Next Generation Hybrids: Revolutionizing Cereal Yield

HybriTech, Inc

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The Technological Advance: Increase in Yield

U.S. Average Corn Yield (bushels/acre)

Modified from: USDA, NASS, Crop Production 2017 Summary
Conventional Hybrid Seed Production

Inbred Parent 1

Hybrid F₁ Offspring

Inbred Parent 2

“Heterosis”
Increased Crop Yields
Enhanced Abiotic Stress & Disease Resistance
Extending the Maize Pathway to Other Cereals

Sorghum
Rice
Barley
Oats
Wheat

Cereal Hybrid Technology
Proof of Principle: Control of Sexuality
## Benefits of Expanding the Maize Hybrid Pathway

<table>
<thead>
<tr>
<th></th>
<th>Current Cereal Technology</th>
<th>New Generation (NG) Hybrids</th>
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</thead>
<tbody>
<tr>
<td>Sterility System</td>
<td>Required</td>
<td>Not required</td>
</tr>
<tr>
<td>Genotype Dependency</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Production</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Development Cost</td>
<td>$$$$$$</td>
<td>$$</td>
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Hybrid Pathway Genes

Cereal Hybrid Enablement

Pre-Commercial Development

Budget: $500K

Approaches

Transgenic →

Phase 1a: Development of unISEXual plants

Phase 2a: Seed Stock Production

Gene Editing →

Phase 1b: Gene target validation

Phase 2b: Seed stock production

Business Development Timeline

Phase 1b: Gene target validation

Phase 2b: Seed stock production

Completed 2020-

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Completed 2020-
Market Opportunities

Hybrid-Seed Market

• Hybrid Seed market projected to increase from $35 to $57 billion by 2022
• Sorghum market value projected to grow at a CAGR of 4.39% from 2017 to 2022
• US is the world’s leading producer of sorghum (avg. 11.5 metric tons annually)
• Sorghum is the third most produced grain in the US

IP Licensing

• HybriTech’s IP will be an essential tool for genotype independent hybrid seed production
• Platform Technology—Expansion of the maize pathway to other cereals
Major US Sorghum Seed Suppliers

- Advanta
- DuPont (Pioneer)
- Dow Agrochemicals
- Richardson Seeds
- Golden Acres Genetics (Syngenta)
- Innovative Seed Solutions, LLC (Monsanto)
- Nuseed
- Dyna-Gro
- Pannar Seeds
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