USING CATTLE AS BIOTURBATION ‘TOOLS’ FOR RESTORATION OF AREAS AFTER ALIEN PLANT CLEARING - ANNEXURE 4

CATTLE ARE STOCKPOSTED OVERNIGHT IN AGREED COMMUNAL GRAZING AREAS / CAMPS (USING HERDERS, NOT FENCES), WITH MOBILE OVERNIGHT KRAAL PLACED ON AREAS CLEARED OF WATTLE.

HOOF TRAMPLING (a form of “bioturbation”) ASSISTS WITH ‘KICK STARTING’ RECOVERY OF GRASSLAND ON THESE CLEARED AREAS, THROUGH BREAKING UP CAPPED IMPERMEABLE SOIL SURFACE, AND DEPOSITING NUTRIENTS AND GRASS SEED IN MANURE. TEST SITE AT MOTSENG WAS CLEARED OF WATTLE, FOLLOWED BY UNPLANNED BURN WHICH DAMAGED SOIL.

NOTE POLE AS FIXED POINT IN PHOTOS OF TEST SITE AT MOTSENG VILLAGE: KRAAL WAS PLACED TO RIGHT/EAST OF THIS POLE. HERD OF 190 CATTLE WAS KRAALED NIGHTLY HERE FOR 2.5 WEEKS.

5 April 2014: 1 week overnight kraaling on right
16 April 2014: after 2 weeks kraaling
November 2014: trampled area on right showing regrowth
February 2015: one season growth and grazing

Note importance of keeping stock OFF the regrowth area for about 3 months until grass sods and basal cover are re-established. This should be done as part of the managed herding & grazing plan.

VIEW LOOKING UP TOWARDS POLE ALONG WESTERN EDGE OF KRAAL SITE (trample zone now to left of picture). NOTE DIFFERENCE IN SOIL SURFACE TEXTURE, and PERMEABILITY FOR EFFECTIVE RAINFALL INFILTRATION

April 2014
June 2014
November 2014
February 2015

Note rainfall infiltration difference between untrampled capped soil surface (above left) and trampled surface (above right).

REGROWTH OBSERVATIONS ON MOTSENG TRAMPLE TEST SITE (3m x 3m patch)

<table>
<thead>
<tr>
<th>TYPE OF PLANTS</th>
<th>INSIDE / TRAMPLED</th>
<th>OUTSIDE / UNTRAMPLED</th>
<th>INSIDE / TRAMPLED</th>
<th>OUTSIDE / UNTRAMPLED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grasses &amp; forbs</td>
<td>100</td>
<td>22</td>
<td>230+</td>
<td>20</td>
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<tr>
<td>Wattle seedling</td>
<td>1</td>
<td>13</td>
<td>1</td>
<td>16</td>
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<tr>
<td>% basal cover</td>
<td>8%</td>
<td>3%</td>
<td>95%</td>
<td>15%</td>
</tr>
</tbody>
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Basal cover inside trample site (left) and outside (right), showing wattle recoppice from roots and seed