Low maintenance and shade tolerant grass mixtures for bush cider orchards

Summary
All grass mixtures established quickly after sowing in 1993. Low maintenance BSH A22 and Barenbrug rye/fescue mixtures quickly formed fine compact swards with a good thatch. Interseeds PRO 120 more vigorous ryegrass required more regular mowing. Shade tolerant BSH A6 formed an excellent sward of fine grasses, but BSH A7 and Barenbrug shade mix, although containing more vigorous competitive ryegrass, were also good in the non-shade conditions of this trial.

Introduction
The purpose of this trial was to assess the performance of the best available grass mixtures for two distinct purposes in bush cider orchards. The clearly defined specifications are: for orchard alleyways, hard wearing, regenerative, mat forming but low maintenance grasses able to tolerate heavy machinery, and: for grassing down under established tree rows, fairly hard wearing, slow growing, non-competitive shade tolerant grasses.

Heavy duty mixtures
1] Interseeds PRO 120
   Lisabelle dwarf ryegrass 60%
   Liprosa slender red fescue 35%
   Highland browntop 5%

2] British Seed Houses
   BSH A22
   Lorina dwarf ryegrass 60%
   Logro slender red fescue 35%
   Highland browntop 5%

3] Barenbrug Rye/fescue
   Barcredo dwarf ryegrass 50%
   Barcrown slender red fescue 30%
   Bargreen chewings fescue 20%

Shade tolerant mixtures
4] British Seed Houses
   BSH A6 Shade
   Boreal red fescue 40%
   Wilma chewings fescue 30%
   Julia smooth meadowgrass 20%
   Highland browntop 10%

5] BSH A7 Sports
   Hermes dwarf ryegrass 50%
   Julia smooth meadowgrass 20%
   Frida chewings fescue 10%
   Wilma " " 10%
   Highland browntop 10%

6] Barenbrug Shade
   Barlow dwarf ryegrass 20%
   Barcredo " " 20%
   Barcrown slender red fescue 30%
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Baron smooth meadowgrass  30%

Method
The field trial site chosen was Field Farm, Hampton Bishop, Hereford.
Seed mixtures were sown at a rate of 16g per square metre [160kg/ha, 64kg/acre] 30/4/93 onto
prepared soil alleyways of a young cider orchard [first year], in two replicate blocks each 2.5 x
5m [12.5m²], and rolled in warm conditions with rain expected. Base fertilizer was
incorporated at 50g/m² of 5:12:10
The grass was topped twice in the first year and mowed approximately every 3 weeks in the
second season.

Results
Grass was assessed in August 1993, when all the mixtures had established well but still had
from 20 - 40% bare soil in patches. Two assessments were made in the second season. Swards
were scored [1 - 10] for rapid establishment, lack of bare patches, reasonable vigour and the
formation of a ‘thatch’ capable of supporting heavy machinery traffic. Results are summarised
in the table below.

Table 1. Grass cultivar performance rating [1 = poor – 10 = excellent]

<table>
<thead>
<tr>
<th>Grass mixture</th>
<th>21/7/94</th>
<th>11/10/94</th>
<th>Cost £/Kg 1994</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSH Shade mix A6</td>
<td>9.0</td>
<td>7.5</td>
<td>£3.00</td>
</tr>
<tr>
<td>BSH Lorina/Logro A22</td>
<td>7.5</td>
<td>7.5</td>
<td>£4.75</td>
</tr>
<tr>
<td>Interseeds Pro 120</td>
<td>6.5</td>
<td>6.0</td>
<td>£3.00</td>
</tr>
<tr>
<td>Barenbrug Low maintenance</td>
<td>5.5</td>
<td>7.5</td>
<td>£2.50</td>
</tr>
<tr>
<td>Barenbrug Shade mix</td>
<td>6.0</td>
<td>6.0</td>
<td>£2.20</td>
</tr>
<tr>
<td>BSH Sports mix A7</td>
<td>5.0</td>
<td>6.5</td>
<td>£4.00</td>
</tr>
</tbody>
</table>

Overall assessments
BSH A22 and Barenbrug Rye/fescue mixes both formed excellent low maintenance swards
with steady regrowth after mowing, and meet the orchard specifications well. PRO120 regrew
more quickly and contained a more vigorous ryegrass which formed little thatch. This mix may
be too vigorous and require more frequent mowing on some sites.
BSH A6 formed an outstanding sward in this trial which was unfortunately not shaded because
the trees were too young. BSH A7 and Barenbrug Shade Mix also formed good swards but had
a high proportion of rather strong growing ryegrass which is potentially competitive with the
trees. However, under normal shade conditions, ryegrass gradually dies out to be superseded by
the more shade tolerant cultivars in the mix, thus forming a predominantly fescue/browntop/smooth stalked meadowgrass sward under mature trees. The presence of
ryegrass is beneficial in the short term, acting as a ‘nurse’ to get the weaker grasses established.
BSH A6 is recommended for grassing down in younger orchards where grass competition must
be minimised, and BSH A7 or Barenbrug Shade Mix for grassing down or reseeding in the
more difficult, shaded and drier conditions in mature orchards.

Costs
Costs are estimated from the 1993 prices for the cost of seed at 64 kg/acre [160kg/ha]. They
are unlikely to remain correct and are intended only as a guideline.
Liz Copas, Field Officer, National Association of Cider Makers.