Managing Hemp Soil Fertility in NC
June 2020

Soil fertility guidelines for floral, fiber, and seed/grain hemp are included in Table 1. The fiber and seed/grain hemp recommendations are based on peer reviewed published research. The floral hemp guidelines are developed from the fiber and seed/grain recommendations, on-going NCSU and NCDA floral hemp research, and common practices of NC farmers. Base actual nutrient applications on a recent soil test report (NCDA&CS Soil Test Crop Code 310) as well as soil type, cropping history, and environmental conditions. The target pH for most North Carolina soil is 6.2. (http://www.ncagr.gov/agronomi/sthome.htm).

To manage in-season fertility, submit leaf tissue samples to the NCDA&CS Agronomic Lab (http://www.ncagr.gov/agronomi/uyrplant.htm).

Table 1. Soil fertility guidelines for floral, fiber, and seed/grain hemp.

<table>
<thead>
<tr>
<th>Production</th>
<th>Production Environment</th>
<th>Nitrogen(^a) (N) (lbs/ac)</th>
<th>Phosphorus(^b) (P(_2)O(_5)) (lbs/ac)</th>
<th>Potassium(^b) (K(_2)O) (lbs/ac)</th>
<th>Sulfur(^b) (S) (lbs/ac)</th>
<th>Boron (B) (lbs/ac)</th>
<th>Target pH(^c)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floral Hemp</td>
<td>Open Beds Plasticulture</td>
<td>80–120</td>
<td>0–150</td>
<td>0–150</td>
<td>0-25</td>
<td>0–1</td>
<td>6.2 5.5 5.0</td>
</tr>
<tr>
<td>Fiber Hemp</td>
<td>Field</td>
<td>50–100</td>
<td>0–150</td>
<td>0–150</td>
<td>0-25</td>
<td>0–1</td>
<td>6.2 5.5 5.0</td>
</tr>
<tr>
<td>Seed/Grain Hemp</td>
<td>Field</td>
<td>100–150</td>
<td>0–150</td>
<td>0–150</td>
<td>0-25</td>
<td>0–1</td>
<td>6.2 5.5 5.0</td>
</tr>
</tbody>
</table>

\(^a\)Total nitrogen for the season.

\(^b\)Base field specific nutrient application rates on a recent soil test report as well as soil type and crop history.

\(^c\)The NCDA&CS Soil Test Report target pH is based on soil class due to highly variable organic matter levels in soils, particularly in eastern NC. Soil class is mineral (MIN), mineral-organic (M-O), or organic (ORG).

\(^d\)The target pH for most North Carolina soil is 6.2.