GRAYS VALLEY FERTILIZER TEST

Plan of Experiment:

A. Purpose – To test fertilizers applied on depleted rangeland that has had sagebrush killed by spray for the purpose of hastening recovery of the native vegetative cover of grasses.

B. Range types – Two general range types will be selected in Grays Valley for the test:
   (1) big sagebrush type with understory of Idaho fescue, western needlegrass, Sandberg bluegrass, and short hair sedge.
   (2) silver sagebrush type with understory of Nevada bluegrass, and squirreltail.

C. Location of plots – One set of plots in each of the two range types.

D. Fertilizers – Four treatments as follows:
   1. Nitrogen alone at 60 pounds N per acre applied as ammonium sulphate.
   2. Nitrogen and phosphorus at rate to give 60 pounds N and 75 pounds P₂O₅ per acre applied as ammoniated phosphate.
   3. Nitrogen alone at 120 pounds N per acre applied as ammonium sulphate.
   4. Check – no fertilizer to be applied.

Replications and plot plan:

Four replications per treatment are desired at each location.

Plot size, 50 feet by 200 feet, and arrangement as proposed are shown in attached plot layout for big sagebrush type. An identical plot
layout is planned for silver sagebrush type. This arrangement will require 32 plots at each location or a total of 64 plots.

Measurements:

Two types of measurements will be needed:

1. Transect readings as used in Parker 3 step method to determine trend in range condition with first readings made at time fertilizer is applied. A second reading in two years should be made to determine change in density and composition and a final reading at end of five years for same purpose.

2. Yield determinations shall be made toward end of growing season each year to show relative influence of fertilizer on current production and to correlate with density and composition over 5-year period to show trend in range condition and productivity as a result of the fertilizer treatment.
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<thead>
<tr>
<th>Treatment</th>
<th>0# N</th>
<th>120# N</th>
<th>Check</th>
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<tbody>
<tr>
<td>1</td>
<td>60# N</td>
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<tr>
<td>2</td>
<td>60# N 75# P&lt;sub&gt;2&lt;/sub&gt;O&lt;sub&gt;5&lt;/sub&gt;</td>
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<tr>
<td>3</td>
<td>120# N</td>
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<tr>
<td>4</td>
<td>Check</td>
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