Home on the Market Range: A Land Feasibility Analysis for Large-Scale Bison Farming

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Home on the Market Range

A Land Feasibility Analysis for Large-Scale Bison Farming

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Abstract

The current beef industry is unsustainable and destructive. Battling against increasing industrialization, new options are being assessed. Bison, being equal in carcass weight but different in land use, sustainability, and labor, seems like a positive option. However, is there enough land to support an equal number of bison? To answer this question, interviews and research materials were used to create a land feasibility analysis. It found that 69% of the focus area, mostly in the Dakotas, could convert and be as productive as current beef producers. Feedlots present an issue since they are acreage-efficient, but the final conclusion remains that land is not a barrier.

Methods

In order to increase accuracy, five states were chosen as the focus area. Data was collected through interviews and government sites. This data was then manipulated into state-specific acreage calculations. A generic version is shown in Figure 1. Table 1 shows the final numbers produced for acreage needed by one head for each state. After conducting interviews and calculations, these were the final numbers produced for acreage needed by one head for each state.

Table 1

<table>
<thead>
<tr>
<th>State</th>
<th>Calf Cow Acreage</th>
<th>Feedlot Acreage</th>
<th>Bison Acreage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Montana</td>
<td>15.867</td>
<td>.369</td>
<td>15</td>
</tr>
<tr>
<td>Nebraska</td>
<td>6.358</td>
<td>.453</td>
<td>17</td>
</tr>
<tr>
<td>North Dakota</td>
<td>20.867</td>
<td>.364</td>
<td>18</td>
</tr>
<tr>
<td>South Dakota</td>
<td>15.242</td>
<td>.364</td>
<td>12</td>
</tr>
<tr>
<td>Wyoming</td>
<td>17.17</td>
<td>.364</td>
<td>18</td>
</tr>
</tbody>
</table>

Results

Figures 2, 3, and 4 show the focus area under different conditions. Looking at the 102 counties, 70 would be more productive with bison than they currently are with beef. South Dakota and North Dakota seem to show the most potential and Nebraska the least.

Conclusions

Almost 70% of farms would have an increased production by switching to bison with an average increase of 9 head. North and South Dakota showed the most potential for large-scale bison farms. Feedlots, because they are acreage-efficient, would struggle to transition to anything besides beef. Land, so it seems, is not the barrier stopping this industry.