ASAE S500 MAR1990 (R2019)
Test Procedure for Measuring the Output Characteristics of an Electric Fence Controller

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Keywords: Controller, Electric, Fence, Test

1   Purpose and Scope

1.1   This Standard provides a uniform method for measuring output characteristics of electric fence controllers which relate to animal repelling capacity at specified loads. Currently this is limited to the capacitive discharge controller. Safety from electric shock and fire are not covered by this Standard. Output parameters measured by this Standard relate only to performance and are not to be construed as meeting safety requirements.

2   Definitions

2.1   battery life: The average number of days that a battery-powered fence controller will operate before controller performance falls below its minimum rated output energy. (It is recognized that battery life is not only dependent on the fence controller and its fence load but is also affected by the ampere-hour rating, age, and electrical characteristics of the specific battery applied.) Ampere-hour input required per day, A·h/d, can be approximated by the equation

$$\frac{A \cdot h}{d} = \frac{mA \cdot s}{pulse} \times \frac{pulse}{h} \times \frac{24h}{d} \times \frac{1A}{1000\,mA} \times \frac{1h}{3600\,s}$$

where:

> mA·s = mean average of at least (3) three milliampere-second measurements of current flow from battery into fence controller operating on 500 ohm non-inductive fence load. If other non-inductive load is used, it shall be so reported.

Approximate battery life, *L*, in days may then be calculated using this equation

$$L = \frac{B}{A \cdot h/d}$$

where:

> *B* = rating of specific battery, A·h

> $\dfrac{A \cdot h}{d}$ = ampere-hours required per day from previous equation

2.2   electric fence controller (electric fence energizer): A device that meters electric energy to a fence for the purpose of containing or repelling livestock or wild animals.

2.3   energy rating, stored: Maximum electric energy stored in the discharge capacitor of the fence controller in joules, J, calculated as follows: