You are an international consultant to a farmer outside Jinan China. A small apple tree farm is being planned on several hillslopes. The original hillslopes were grass and are now being converted to the apple trees. You collect data from 1 representative area to help in determining the most accurate WEPP representation.

**Hillslope 1**- Top of slope – flat, width 40 meters, slope facing south, with 3 sections:
- Section 1 – 19.2 meters at 4.3% slope
- Section 2 – 14.4 meters at 6.0% slope
- Section 3 – 37.5 meters at 2.1% slope

Soil information – (Same as exercise #2) 85% initial saturation, Silt Loam (SIL), Albedo 23
- Rill and Interrill Erodibility – not measured
- Effective Hydraulic Conductivity – 12 mm/hr, Critical Shear Strength 3Pa
- Layer 1: 100mm, sand=6%, clay=24%, organic=1.25%, CEC=17, no rock fragments
- Layer 2: 1500mm, sand=30%, clay=22%, organic=0.4%, CEC=13, no rock fragments
- No bedrock layer found

Previous Management – grass

Apple tree characteristics – height 4m, root depth, approximate biomass after 5 years 200kg, senescence start July 15.

Use 40 year WEPP runs.

Create a new management that represents the apple tree, assume there is no soil disturbance.

Another group would instead like to plant a wheat grain crop. With planting on April 30 and harvest on September 15. Before planting there would be plowing and disk ing and the wheat planted with a drill planter, on June there is a disk operation.

Create a new management that represents the wheat management.

The goal is to keep the soil loss below 6 tonne/ha/year and the sediment yield to below 2 tonne/ha/year. Is it possible with any of the 3 above land management options?

<table>
<thead>
<tr>
<th></th>
<th>Average Annual Runoff (mm)</th>
<th>Average Annual Soil Loss (tone/ha)</th>
<th>Average Annual Sediment Yield (tonnes/ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>grass</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apple trees</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Wheat

For the apple trees, what was the simulated height after 5 years? What was the peak biomass in year 5? For the remainder of the years did the trees appear to be growing correctly in the simulation?