey bones are rare in food refuse of BM II through P II sites in the Mesa Verde region. Until P III, the feathers were primarily used for blankets and ritual paraphernalia. Adult turkey burials are not uncommon and ritual sacrifices occur, as shown on the left, at a site dating AD 950-1000. (Early P II)

Above: Ritual sacrifice included six adult turkeys and 14 poults (Lyle 2017)

Turkeys weren’t initially a major food source
Right: Dermestid beetle larvae have stripped the downy vanes from the feathers of our “target” blanket. The feather quills or rachises remain wrapped around the warp cords.

Left: Wild turkey pelt and several of its body feathers

How Were Feather Blankets Made?

Below: Turkey body feathers were tightly wrapped around a framework of yucca fiber cordage. The distal end of each feather was over-wrapped by the next feather added.
How many feathers did it take to make this blanket?

Warp length: 99 cm; 83 warps; total warp cordage: 8217 cm + 332 cm for end loops = 8514 cm (85.1 m)
Weft length 108 cm; 42 wefts; total weft cordage: 4536 cm (45.4 m)
Blanket required ca. 130.5 m of yucca cordage (only the warp held feathers)

# of wraps: ranged from 3 to 6
Mean # of wraps per feather: 4.2
Mean warp cord space per feather: 0.76 cm (7.6 mm)
No. of feathers per meter: 131.6
Total feathers on the warp cords:
85.1 m × 131.6 = 11,199 feathers
How long were the feathers that were used in the target blanket?

Turkey body feathers range from tiny to ca. 20 cm long. To estimate feather lengths of the target blanket, we measured the typical circumference of the wrapped portion of a warp cord. This indicated about 1.6 cm per feather wrap. Three wraps = 4.8 cm and six wraps = 9.6 cm. Adding 2.5 cm for the feather ends that were obscured by overwrapping, we get a feather length range of 7.3 to 12.1 cm. Other blankets likely had different length ranges.
How many suitable blanket feathers will a large turkey yield?

Shannon and Bill obtained two adult male wild turkey pelts from Moscow (ID) Fur and Hide Co, and counted their body feathers (assisted by Aimee Oliver-Bozeman and Greer Lantier).
If all 2718 feathers were used, the yield from **4.2** turkeys was needed. Using only preferred feathers, the yield from **9.4** turkeys was needed. What were the options for obtaining the feathers?
Discussion

Killing multiple turkeys to get feathers would have been wasteful (turkeys live up to 10 years) and is not supported by faunal data before about 1150, when turkeys also became more important as food.

Turkeys molt their feathers every year. Collecting molted feathers was possible, but may have been impractical unless the birds were penned—then, trampling damage may have been a problem.

As turkey body feathers mature, they lose connection to the circulatory and nervous systems, and can be removed painlessly from live birds. This is likely to have been an important method for obtaining feathers. The following slide gives a link to a short video showing feathers being collected from geese (the best available modern surrogate for feather collection from turkeys).
Collecting mature feathers from geese, ahead of the regular molt

The European Panel on Animal Health and Welfare has condemned down collection methods that injure or traumatize the birds, but approves humane methods. See https://www.youtube.com/watch?v=MN0kXUDosnA for a short video that shows humane methods used at La Casa de los Gansos, a small enterprise in Chile. There, the practice is referred to as “esquila”—the “shearing or clipping” (though no cutting is involved).
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