THE PROCEEDINGS

of the

LOUISIANA ACADEMY OF SCIENCES

VOLUME 58
1995

Published by

THE LOUISIANA ACADEMY OF SCIENCES

An Annual Publication

THE PROCEEDINGS

of the

LOUISIANA ACADEMY OF SCIENCES

VOLUME 58
1995

Published by

THE LOUISIANA ACADEMY OF SCIENCES

An Annual Publication

Date of issue: 31 January 1996

Proc. Louisiana Acad. Sci. 58:18–28. 1995.

NUTRIA PELT QUALITY VARIATION IN SOUTHCENTRAL LOUISIANA

Darrin B. Unruh and Robert H. Chabreck
School of Forestry Wildlife and Fisheries
Louisiana State University Agricultural Center
Baton Rouge, LA 70803

and

Noel W. Kinler
Fur and Refuge Division
Louisiana Department of Wildlife and Fisheries
Rt. 4, Box 78
New Iberia, LA 70560

ABSTRACT—*Reported declines in nutria pelt quality in Southcentral Louisiana prompted a study of regional variation in nutria pelt quality and individual variation in hair and skin characteristics. We collected a total of 102 nutrias from six areas and prepared the pelts according to methods used by professional trappers. Pelts were graded by an experienced fur buyer, and hair and skin characteristics were quantified on five sections of the ventral portion of each pelt using seven pelt quality variables. Furbuyer grades and all pelt quality variables, except percentage of pelt damage, differed among areas. All pelt quality variables differed among sections of pelts. All sections of pelts were subject to varying pelt quality, but quality was poorest on the posterior end of pelts. Poor quality pelts were low in fur weight, underfur weight and length, guard hair length and density, and skin weight, and high in percentage of broken guard hairs. Results of furbuyer grades and laboratory pelt analysis differed among areas.*

Key words: nutria, fur, pelt damage.

INTRODUCTION

The nutria (*Myocastor coypus*) has been a major part of the fur industry in Louisiana for over 30 years (Kinler et al. 1987). The harvest of nutria pelts has been valued at over $5 million annually (Tarver et al. 1987). In addition to providing income for trappers and landowners, healthy nutria fur markets increase trapping pressure and keep nutria populations under control, thus decreasing damage to marshes and crops (Ensminger 1955).

Fur buyers have reported reduced quality of nutria pelts in certain areas of Southcentral Louisiana in recent years. In some areas, the quality of nutria pelts has deteriorated to a point that pelts are no longer marketable. The reason for the decline in nutria pelt quality is unknown; however, Maum (1986) suggested that pelt quality differences between western and eastern nutrias were caused by environmental rather than genetic factors.

Numerous factors may influence pelt quality. Hair growth is easily disturbed in furred animals and almost any kind of nutritional stress or systemic disease can result in hair loss (Maguire and Hanno 1985). Deficiencies in protein (Lightbody and Lewis 1929, Strangeway 1933, Kawinska et al. 1975), essential fatty acids (Rainbird 1987, Lloyd 1989), vitamins such as biotin and B_2 (Ensminger and Olentine 1978, Wallach and Hoff 1987), and minerals such as copper, potassium, and zinc (Wallach and Hoff 1987) can cause pelt quality problems.

Hormones control the growth and loss of hair (Worthy et al. 1987). Environmental factors can cause hormonal responses that may negatively affect hair growth (Donavon 1961). Exposure to toxic substances can cause many detrimental effects on furbearers including problems associated with the hair and skin (Wilson 1961). There are many non-nutritional diseases that cause skin and hair problems. Chronic dermatitis caused by a plant, smooth beggartick (*Bidens laevis*), affects the quality of nutria pelts in Louisiana (Chabreck et al. 1977). Many species of fungi and microscopic invertebrates have been linked to hair and skin problems (Andrews 1930: 539, 791). Other possible causes of pelt quality problems may be self-inflicted injury and damage caused by certain physical aspects of the environment. Schwartzman and Mather (1960) reported that self-inflicted injury such as biting, licking, and scratching were the most important factors causing dermatoses in canines. Chabreck and Dupuie (1970) reported seasonal variation in nutria pelt quality and suggested that low water levels resulting in excessive travel by nutria over dry ground and vegetation may harm the belly fur, the most valuable portion of a nutria pelt. In recent years, furbuyers have reported that pelts of nutrias from some areas in Southcentral Louisiana have sections with a low density of hair or broken guard hairs. The nutria fur trade describes the condition as a "skip," and report that a "skip" will greatly reduce the value of a pelt.

The objectives of our study were to determine variation in nutria pelt quality in selected areas of Southcentral Louisiana and variation in hair and skin characteristics in different sections of pelts. If pelt quality varied among areas of similar habitat in Southcentral Louisiana, then further study may be necessary to determine the cause of the variation and develop corrective measures.

Methods

The study was conducted on six areas in Southcentral Louisiana (Fig. 1). Areas 1 and 2 were in St. Mary Parish near the Wax Lake Outlet. Area 1 was west of the Wax Lake Outlet between Leopard Bayou and Hog Bayou, and Area 2 was 0.25 km east of the Wax Lake Outlet along the south side of Towhead Bayou. Area 3 was located in St. Mary Parish south of Ellerslie near Morone Point. Area 4 was located in Terrebonne Parish in the Lake Hatch Oil and Gas Field and 1.5 km west of Lake Theriot. Areas 5 and 6 were near the Atchafalaya River in St. Mary Parish. Area 5 was along Big Doctors Bayou and 0.8 km north of the intersection of Big Doctors Bayou and Big Hog Bayou, and Area 6 was 0.7 km north of the mouth of Big Hog Bayou.

According to Chabreck and Linscombe (1988), all six study areas were located in a fresh marsh vegetative type. Typical vegetation of fresh marsh is maiden cane (*Panicum hemitomon*), *Hydrocotyle* spp., water hyacinth (*Eich-*