

## PASTURES AND ROUGHAGES AND THEIR EFFECT ON CARCASS CHARACTERISTICS

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The hog has a simple stomach with a comparatively small capacity. This is one reason why most hog feeding experiments have been conducted with concentrates rather than with feeds having large amounts of water and small amounts of dry matter. From 1930 to 1943 some work was reported on feeding bulky feeds. Interest in this phase of work has recently been revived. This renewed interest has come about through low pork prices enhancing the need for less expensive feeds, by a feeding program that can reduce the amount of fat on a market weight hog and by the impetus of the "grass program" for feeding livestock.

The early studies dealt primarily with daily weight gains, carcass firmness and dressing per cent. Lathrop and Bohstedt (1) fed an oat mill feed replacing as much as 24% of the corn in the ration increasing the proportion of fiber in the ration from 3.5 to 11.3%. A decline in dressed pork yields were reported to be associated with rising fiber levels, but rations containing up to 7.5% fiber produced gains equal to the control ration. Hogs fed alfalfa, oats and rape and bluegrass pastures when supplemented with a moderate amount of corn was reported by Wilford (2) to give the most rapid gains in the order listed. Similarly good gains on alfalfa and satisfactory carcasses were reported by Hughes (3), Godley, Kyzes and Clyburn (4) and Wright, Turner and Fenn (5). Woodman and Evans (6) concluded that lawn grass clippings when supplemented with 2 1/2 pounds of concentrates produced hogs that had good frames but lacked fleshing and fat. They reported that the carcasses were unsatisfactory for the English market. The hogs were fed 674 pounds of grass and 358 pounds of concentrates. They found that 85% of the total organic matter in the concentrates was digestible and 60-62% in the grass. Ellis and Zeller (7) fed up to 20% alfalfa meal in the ration and reported that market grades of slaughter hogs and carcasses showed no marked trends. They stated that in one experiment, a slight decrease in fatness and hardness of fat resulted as the alfalfa content of the ration increased, but the differences were not significant.

Two English workers Dunkin and Cooper (8), (9) fed fodder beets to pigs beginning at 125 pounds. They reported that higher quality carcasses were produced than when only a grain ration was fed. The carcasses were firmer and upon analysis gave iodine numbers averaging 10 points lower than in the control ration. Zeller (10), reporting on work done at Beltsville, stated that satisfactory results were obtained by feeding hogs corn silage and whey grass silage. He also reports that pasture such as ladino, sweet clover, red clover, rape, and bluegrass produce satisfactory carcasses if the pasture is supplemented by 50 to 85% of a full feed of concentrates, depending on the quality of the grass.

In a more complete study Hobbs *et al.* (11) substituted pasture for concentrates in the ration of growing pigs. Treatments included full feed corn + supplement in dry lot, full feed corn + supplement on pasture, full feed corn alone on pasture, three treatments as above except with 80% full feed corn and 60% full feed corn fed with pasture alone and supplement + pasture. Alfalfa, ladino clover and Louisiana white clover were included as pasture.

Results showed that back fat thickness was least on the limited fed hogs. The carcasses from the 60% full feed corn group graded medium by U.S.D.A. grading standards, while the 80% full feed corn group and the full feed corn group averaged Choice No. 1. The carcasses from the 80% full feed corn group were reported as the most desirable in the ratio of fat to lean. The primal cuts showed only slight variation between groups.

In an incompleated study at North Carolina (12) hogs on 50% full feed corn + ladino clover pasture compared with hogs fed a ration in dry lot showed marked differences in carcass characteristics. The pasture fed hogs contained 1.58 centimeters less back fat, 1.93 square inches more lean area of loin muscle, 1% less belly, 5.59% less back, leaf and plate fat. This comparison represents an extreme condition since the dry lot pigs were 153 days old when slaughtered and 298 days for the pasture fed hogs. The average carcass grade based on U.S.D.A. grading standards for the pasture fed hogs was Medium and Choice No. 1 for the dry lot hogs. The quality of the cuts was about equal in the two groups. The chilled carcass weight averaged 165 pounds for the dry lot hogs and 163.5 for the pasture hogs.

Pasture and roughages have a definite place in hog feeding, but more work is needed to establish practical feeding levels in line with carcass quality and economy of production.

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MR. KLINE: We are going to ask Larry Kunkle to present his paper on "Concentrates and Their Effect on Carcass Characteristics."

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