Lucerne cultivar evaluation at Roodebloem 2009 to 2014
Production of 17 grazed lucerne cultivars over five seasons at Roodebloem

Production kg DM ha\(^{-1}\) annum\(^{-1}\)

- Magna804: 1664
- KKS4000: 1602
- WL414: 1531
- WL903: 1476
- SuperSiriver: 1462
- Magna601: 1454
- SASelect: 1432
- Pegasus: 1384
- SuperAurora: 1380
- Venus: 1346
- Icon: 1316
- SuperStar: 1209
- WL357: 1199
- SASTandard: 1095
- KKS9911: 1070
- KKS7000: 1021
- SuperCuf: 926
Lucerne production and grazing intake during four seasons over five years at Roodebloem

Lucerne production and grazed (kg ha\(^{-1}\) season\(^{-1}\))

- May - July
- Aug - Oct
- Nov - Jan
- Feb - Mar

Production and Grazed comparison chart.
Number of lucerne plants
m $^{-2}$
Table 6. Number of plants m\(^{-2}\) for each cultivar over two seasons 2012 and 2013 at Roodebloem, Caledon

<table>
<thead>
<tr>
<th>Kultivar</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pegasus</td>
<td>66.2 a</td>
</tr>
<tr>
<td>SA Standaard</td>
<td>65.8 a</td>
</tr>
<tr>
<td>SA Select</td>
<td>65.0 a</td>
</tr>
<tr>
<td>Magna 601</td>
<td>58.8 ab</td>
</tr>
<tr>
<td>Venus</td>
<td>49.8 abc</td>
</tr>
<tr>
<td>Icon</td>
<td>41.7 bcd</td>
</tr>
<tr>
<td>Super Siriver</td>
<td>40.2 bcde</td>
</tr>
<tr>
<td>WL 414</td>
<td>39.7 bcde</td>
</tr>
<tr>
<td>Super Aurora</td>
<td>37.5 bcdef</td>
</tr>
<tr>
<td>WL 357</td>
<td>35.5 cdef</td>
</tr>
<tr>
<td>WL 903</td>
<td>33.5 cdef</td>
</tr>
<tr>
<td>Magna 804</td>
<td>33.3 cdef</td>
</tr>
<tr>
<td>KKS 9911</td>
<td>30.7 cdef</td>
</tr>
<tr>
<td>Super Star</td>
<td>30.3 cdef</td>
</tr>
<tr>
<td>KKS 4000</td>
<td>22.3 def</td>
</tr>
<tr>
<td>KKS 7000</td>
<td>20.0 ef</td>
</tr>
<tr>
<td>Super Cuf</td>
<td>17.2 f</td>
</tr>
</tbody>
</table>
Relationship between number of lucerne plants (# m$^2$) and the mass per lucerne plant (gm) for 17 lucerne cultivars at Roodebloem after four seasons

\[ y = -0.0218x + 3.5568 \]

\[ R^2 = 0.6632 \]
Number of plants m$^{-2}$ per season over cultivars at Roodebloem, Caledon

<table>
<thead>
<tr>
<th>Date</th>
<th>Mean</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>47.26</td>
<td>a</td>
</tr>
<tr>
<td>2013</td>
<td>34.22</td>
<td>b</td>
</tr>
</tbody>
</table>
Mass per lucerne plant (g plant $^{-1}$) over cultivars in successive years at Roodebloem

<table>
<thead>
<tr>
<th>Date</th>
<th>Mean</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>2.51</td>
<td>b</td>
</tr>
<tr>
<td>2013</td>
<td>4.22</td>
<td>a</td>
</tr>
</tbody>
</table>
Influence of seed treatment with cruiser compared to inoculated seed only
Cultivar SA Select
At twenty seeding rates
0 to 20 kg ha $^{-1}$
Over seeding rates
Influence of seed treatment on the number of lucerne plants established in 2011 during consecutive seasons

Number of lucerne plants m²

Year

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Plants</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>141 b</td>
</tr>
<tr>
<td>2012</td>
<td>108 c</td>
</tr>
<tr>
<td>2013</td>
<td>59 e</td>
</tr>
</tbody>
</table>

Legend:
- I
- T
Influence of seed treatment on the % of germinable lucerne seeds, established in 2011, during consecutive seasons.
Effect of seeding rate
Number of lucerne plants
Influence of seeding rate on the number of lucerne plants m\(^{-2}\) during three consecutive seasons

\[ y = -0.1033x^2 + 16.675x \]
\[ R^2 = 0.9371 \]

\[ y = -0.1853x^2 + 11.83x \]
\[ R^2 = 0.835 \]

\[ y = -0.1468x^2 + 7.3552x \]
\[ R^2 = 0.7544 \]
Lucerne dry mass
Influence of seeding rate on the dry mass per lucerne plant during two consecutive seasons (2011 and 2013)

\[ y = -0.0222x + 0.8891 \]
\[ R^2 = 0.6576 \]

\[ y = -1.229 \ln(x) + 4.7895 \]
\[ R^2 = 0.833 \]

Dry mass lucerne plant\(^{-1}\) (g)

Lucerne seeding rate (kg ha\(^{-1}\)
Influence of seeding rate on the total dry mass (g m\(^{-2}\)) of lucerne, established in 2011, during two consecutive seasons (2011 and 2013)

\[
\begin{align*}
y &= 41.052 \ln(x) + 6.2701 \\
R^2 &= 0.8227
\end{align*}
\]

\[
\begin{align*}
y &= 27.612 \ln(x) + 32.443 \\
R^2 &= 0.5108
\end{align*}
\]
Relationship between the number of weed and legume seedlings