Introduction

In March 2016, North Carolina State University conducted the second annual survey to examine inventory and pricing of North Carolina sod.

Overview

- Supply of bermudagrass is better than 2015 but still considered less than the demand.
- The price of sod is likely to remain similar to last year though there will be an increase in some markets for particular grasses.
- The supply of tall fescue is projected to be lower in 2016 than in 2015.
- Growers are currently adding acreage.
- The primary markets for North Carolina sod producers are landscape contractors.

Survey Details

Twenty-eight producers representing the following farm sizes completed the anonymous online survey:

- less than 200 acres (11 participants)
- 201 to 500 acres (7 participants)
- 501 to 800 acres (3 participants)
- more than 800 acres (7 participants)

North Carolina Sod Producers Association (NCSPA) records suggest the number of completed surveys represents about 70% of the sod farms in North Carolina.

Inventories

We obtained inventory estimates for bermudagrass, zoysiagrass, centipedegrass, St. Augustinegrass, tall fescue, Kentucky bluegrass as well as a tall fescue/Kentucky bluegrass mix, and Kentucky bluegrass. This was based on estimated sales and the availability of sod as being excellent (more than 10% of demand), adequate (equal to demand), or poor (more than 10% shortage).

Pricing information included the farm price as well as the price for truckload orders delivered to the closest urban market or within 100 miles of the farms. All costs were reported as price per square foot of sod.

Bermudagrass is being grown by 21 (75%) of the surveyed producers. Only 43% of these producers rated their inventory as adequate this year; 9% indicated their inventory was excellent. For 2016, 48% of all bermudagrass producers projected having less than adequate supplies. This is a lower percentage than the 93% that reported shortages in 2015.
Zoysiagrass is being grown by 21 (75%) of the surveyed producers. Seventy-one percent of these producers rated their inventory as adequate to excellent this year. For 2016, 29% of all zoysiagrass producers projected shortages. Projections were slightly better than last year with 37% projecting shortages.

Of the producers surveyed, 18 (64%) are growing centipedegrass. Eighty-three percent of these growers reported they had adequate to excellent inventory. Seventeen percent of all centipedegrass growers anticipate a shortage during 2016.

Of the producers surveyed, 12 (43%) are growing St. Augustinegrass. Fifty-eight percent of these growers reported they had adequate to excellent inventory, and 42% anticipated a shortage during 2016.

Of the producers surveyed, 11 (39%) are growing tall fescue by itself. Sixty-four percent of these growers reported they had adequate to excellent inventory. Thirty-six percent of all tall fescue growers anticipate a shortage during 2016. This is an increase from the 25% that predicted shortages in 2015.

A mixture of tall fescue and Kentucky bluegrass is being grown by eight (29%) of the surveyed producers. Sixty-three percent of these producers rated their inventory as adequate to excellent this year.

Only five of the producers surveyed (18%) reported growing Kentucky bluegrass by itself. Of the group that responded to this survey, 60% anticipated an insufficient inventory during 2016, with 40% indicating their supply as adequate.

### Pricing

Table 1 provides a sod price perspective for all grass species in 2016.

<table>
<thead>
<tr>
<th>Turfgrass (No. of growers responding)</th>
<th>2016 average (price/sq. ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>On-the-farm</td>
</tr>
<tr>
<td>Bermudagrass (20)</td>
<td>$0.27</td>
</tr>
<tr>
<td>Zoysiagrass (19)</td>
<td>$0.41</td>
</tr>
<tr>
<td>Centipedegrass (17)</td>
<td>$0.25</td>
</tr>
<tr>
<td>St. Augustine (9)</td>
<td>$0.38</td>
</tr>
<tr>
<td>Tall fescue (9)</td>
<td>$0.30</td>
</tr>
<tr>
<td>Tall fescue + Kentucky bluegrass (7)</td>
<td>$0.29</td>
</tr>
<tr>
<td>Kentucky bluegrass (3)</td>
<td>$0.35</td>
</tr>
</tbody>
</table>

* Delivered to either closest urban market or within 100 miles of the farm.
The average price per square foot for a truckload of **bermudagrass** sod at the farm was $0.27 and delivered to the closest urban market or within 100 miles of the farm was $0.29. The farm price ranged from $0.18 to $0.35, whereas delivered prices ranged from $0.20 to $0.37.

**Zoysiagrass** prices were the highest of all turfgrasses. The average price on the farm was $0.41 per square foot and ranged from $0.22 to $0.66. The average price delivered to an urban market or within 100 miles of the farm was $0.43 and ranged from $0.26 to $0.66.

**Centipedegrass** prices in 2016 ranged from $0.18 to $0.35 per square foot and averaged $0.25. The price, when delivered, ranged from $0.20 to $0.36 and averaged $0.28.

**St. Augustinegrass** prices in 2016 ranged from $0.33 to $0.46 per square foot and averaged $0.38. The price, when delivered, ranged from $0.35 to $0.51 and averaged $0.40.

**Tall fescue** prices in 2016 ranged from $0.22 to $0.35 per square foot and averaged $0.30. The price, when delivered, ranged from $0.22 to $0.36 and averaged $0.31.

The mix of **tall fescue and Kentucky bluegrass** sod prices in 2016 ranged from $0.24 to $0.35 per square foot and averaged $0.29. The price, when delivered, ranged from $0.24 to $0.36 and averaged $0.31.

**Kentucky bluegrass** prices in 2016 ranged from $0.30 to $0.45 per square foot and averaged $0.35. The price, when delivered, ranged from $0.30 to $0.45 and averaged $0.35.

**Projected Price Increases**

None of the surveyed growers forecasted a sod price decrease in 2016. While the majority of sod producers predict that sod prices will remain steady, some producers predict price increases:

- Thirty-eight percent of **bermudagrass** producers expect increased prices during spring 2016, and 62% expect prices to be the same.
- For **zoysiagrass**, 24% of producers anticipate increased prices during spring 2016, and 76% expect prices to be the same.
- For **centipedegrass**, 20% of producers expect prices to increase in 2016, and 80% expect prices to be the same.
- For **St. Augustinegrass**, 13% of producers expect prices to increase in 2016, and 87% expect prices to be the same.
- For **tall fescue**, 29% of producers expect prices to increase in 2016, and 71% expect them to be the same.
- For **tall fescue + Kentucky bluegrass**, 38% of the producers expect increased prices during spring 2016, and 62% expect them to be the same.
- One-quarter of the producers expect **Kentucky bluegrass** to increase in 2016, and 75% expect them to be the same.

**Proprietary Grass**
In 2016, 54% of the growers surveyed reported they grew some proprietary grasses on their farm. The average percentage of their grasses that were proprietary was 27% with a reported range from 5 to 60%.

**Certified Grass**

In 2016, 63% of the growers surveyed grew some certified sod. The average amount of certified grass reported by these farmers was 61% of their total sod acreage. Fifty-four percent of these producers charged more for certified grass. Four growers reported that 100% of their grasses were certified.

**Freight**

Freight rates per mile shipped to the closest urban market ranged from $1.00 to $8.00 per mile and averaged $3.45 per mile. Twenty-two percent of respondents reported including freight costs as a part of the price quotes for customers, and 78% reported they invoiced freight separately.

Ninety-one percent of respondents indicated they did not charge an unloading fee. The two respondents who charge an unloading fee reported the fee to be $75. Ninety-one percent of respondents indicated that they make additional drops on loads. The low-end charge for additional drops on a load was $25 and the high-end charge was $150. Several respondents reported that the charge was dependent on the distance between drops and that charges may be divided between buyers. Some also added a minimum drop fee (e.g., $35) plus a mileage rate (e.g., $2.30/mile). The average cost for additional drops was $60.

**Fuel Surcharge**

Only 9% of those surveyed indicated that they add a fuel surcharge. The two that reported a fuel surcharge indicated that they use a percentage basis (e.g., 10 or 15%).

**Price Changes**

When asked how often producers adjust their sale prices, 52% indicated that they adjust their prices yearly; whereas 48% make adjustments when needed. No one responded that they adjust prices monthly or quarterly.

**Sales by Industry Segments**

Table 2 provides an indication of the industry segments where sod is sold. Surveyed producers estimated that landscape contractors (61%) constituted the largest segment. The second (sports/athletic fields) and third (golf courses) groups were nearly equal, each representing a little more than 10%. Each of the remaining segments consisted of less than 10% of sod sales.
Table 2. Ranking of industry segments for sale of turfgrass.

<table>
<thead>
<tr>
<th>Industry segment</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rank</td>
</tr>
<tr>
<td>Landscape contractors</td>
<td>1</td>
</tr>
<tr>
<td>Sports/athletics</td>
<td>2</td>
</tr>
<tr>
<td>Golf courses</td>
<td>3</td>
</tr>
<tr>
<td>Homeowners</td>
<td>4</td>
</tr>
<tr>
<td>Brokers</td>
<td>5</td>
</tr>
<tr>
<td>Retail garden centers</td>
<td>6</td>
</tr>
</tbody>
</table>

* Average percent of total sales.

Acreage in Production

Of the survey respondents, only 9% indicated that they reduced sod production acreage during 2015 (8% average reduction). It was not known whether this reduction was due to acres being taken out of turfgrass production and converted to other crops or left fallow or whether land was sold. No respondents indicated that they would have a reduction in 2016. Seventy-eight percent indicated they had increased acres during the last three years. The average percentage increase was 16%.

Summary

While trends cannot be determined from just two years of data (2015 was the first survey year), we can get an indication of sod supply and price in the near future. The total acreage of sod is increasing. Despite the increase in acreage, however, there are potential shortages of some grasses, particularly bermudagrass. This shortage, combined with increased demand for zoysiagrass, seems to have resulted in increased prices of bermudagrass and zoysiagrass (compared to 2015 data). Prices and supplies of the other grasses seem relatively stable at this time.

The bulk of sod sales are to landscape contractors. It may be important to provide sod supply and relative pricing to this group, especially in years when supply is limited. It will be important to continue conducting this survey on an annual basis to monitor supply and help stabilize prices based on the available supply.

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