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Effect of depo-MGA on the prevention of pregnancy in grazing heifers

Abstract

Two field trials were conducted to evaluate various dosage levels of Depo-MGA® for preventing pregnancy in grazing heifers. Injecting Depo-formulated MGA subcutaneously in the ear at dosages of 60, 90 or 120 mg effectively prevented pregnancy for up to 135 days. There was no effect on average daily gain.

Keywords

Kansas Agricultural Experiment Station contribution; no. 88-363-S; Cattlemen's Day, 1988; Report of progress (Kansas State University. Agricultural Experiment Station and Cooperative Extension Service); 539; Beef; MGA; Pregnancy; Heifers

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Effect of Depo-MGA on the Prevention
of Pregnancy in Grazing Heifers^{1,2}

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G.W. Boyd,⁴ and T. Goehring⁵

Summary

Two field trials were conducted to evaluate various dosage levels of Depo-MGA® for preventing pregnancy in grazing heifers. Injecting Depo-formulated MGA subcutaneously in the ear at dosages of 60, 90 or 120 mg effectively prevented pregnancy for up to 135 days. There was no effect on average daily gain.

Introduction

Unwanted pregnancies in grazing heifers cause major economic losses to cattlemen. In the past, methods of preventing these pregnancies have focused predominantly on management systems, such as spaying.

Recent research has shown that melengestrol acetate (MGA) in solution, injected subcutaneously in the ear may prevent pregnancy in heifers. Our objectives were to evaluate the efficacy of Depo-MGA in 1) preventing pregnancies 2) stimulating additional weight gain in grazing heifers.

Experimental Procedures

Two field trials were conducted at cooperating ranches in Kansas. At each location, 100 crossbred heifers were allotted by weight to the following treatments: 1) control; 2) 30 mg Depo-MGA in .5 ml solution; 3) 60 mg Depo-MGA in 1.0 ml solution; 4) 90 mg Depo-MGA in 1.5 ml solution; and 5) 120 mg Depo-MGA in 2.0 ml solution injected subcutaneously on the backside of the ear. Prior to the start of the trial, all heifers were pregnancy checked to make sure that only open heifers were used. At the start of the trial, heifers were weighed within 4 hours of removal from pasture, injected with the designated dosage of Depo-MGA, and then maintained on fall or winter pasture; winter fescue pasture at one location and intermediate native

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grass pasture at the other. Within one week after injection, five fertile bulls were placed with the heifers. Supplement was feed at both locations to maintain weight gain from 1/4 to 1/2 lb per head per day.

The cattle were evaluated for pregnancy via rectal palpations 60, 90, 135, 180, and 240 days postinjection to determine the length of efficacy of the various Depo-MGA dosages. At 135 days, the cattle were weighed again within 4 hours of removal from grass and all cattle confirmed pregnant were removed from the trial.

Results

All four dosages of Depo-MGA prevented pregnancy up to 90 days (Table 20.1). At 135 days, the dosages of 60, 90 and 120 mg were fairly effective in preventing pregnancies. At 180 and 240 days, only the 90 and 120 mg dosages prevented pregnancies.

There was no beneficial effect on average daily gain in either trial. This is inconsistent with previous feedlot trials conducted at Kansas State University and other locations, in which the use of Depo-MGA improved average daily gain. However, in those feedlot trials, the daily gains were in excess of 2.5 pounds, whereas in the current trials gains were only marginal; 1/2 pound per day or less. This may have negated a potential effect on weight gain. It should be noted that Depo-MGA is currently (at the date of this report) not cleared for use in the cattle industry.

Table 20.1. Effect of Depo-MGA Dosages on Weight Gain and Pregnancy Prevention

| Dosage of MGA | ADG | % Pregnancy | | | | |
|---------------|-----|-------------|---------|----------|----------|----------|
| | | 60 days | 90 days | 135 days | 180 days | 240 days |
| Location 1 | | | | | | |
| 0 | .29 | 20 | 50 | 70 | 70 | 85 |
| 30 | .23 | --- | 5 | 35 | 60 | 65 |
| 60 | .35 | --- | 5 | 10 | 20 | 35 |
| 90 | .3 | --- | --- | --- | --- | 10 |
| 120 | .34 | --- | --- | --- | --- | --- |
| Location 2 | | | | | | |
| 0 | .41 | 35 | 70 | 85 | 100 | 100 |
| 30 | .32 | 5 | 5 | 50 | 70 | 80 |
| 60 | .49 | 5 | 5 | 10 | 50 | 55 |
| 90 | .47 | --- | --- | 15 | 20 | 30 |
| 120 | .47 | --- | --- | 10 | 30 | 30 |