

Seed Trait Technology Development and Commercialization Update

December 2020

S&W Seed Company (Nasdaq: SANW)



Forward-Looking Statements



This presentation contains "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, and such forward-looking statements are made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. "Forward-looking statements" describe future expectations, plans, results, or strategies and are generally preceded by words such as "may," "future," "plan" or "planned," "will" or "should," "expected," "anticipates," "draft," "eventually" or "projected." Forward-looking statements in this release include, but are not limited to: contributions of current and future technology products to our financial performance, including the related underlying projections and assumptions; financial projections, including core revenue and revenue from tech products, and other financial components of our business model highlights; commercialization plans and our ability to leverage our industry experience and customer base to achieve our commercialization plans; pipeline product development and launch timing; potential benefits of our Double Team Sorghum, Improved Quality Alfalfa and Dhurrin-Free Sorghum products and key growth assumptions related to such products; and the execution of our strategic and commercial plans. You are cautioned that such statements are subject to a multitude of risks and uncertainties that could cause future circumstances, events, or results to differ materially from those projected in the forward-looking statements, including the related user products may be lower than anticipated; our strategic initiatives may not achieve the expected results; global pandemics and other risks are identified in our filings with the Securities and Exchange Commission, including, without limitation, our Annual Report on Form 10-K for the year ended June 30, 2020 and in other filings subsequently made by the Company with the Securities and Exchange Commission. All forward-looking st

Tech Deck Overview

Key Highlights and Financial Vision

Business Evolution to a Trait Technology Company

Trait Technology Goals and Pipeline

Lead Trait Technology Product Overviews and Assumptions

Core Business Overview

Financial Models

Conclusion



S&W is Evolving into a Proprietary Non-GMO Seed Trait Technology Company

Key Highlights

The Ongoing Transformation of S&W

- Launch of proprietary non-GMO trait technology in FY21 anticipated to transform the operating profile of S&W into a high growth, high margin business
 - More than 50% of gross profit contribution over next decade expected to come from new tech products
 - Goal of 48% combined gross margins in FY 2031 contributing to projected \$69 million of adjusted EBITDA
- Development of three different non-GMO technologies in three different product lines (grain sorghum, alfalfa, forage sorghum) providing crop and geographic diversification
 - Double Team[™], Improved Quality Alfalfa (IQ[™]), Dhurrin-Free Sorghum (DF[™])
- Unique opportunity to leverage existing business operations, where the company has long standing relationships across many product lines, to introduce new trait technology products
 - ► 40-year operating history; leveraging large existing customer base
- Focusing on crops in which the industry has had minimal tech investment over the years providing the opportunity to become market share leader with new product introductions
 - Middle market crops expected to be key growth driver in years to come



Financial Vision

Launch of trait technology products expected to transform S&W with opportunity for significant earnings

3 Year Vision (FY24)		5 Year Vision (FY26)		10 Year Vision (FY31)	
\$130M	Revenue Excluding Acquisitions	\$176M	Revenue Excluding Acquisitions	\$234M	Revenue Excluding Acquisitions
\$12M	Revenue from Tech Products (Seed + Tech + License)	\$35M	Revenue from Tech Products (Seed + Tech + License)	\$70M	Revenue from Tech Products (Seed + Tech + License)
35%	Combined Gross Profit Margins	41%	Combined Gross Profit Margins	48%	Combined Gross Profit Margins
\$13M	Adjusted EBITDA	\$34M	Adjusted EBITDA	\$69M	Adjusted EBITDA
10%	Adjusted EBITDA Margins	19%	Adjusted EBITDA Margins	30%	Adjusted EBITDA Margins



S&W's Ongoing Evolution Into A Non-GMO Seed Trait Technology Company

More than 50% of gross profit contribution expected to come from new technology products over next 10 years

1980 - 2020

- Seed company with minimal trait technology integration
- ► Established and expanding crop portfolio
 - ► Alfalfa | Sorghum | Sunflower | Wheat | Pasture | Stevia
- Built large and diversified distribution and production capabilities
 - Products sold in more than 40 countries around the world
- ► Built and acquired R&D platform
 - Designed to drive innovation in middle market crops

2021 and Beyond

- ► Non-GMO Trait technology company in middle market crops
 - ▶ Commercialization expected for two traits in 2021; one trait in 2023
- Create innovation in crops that have historically been under invested
- Utilize R&D engine to create new value through advanced technology and partnerships with leading biotech companies and universities
 - Pathways include in-house development, license from third party technology developers, license from land grant universities
- Leverage large sales and field technical support staff
 - Goal of helping customers deploy new technology in crop portfolio and increase value on the farm

R&D Investments Driving Conversion to Non-GMO Trait Technology Company

Invested in R&D over last 3 years to drive revenue growth and margin expansion

- ► R&D efforts to bring to market Double Team[™] Sorghum, Improved Quality Alfalfa (IQ[™]), and Dhurrin-Free Sorghum (DF[™])
- Multi-disciplinary team comprised of breeding, molecular genetics, and greenhouse teams
- Marker assisted breeding with expansive product pipeline
- Collaborations with industry partners involving next generation gene editing technology
- Regulatory expertise to achieve required registrations in commercial markets
- Expect R&D to decrease as a percent of revenue demonstrating operating leverage



S&W's Non-GMO Approach to Trait Development

More Efficient | Less Expensive | Larger Markets

- ► Faster trait development
- Potentially few or no regulatory studies or submissions required
- If regulatory is required, expected to be less costly or time-consuming than GM traits
- Potential for international expansion of traits into markets where GM traits are not allowed or cost-prohibitive to develop



Pathways to Trait Technology Product Generation

Multi-faceted trait technology development platform designed to leverage 40-year history of global seed distribution and production



In-House Development



License From Third Party Technology Developers



License From Land Grant Universities

Trait Technology Goals Customers | Partners | Shareholders

- Solve customer crop production problems for which there is no current solution through novel seed-based technology
 - Eliminate grassy weeds in sorghum
 - Reduce lignin to improve digestibility in alfalfa
 - Remove dhurrin to effectively remove toxicity in grazed sorghum therefore increasing productivity of farmer fields
- Share value creation among stakeholders
 - S&W Seed Company
 - Technology partners
 - ► End customer / farmers
 - Distribution channel
- Drive profitability through new technology products
 - ▶ Deploy new technologies across multiple crop and product lines
 - Expand private label relationships with key distribution partners
 - ► License traits to industry partners
 - More than 50% of gross profit contribution expected to come from new technology products over the next 10 years



Novel Trait Product Development Timeline

S&W boasts one of the industry's most accomplished management teams and board of directors in bringing to market high value trait technologies

Phase		Description	Time (Years)
0	Product Concept	Identify new trait that could create value Define minimum trait expression profile for success	
1	Technical Proof of Concept	Create the trait in a model plant or target crop Evaluate expression of the trait vs. profile for success	1-3
2	Commercial Proof of Concept	(Simultaneous activities)	1-3
	Product	Breed trait into elite germplasm and perform agronomic field trials for high yielding seed products	
	• System	Determine how technical trait performance translates into real-world value for potential customers	
	Regulatory	Build and submit any necessary regulatory dossiers (where required)	
3	Scale Up	Produce seed of new products carrying trait Execute education, promotion and other pre-sales activities	1-2
4	Commercialization	Demonstration plots for key customers Work with distribution partners to market new seed traits	

Lead Novel Commercial Trait Technology Products

Three novel and proprietary products set to be commercialized





Double Team[™] Sorghum (DT[™])

Double Team[™] Sorghum (DT[™]) has non-GMO tolerance to broad spectrum grass herbicide

Anticipated Launch 2021

Improved Quality Alfalfa (IQ[™])

Improved Quality Alfalfa (IQA) is gene-edited to down-regulate lignin synthesis and improve forage digestibility in ruminants

Anticipated Launch 2021

Dhurrin-Free Sorghum (DF™)

Dhurrin Free Sorghum removes naturally toxic metabolite from stressed forage sorghum resulting in safe, worry-free grazing and hay

Anticipated Launch 2023

Proprietary Traits Development and Anticipated Launch Timing

S&W continues to expand its pipeline of trait technology projects





Double TeamTM Sorghum

Double Team[™] Sorghum (DT[™])

"Potential to revolutionize the sorghum market in the same way other weed control technologies have enhanced yields for crops such as corn, soybeans and cotton." – Mark Wong

- No other effective post-emergence control for tough grassy weeds in sorghum
 - ► Grassy weeds can reduce yields 20 to 100%
 - DT is designed to improve yields in sorghum fields and expand acres of drought-tolerant sorghum, replacing herbicide-tolerant but water-hungry corn
- Discovered and developed by in-house R&D team
 - Identified naturally tolerant cells in tissue culture
 - Regenerated whole plants and bred high-performing hybrids
 - Conducted trials to measure crop tolerance and herbicide efficacy, and to build regulatory safety packages
 - Partnered with ag chem company ADAMA for herbicide registration and commercial development



Untreated Sorghum

Field overrun by grassy weeds
 Near total yield loss due to weed competition



Treated With Double Team

Grassy weeds eliminated

High return on investment for trait technology

U.S. Annual Farm Value Loss Due to Grassy Weeds in Grain Sorghum

Introduction of S&W's Double Team[™] Sorghum has potential to significantly expand size of sorghum market



U.S. sorghum acreage has decreased since the 1990's due to grassy weed pressure reducing yields and per acre value

- 5.4M acres of historical non-irrigated grain sorghum have switched to corn which can be controlled by GMO herbicide-resistance systems
 - Corn is more water intensive with lower yields
- Growers prefer sorghum on these non-irrigated acres, but have no means to control grassy weeds

U.S. sorghum annual farm value loss estimated at \$190M due to uncontrollable weed pressure

- 5.8M acres planted which represent estimated \$1.5B in potential grain value
- Approximately 500K acres abandoned due to weed pressure representing estimated \$140M in lost farm revenue
- Approximately 40% of the 5M harvested acres suffer 10% or greater yield reduction representing estimated \$50M in lost farm revenue

^{*}United States Department of Agriculture | National Agriculture Statistics Service | October 9, 2020

Assumptions: Double Team Sorghum Market

DT[™] trait expected to have the highest value of any commercial sorghum trait in the market

Variable	Grain	Silage	Forage
Total Market (M Acres)	8.0	1.2	2.7
DT Addressable Market (M Acres)	4.0	0.45	0.40
DT Share of Total Market	50%	40%	15%
Technology Value (\$/acre)	Confidential	Confidential	Confidential
S&W Market Share Now (%)	7.5%	15%	15%
S&W DT Market Share At Peak DT (%)	25%	50%	50%
Licensee DT Market Share At Peak DT(%)	75%	50%	50%

Note: Certain data excluded as "confidential" done so for competitive reasons.

S&W's DT[™] trait expected to have the highest value of any commercial sorghum trait in the market

Key Growth Assumptions

- Market survey indicates that grower demand/adoption matches early assumptions
- Seed price increases will reflect the value of the trait
- Trait is out-licensed to major ag companies with existing market share
- Initial growth will be grain sorghum from the U.S.
- Outside U.S. DT growth will be primarily driven by brazil

DT Accomplishments and Goals

Near-term value creation drivers of our first to market trait

Recent Accomplishments

Validated 2 years of DT in field trials that gene provided safety from herbicide damage



Finalized collaboration with ADAMA to provide best-inclass herbicides and novel formulations that deliver effective, broad-spectrum grass weed control



Completed market and customer survey to establish pricing and positioning of product launch



Near-Term Goals

Receive regulatory approval in Canada

Begin education process with industry partners and broadly license the trait

Execute initial commercial launch in spring of 2021

Expand beyond grain sorghum in U.S. to forage and silage markets

International product launch with initial focus in South America and Africa



Improved Quality Alfalfa (IQ™)

Improved Quality Alfalfa (IQ™)

Alfalfa is a critical component in dairy rations

Improved digestibility increases efficiency of dairy operations, resulting in more milk per ton of feed, higher income for alfalfa producers, and reduced dietary wastage

- Developed in partnership with leading biotech company, Calyxt, inc. (Nasdaq: CLXT)
 - S&W identified relevant gene editing target and Calyxt created a set of potentially desirable mutations
 - S&W identified edits that delivered intended results (reduced lignin and higher forage value)
 - S&W bred the trait into high yielding varieties with required disease and insect tolerance and a range of dromancies
 - S&W to produce and sell commercial seed



Assumptions: Improved Quality Alfalfa (IQ[™])

S&W's North American market share expected to increase with the launch of IQ™

Variable	Americas (USA)	Key Growth Assumptions
Total Alfalfa Market (M acres)	16.7	 S&W's North American market share expected to increase with the launch of IQ[™]
Alfalfa Market (M cres planted annually)	2.5	 IQ[™] will be a stand-alone product that is not coupled with other GMO technologies
Technology Value (\$/acre)	Confidential	Trait is out-licensed to industry partners
S&W Market Share Now (ex. Pioneer) (%)	2%	 IQ forage yield will be similar to elite conventional varieties
S&W IQ Market Share at Peak (%)	3%	IQ trait revenue growth will come from elite licensee brands
Licensee IQ Market Share at Peak (%)	6%	

Note: Certain data excluded as "Confidential" done so for competitive reasons.



Dhurrin-Free Sorghum (DF™) A scientific breakthrough

Dhurrin is a natural toxin that sorghum produces to protect itself from grazing animals when the plant is under stress from drought, temperature fluctuation or other conditions. In some circumstances, the biproducts of dhurrin metabolism, prussic acid, can kill livestock.

Genetically removing dhurrin eliminates the risk of grazing or producing hay from stressed sorghum fields.

- Developed in partnership with Purdue university
 - Purdue scientists developed dhurrin-free sorghum strains through mutation breeding
 - S&W saw the potential game-changing value of the trait and obtained an exclusive license
 - S&W is conducting agronomic evaluations for effects of the trait
 - S&W is breeding the trait into elite proprietary hybrids for high yield and tolerance to pests, diseases and herbicides



Dhurrin-Free Sorghum (DF™)

A game-changing global opportunity

Global Forage Sorghum Area* (Acres)



12 million acre market today

- Global animal protein demand is driving expansion of forage crops to feed livestock
- Forage sorghum is considered the most reliable, costeffective and water efficient forage crop in many drier parts of the world

Growth market for tomorrow

- Historical resistance from farmers for grazing forage sorghum due to risk of livestock loss from prussic acid poisoning (losses of cattle can be over \$1000 per animal)
- DF[™] trait eliminates toxicity risk, increasing forage sorghum attractiveness as a multi-use, grazed feed source
- Improved ease of management of DF[™] products could increase total global area planted to forage sorghum by 30% over the next 5 years

Assumptions: Dhurrin-Free Sorghum (DF™)

DF[™] trait expected to shift seed market from commodity (low value) to propriety (high value)

Variable	Americas	International	Key Growth Assumptions	
Total Forage Sorghum Market (M acres)	3.0	8.6	 DF[™] trait expected to shift seed market from commodity (low value) to propriety (high value) DF[™] trait will become table stakes in the high value forage sorghum market S&W will be the only company in the market with 	
DF Market (M acres)	1.9	3.7		
DF Share Of Total Market	60%	40%		
Technology Value (\$/acre)	Confidential	Confidential	this technology	
S&W Market Share Now (%)	15%	8%	 Fewer licensees exist because of market size and players 	
S&W DF Market Share At Peak DF (%)	50%	100%	 S&W's market share and corresponding revenue will increase substantially 	
Licensee DF Market Share At Peak DF (%)	50%	0%	 No grain or silage acres were included in analyses 	

Note: Certain data excluded as "confidential" done so for competitive reasons.



Core Crop Portfolio

Diversified middle market agricultural platform





S&W Seed Company (Nasdaq: SANW)

Revenue (Ex. Tech Products)

Non-tech products expected to show steady long-term growth



Note: 2020 revenue excluding product revenue attributable to Pioneer, which the company defines as Core Revenue.



Revenue and Adjusted EBITDA Vision Bridge

Business model highlights significant leverage with launch of new tech products

Fiscal Year Ends June 30



Note: 2020 revenue excluding product revenue attributable to Pioneer, which the company defines as core revenue. Numbers may not equate due to rounding.

The following is intended to provide a guide as to the potential financial opportunity for the Company. While subject to risk and uncertainty, and the Company's performance as compared to various estimates and assumptions, we believe the following provides useful insight into management's view regarding the potential growth opportunities for the Company's business, and how management intends to measure the success of its planned commercial launch of the Company's three lead trait technology products.

Total Company Revenue and EBITDA Vision

Significant earnings power through tech products



Note: 2020 revenue excluding product revenue attributable to Pioneer, which the company defines as Core Revenue. Numbers may not equate due to rounding.



Significant Trait Technology Development and Commercialization Experience

Mark Wong, S&W Seed Company CEO

- ► 40+ years of experience in agriculture as a senior executive
- Successfully built, operated, and sold multiple seed technology companies to industry leaders across multiple crops, including sorghum, corn, soybeans, and vegetables.
- ► Monsanto
 - Served on the Monsanto ag board for four years, helping to write the strategy for gene sale and distribution
- ► Agrigenetics
 - ► One of the first three founding companies to transform plants in the biotech industry
 - Sold to Lubrizol Corporation for \$150 million in 1985
 - ► Agrigenetics was later sold to Mycogen seeds and thereafter to Dow Chemical
- Agracetus
 - Developed and commercialized key technologies for integration of value-added genes into soybeans and other crops
 - Eventually purchased by Monsanto for \$250 million in 1992
- Emergent genetics
 - Operated multiple international seed companies integrating technology into the company's seed lines, achieving the world's second largest market share in cotton seed
 - Sold to Monsanto for \$325 million in 2005 with a separate vegetable component of the business later sold for \$50 million to Syngenta in 2006



Mark Wong Named New CEO of S&W Seed Company on June 20, 2017

Commencing Transformation of S&W into a Leading Middle Market Agricultural Technology Company

Shareholder Value Generation



Launch of trait technology products expected to transform S&W into a high growth, high margin business with multiple licensing and tech trait capabilities

Right Markets

Customer and market surveys indicate grower demand/adoption is expected to be strong for lead products and could help to generate annual adjusted EBITDA contribution of \$69M in FY 2031

Right Team

S&W boasts one of the industry's most accomplished management teams and board of directors in bringing to market high value trait technologies



Appendix

Non-GAAP Financial Measures



Non-GAAP Financial Measures

In addition to financial measures included in this presentation that are calculated in accordance with accounting principles generally accepted in the United States of America ("GAAP"), the Company has provided the following non-GAAP financial measures in this presentation: adjusted EBITDA; adjusted EBITDA margins; and Operating Expense, excluding depreciation, amortization, and stock-based compensation. S&W uses these non-GAAP financial measures internally to facilitate period-to-period comparisons and analysis of its operating performance and liquidity, and believes they are useful to investors as a supplement to GAAP measures in analyzing, trending and benchmarking the performance and value of the Company's business. However, these measures are not intended to be a substitute for those reported in accordance with GAAP. These measures may be different from non-GAAP financial measures used by other companies, even when similar terms are used to identify such measures.

Adjusted EBITDA is a non-GAAP financial measure that we define as GAAP net income (loss), adjusted to exclude non-recurring transaction costs, depreciation and amortization, non-cash stock-based compensation, foreign currency (gain) loss, change in contingent consideration liability, reduction of anticipated loss on sub-leased land, interest expense – amortization of debt discount, interest expense, and provision (benefit) for income taxes. We believe that the use of adjusted EBITDA and adjusted operating expense is useful to investors and other users of the Company's financial statements in evaluating our operating performance because it provides them with an additional tool to compare business performance across companies and across periods. We use these non-GAAP measures in conjunction with traditional GAAP operating performance measures as part of our overall assessment of our performance, for planning purposes, including the preparation of our annual operating budget, to evaluate the effectiveness of our business strategies and to communicate with our board of directors concerning our financial performance. Management does not place undue reliance on adjusted EBITDA as its only measure of operating performance. Adjusted EBITDA should not be considered as a substitute for other measures of financial performance reported in accordance with GAAP. The Company has not reconciled adjusted EBITDA to net income (loss) or adjusted operating expense because the Company has not provided assumptions for the other line items that are reconciling items, including depreciation, amortization, interest expense and stock-based compensation, among others. As these items are out of the Company's control and cannot be reasonably predicted, the Company is unable to provide such an outlook. Accordingly, reconciliation of these non-GAAP measures to their most directly comparable GAAP measures is not available without unreasonable effort.

Seed Trait Technology Management Team



Created first GMO sunflower CEO and Director

- Successful creation of Roundup Ready soybeans
- Developed Monsanto insect and herbicide gene stacks in ► cotton
- Developed Syngenta insect and herbicide gene stacks in cotton





Mike Eade VP of Sales & Marketing,

Steve Calhoun

Development

Americas

VP of Research and

- Technical development BXN and Roundup Ready cotton
- Development Round up Ready Flex and **Bollguard II Cotton**
- Development Glytol and Liberty Link cotton
- Technical development CMS Hybrid Rice
- Commercial launch of Imi Corn
- Development of Balance GT gene business
- Development of Roundup Ready corn and additional stacked traits corn and sovbeans



Don Panter EVP. Americas

- Lead plant breeding scientist at Calgene for commercialization of GMO herbicide-resistance and insecticidal traits in cotton
- CTO for Stoneville / Emergent Genetics led integration and commercialization of GMO seed products from both inhouse and in-licensed traits including herbicide resistance traits BXN and Roundup Ready, and insecticidal Bt traits from Calgene, Monsanto and Syngenta; led out-licensing efforts to license in-house traits to outside collaborators / competitors



- David Callachor EVP, International
- 20 years of experience in the agriculture industry, including extensive international experience in hybrid seeds, traits and new technologies
- Limagrain Group Sales Manager for South East Asia
 - National Farm Services Manager for Landmark, an Agrium Company, in Australia, where he managed all technology and service offerings in the field for the Landmark farm services business



Danielson Gardner Business Development Lead Americas

Cameron Henley

Commercial Lead MENA

Developed novel endophytes Non-GMO embryo rescue Raphanobrassica



- Development of Roundup Ready Alfalfa
- Technical of development CMS Hybrid Alfalfa
- Technical of development CMS hybrid sovbeans



Expanded Management



Mark Wong CEO and Director



Dennis Jury SVP, International Production and Supply Chain



Jacob Kurzawa Corporate Controller



Ernst Topitschnig Commercial Lead Europe



Matthew Szot CFO, EVP of Finance and Administration



Kirk Rolfs SVP, Production and Supply Chain for the Americas



Andrea McFarlane Director of Human Resources



David Callachor EVP, International



Steve Calhoun VP of Research and Development



Danielson Gardner Business Development Lead Americas



Don Panter EVP, Americas



Mike Eade VP of Sales & Marketing -Americas



Cameron Henley *Commercial Lead MENA*



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Board of Directors



Mark Harvey Chairman of the Board



Consuelo Madere Former Executive Officer, Global Commerical/Operations, Monsanto Company (retired)



Robert Straus Portfolio Manager Wynnefield Capital





Mark Wong CEO, S&W Seed Company



Alex Matina Vice President, Investments at MFP Investors LLC



Alan Willits Former Chairman of Cargill Asia Pacific and Lead Cargill's Agriculture Supply Chain (retired)



David Fischoff Former Senior Executive R&D, Monsanto Company (retired)



Charles Seidler Portfolio Manager, City Financial Hedge Fund Group