Serradella line evaluation - stage 3.

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AIM: To evaluate five promising lines selected from variety trials, in terms of herbage production and long term persistence.

TRIAL SITE: D. Johnson, South Stirlings.

DESIGN: Randomized block.

SOIL TYPE: Deep grey-white sand.

\[
\text{pH (CaCl}_2\text{)} \\
\begin{align*}
0 - 5 \text{ cm} & : 4.75 \\
5 - 10 \text{ cm} & : 4.29
\end{align*}
\]

FERTILIZER: Topdress 200 kg/ha super at break.
Topdress 100 kg/ha super potash 3:1 in spring.

RESULTS:

Mean seed Yields (kg/ha)

<table>
<thead>
<tr>
<th>Line</th>
<th>1985</th>
<th>1986</th>
<th>1987</th>
<th>1988</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. O. Compressus DP6</td>
<td>232</td>
<td>283</td>
<td>235</td>
<td>360</td>
<td>278 C</td>
</tr>
<tr>
<td>2. &quot; Uniserra</td>
<td>146</td>
<td>190</td>
<td>127</td>
<td>243</td>
<td>177 AB</td>
</tr>
<tr>
<td>3. &quot; M167</td>
<td>183</td>
<td>240</td>
<td>236</td>
<td>306</td>
<td>241 BC</td>
</tr>
<tr>
<td>4. &quot; Tauro</td>
<td>388</td>
<td>346</td>
<td>263</td>
<td>571</td>
<td>392</td>
</tr>
<tr>
<td>5. O. Pinnatus Jebala</td>
<td>151</td>
<td>105</td>
<td>48</td>
<td>119</td>
<td>106 A</td>
</tr>
<tr>
<td>6. O. Perpusillus GM034</td>
<td>101</td>
<td>100</td>
<td>164</td>
<td>290</td>
<td>164 AB</td>
</tr>
<tr>
<td>7. O. Compressus Pitman</td>
<td>261</td>
<td>230</td>
<td>219</td>
<td>249</td>
<td>240 BC</td>
</tr>
<tr>
<td>8. Mixture</td>
<td>229</td>
<td>281</td>
<td>202</td>
<td>381</td>
<td>273 C</td>
</tr>
</tbody>
</table>

LSD = 78.66

Yearly means LSD = 55.62

\[211A \quad 222A \quad 187A \quad 315 \quad P<0.05\]

COMMENTS:

Statistical analysis after the fourth year indicate:

* A significant (P<0.001) varietal difference, with Tauro being consistently superior in this environment, but especially so following a high rainfall season in 1988. M167 and DP6 were the next highest yielding. The cultivars Jebala and GM034 were obviously not suited in this environment and produced very poorly.

* While significantly (P <0.001) higher seed yields were recorded in 1988, there as no significant variety by season interaction.

* Serradellas in general have persisted and performed well over the past four years on this deep acid sand.