WEGNER

Last name of first author

1989 JOINT ANNUAL MEETING
AMERICAN DAIRY SCIENCE ASSOCIATION AND AMERICAN SOCIETY OF ANIMAL SCIENCE

Triple Crown Convention Connection, Lexington, Kentucky
July 31 – August 4, 1989

J.M. Elliot, Chairman, Program Committee
(607) 255-2862

I. Presentation Preference (check one)
- ☐ Oral presentation of paper preferred
- ☒ Poster session presentation preferred
- ☐ Either method satisfactory

II. Section Preference (check 1st choice and indicate 2nd choice, if applicable)
- ☐ Animal Health, Pharmacology & Toxicology
- ☐ Breeding & Genetics
- ☐ Environment, Behavior and Care
- ☐ Food Science (Dairy/Meats)
- ☒ Growth & Development
- ☐ Non-ruminant Nutrition
- ☐ Pastures and Forages
- ☐ Physiology
- ☐ Production and Management
- ☐ Ruminant Nutrition
- ☐ Teaching and Extension

III. Media Appeal (check if you consider paper to be of interest to news media):
- ☐ Yes

Corresponding author David J. Meisinger, Ph.D

Address Pitman-Moore, Inc. P.O.Box 207
Terre Haute, IN 47808

Phone (812) 232-0121

Member of (check as appropriate)
☐ ADSA ☐ ASAS ☐ Both

Note:
Material within the blue-line box will be photocopied exactly as received. See Instructions for Abstract Preparation. Abstracts must be submitted on original abstract forms and in accordance with instructions.

Abstract and Abstract Heading (see instruction sheet for example)

Journal of Animal Science 64(1989) Supplement 1
S. 224-225

A method for studying muscle growth and meat quality in live animals

J.Wegner, K. Ender, I. Fiedler, B. Zschorlich, Research Centre of Animal Production Dummerstorf, GDR-2551

Muscle growth and meat quality are releated to the growth of the diameter of muscle fibers formed during myogenesis. By means of a shot biopsy device it is possible to take muscle samples from living animals without any stress. The animals don't have to be fixed or narcotized. Biopsy sampling is very quick and without any surgical procedure. One experienced technican can take samples from 30 animals per hour. In more than 3000 biopsies no impairment of the animals' health has been recorded. Muscle samples (0,7 g) were immersed in liquid nitrogen, and cut with a microtom cryostat. To evaluate the fiber types histochemical enzyme reactions were used to demonstrate the aerobic (red) and anaerobic (white) fibers. For an experiment in growth biopsy samples were taken from 170 boars, which are alloted 12 progeny groups, five times (at the 70 th, 100 th, 140 th, 180 th and 220 th day of life). Among the groups there are significant differences in muscle fiber thickness and fiber type distribution during growth. Animals with the thickest muscle fibers and the highest proportion of white fibers have the lowest quality of meat (drip loss, colour, pH-value). Biopsy technique and histological investigations of muscles give valuable information about the growth of muscles and help to predict the meat quality in live animals.

KEY WORDS: muscle growth, meat quality, biopsy, muscle fiber

Must be received by March 1, 1989. Send original and three copies to J.M. Elliot, four copies to Program Chair of first choice, and one copy to Program Chair of second choice, if applicable. Addresses are listed on enclosed Instructions for Abstract Preparation.

Journal Dairy Sci. 72(1989) S. 224-225