

CONFIDENTIAL



“Protecting Trees, Protecting our Future”

Business Plan

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Table of Contents

Executive Summary	3
Opportunity	5
Problem & Solution.....	5
Target Market	6
Implementation	9
Marketing & Sales	9
Operations.....	12
Research & Development.....	12
Company Overview & Management	13
Financial Plan	15
Appendix.....	16
Pro-Forma Financial Statements 2017-2021.....	16
Market Calculations & Assumptions	19
Competitor Assessment: Existing Tree Care Products	20

Executive Summary

Tree health is linked with the wellbeing of women. Exposure to trees improves women's mortality rates, particularly outcomes associated with respiratory illnesses and cancer.¹ The presence of green vegetation is also associated with lower levels of stress and depression, and women are 2x and 3x more likely to suffer from depression and anxiety.² Additional research indicates that the natural environment affects pregnancy outcomes: cities with more trees result in healthier newborns.³ On a global level, trees play a key role in mitigating the effects of climate change, which disproportionately impacts women.

The threats of climate change are not gender neutral.⁴ Climate change significantly impacts the four dimensions of food security: availability, accessibility, utilization, and system stability. Variability and scarcity in food production translates to higher prices and greater food insecurity, particularly among the poorest segments of a population. In times of food shortage, health declines in women and girls are more severe than among men. From an economic perspective, the impact is no less dire. Up to 90% of developing countries' female workforce works in agriculture, comprising 45-80% of all food production workers in these regions. To the extent climate affects agricultural production, women are particularly exposed to losses in both income and harvests. Consequently, efforts to mitigate climate change present substantial benefits for women.⁵

Tree loss is a significant problem: the mortality rate of urban trees has been estimated at up to 50%. Top causes of tree death are insufficient irrigation, mechanical damage, and poor planting practices. By protecting and helping nourish young trees, TreePans increase their survival rate. We estimate TreePans can potentially generate 170,000 metric tons of CO₂ reduction per year⁶ and provide substantial economic benefits to community members, particularly women.

TreePans eliminate mulch, plastic sheeting, and reduce the need for chemical inputs to manage weeds. TreePans' patented design includes sliding doors that expand to fit trees up to 12" in diameter. TreePans are made of durable, recyclable, UV-resistant plastic for multiple uses. With the addition of water trays in 2017, TreePans provide a slow-release reservoir to reduce irrigation needs, thereby conserving water and reducing labor.

Existing competitor products offer single solutions for irrigation, tree protection, or weed/grass competition. Beyond TreePans, no available product addresses the full spectrum of tree care issues. And with its sturdy, expandable design, TreePans easily outperform flimsy water bags and tubes across multiple uses.

TreePans.com is a family-owned and operated business based in rural Akron, Iowa. Since 2012, the Brown family has invested over four years in market research, design, testing, and customer discovery. TreePans launched commercially in mid-2016, shipping directly from our manufacturing partner to customers throughout North America and as far as the Pacific Islands. As we fulfill our mission of "protecting trees, protecting our future" in 2017, the TreePans.com team is focused on marketing TreePans through industry associations, social media, and direct outreach to tree care professionals in the US and Europe.

¹ P. J., Hart, J. E., Banay, R. F., & Laden, F. (2016). Exposure to Greenness and Mortality in a Nationwide Prospective Cohort Study of Women. *Environmental Health Perspectives*, 124:1344-1352. doi:<http://dx.doi.org/10.1289/ehp.1510363>

² Ibid.

³ Donovan, G. H., Michael, Y. L., Butry, D. T., Sullivan, A. D., & Chase, J. M. (2011). Urban trees and the risk of poor birth outcomes [Abstract]. *Health & Place*, 17(1), 390-393. doi:<https://doi.org/10.1016/j.healthplace.2010.11.004>

⁴ Extensive resources on gender and climate change are available from United Nations WomenWatch at www.un.org/womenwatch/feature/climate_change

⁵ A summary of these issues and associated research can be found in the UN WomenWatch's Fact Sheet on Women, Gender Equality and Climate Change at http://www.un.org/womenwatch/feature/climate_change/downloads/Women_and_Climate_Change_Factsheet.pdf

⁶ Our calculations are based on the CUFR Tree Carbon Calculator provided by the US Forest Service's Climate Change Resource Center. References and calculations provided here: <https://goo.gl/htDi0e>

Expectations

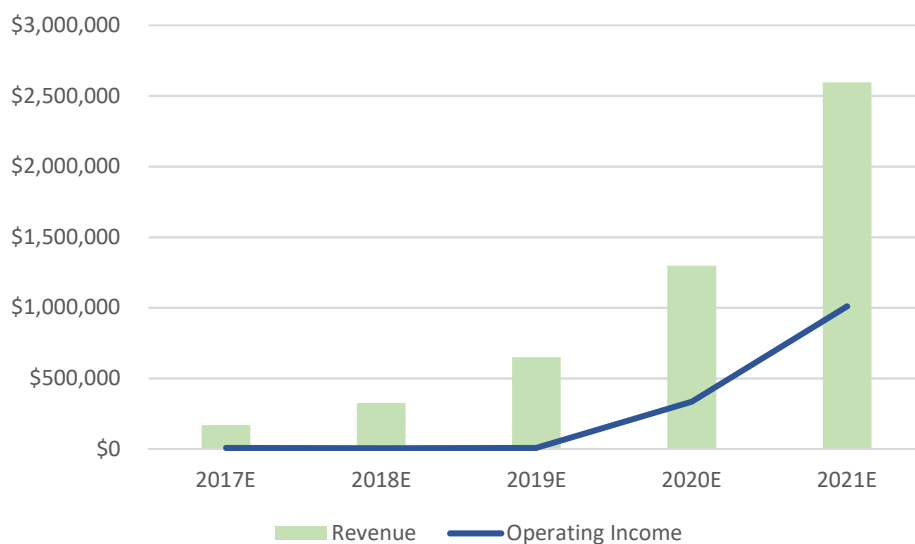
The total annual market for tree care services is over **\$3.6 billion** across municipal & campus facilities, non-governmental lawn & landscaping services, and the organic orchard industry. With approximately 28 million trees planted per year across our target markets, and a tree care intervention rate of 25%, we estimate a serviceable annual market of **\$280 million**. Capturing just a fraction of this market, we expect TreePans can eventually achieve over **\$8 million in sales per year**.

Forecast

2017 marks TreePans.com's first full year of commercial production. After introducing the brand at major industry events in 2016, the team will build brand awareness and aggressively pursue target market decision makers in 2017.

We project sales to reach 80,000 units per year by 2021. This growth will be achieved through expansion into secondary markets and Europe. The addition of dedicated sales/marketing associates in 2018 and 2019 will help drive growth. Early year profit will be invested back into marketing and outreach initiatives. In five years, we project TreePans will generate \$2.6 million in gross annual revenue with **an operating profit of over \$1 million**, or 39%.

TreePans.com Revenue & Profit: Five-Year Pro Forma



Opportunity

Problem & Solution

Tree Loss is Widespread and Costly

Community trees—trees lining streets, dotting campuses and shading yards—provide substantial environmental, health and economic benefits. Researchers estimate the lifetime value of these benefits at \$1,200 to over \$3,600 per tree.⁷ Yet community trees are dying at an alarming rate: studies suggest tree mortality rates ranging from 10% to over 50% in the initial years following planting.⁸ Arborists, landscape managers, and homeowners invest significant labor and resources into tree care, and replacement costs accumulate quickly across large projects.

Trees play a critical role in mitigating climate change via carbon sequestration and reduced energy consumption. A single mature tree absorbs CO₂ at a rate of 10 to over 100 pounds per year. Urban trees offer particular value in carbon sequestration as they store four times the carbon of forest trees due to greater light interception and growth rates. In addition to carbon sequestration, trees planted in urban settings play a significant role in reducing energy used to heat/cool buildings. For example, researchers estimate three trees planted around a house can reduce energy consumption by up to 50%.

Despite numerous studies documenting tree death within the initial years following planting, basic tree care practices have changed little in recent decades. Three major reasons for young tree death include insufficient watering, improper planting, and mechanical damage.⁹ While products exist to address watering or tree protection, none address the full spectrum of threats to young tree establishment. And these products or practices often introduce new issues, such as moldy bark under water bags. Not surprisingly, the majority of lifetime tree costs fall in the vulnerable early years following planting.

Communities, homeowners, and growers invest hundreds of dollars over the life of a tree—and lose much more in foregone benefits if that tree dies. Replacing dead trees is time-consuming and costly. *Why isn't there a simple, comprehensive solution to improve tree survival?*

TreePans: Saving Trees, Saving Dollars

TreePans present an innovative alternative to traditional tree care. No existing product shares TreePans' unique design nor so fully addresses the complete roster of young tree care concerns. TreePans:

- **Deliver** over 50% more water to the root system;
- **Retain** soil moisture up to 13 days longer in the domed design;
- **Protect** trees from the mechanical damage of lawnmowers and weedeaters;
- **Replace** mulch, plastic sheeting, tree rings, and water buckets;

Since Bill Brown first conceived of TreePans during the dry summer of 2012, the TreePans.com team has conducted four years of product design and field testing. The result is a product unlike anything available on the market: a cylindrical plastic barrier with adjustable doors and curbed edges that form a low, domed structure around the tree. The design's uniqueness drives its effectiveness. The solid barrier eliminates grass and weed growth around the tree base while preventing evaporation and enabling airflow around the tree base. Beveled edging reduces stormwater runoff, stopping and collecting water at the root

⁷ McPherson, E.G., Simpson, J.R., Peper, P.J., Maco, S.E., and Xiao, Q. (2005). "Municipal forest benefits and costs in five U.S. cities." *Journal of Forestry* 103(8):411–416.

⁸ Hirons, A.D., and Percival, G.C. (2016). "Fundamentals of Tree Establishment." *Trees, People, and the Built Environment*.

⁹ Nowak, D.J., McBride, J.R., Beatty, R.A. (1990). "Newly Planted Street Tree Growth and Mortality." *Journal of Arboriculture* (1990): 124-129.

base instead of running downhill. TreePans' sturdy plastic construction prevents mowers and weedeaters from damaging the tree trunks within a 35" diameter surrounding the tree base. Sliding doors adjust the opening for trees 1" to 12" in base diameter; this adjustability accommodates virtually all commercial landscape and orchard species, and allows for tree growth and multiple uses.

The TreePan comprises four pie-slice sections made of durable, recyclable plastic and is available in four colors: Terra Cotta, Chocolate, Forest Green, and Charcoal. The stackable sections snap easily together and detach for storing and reuse. Our product is sourced and manufactured in the USA.



Figure 1. TreePan in Charcoal

Our market research suggests the demand for this innovative solution is significant and widespread. Our team has interviewed numerous arborists and tree care professionals who express broad consensus that a product like TreePans is just what the industry needs to improve growth of newly planted trees and reduce establishment period mortality. TreePans offers public and private users alike significant savings in maintenance expenses and replacement costs—and keeps more trees alive to clean our air, cool our communities and beautify our world.

Target Market

Our initial target market for TreePans comprises municipal governments and university campuses. **Municipal and Campus** landscaping departments are generally well-educated on the benefits of community trees. They often include on staff or consult with professional arborists who understand the value of tree care and are strong advocates for urban forestry. Many public and private initiatives encourage community tree planting, including the Million Tree Initiative and the Arbor Day Foundation's Tree City USA and Tree Campus USA programs. Yet municipal and educational institutions also face budget realities: funding is limited and costs matter. Managers welcome products like TreePans that can save time and money while improving outcomes.

A 2014 national study on municipal tree care determined, on average, municipalities spend \$8.76 per capita on tree care activities, of which tree planting and removal/replacement comprised over 40%. With 62.7% of the US's 320 million residents living in urbanized areas, this suggests a nationwide market of approximately **\$1.8 billion for municipal and campus tree initiatives**, with approximately **\$755 million per year** spent on tree planting and replacement. While our initial focus is the US, adding Canada and Europe would easily double the size of the municipal & campus market.

Our secondary market is the **Lawn and Landscaping** industry. At an estimated \$78 billion in 2015 alone, US landscape services are a massive and growing industry. Non-governmental private and commercial clients make up 95% of customers, and tree care services represent 6% of total revenue, on average. Assuming tree planting and removal/replacement represent a proportion of total tree services comparable to the public sector, the tree planting market within lawn & landscaping

is approximately **\$1.8 billion per year**. While the Lawn & Landscaping market is over twice the size of the Municipal market, we believe it will be harder to penetrate due to less knowledge and/or emphasis on the benefit/cost tradeoff.

In addition to Municipal & Campus and Lawn & Landscaping, we highlight **Organic Orchards** as an attractive expansion market for TreePans over the next 2-3 years. We believe TreePans' protective features, particularly its ability to significantly reduce weed and grass competition without chemical input, will be especially compelling to organic fruit tree growers. US organic tree fruit sales topped \$1.20B in 2015, marking year-on-year growth of 17%. Apples led among organic fruits, with \$320 million in annual sales and over 16,000 certified organic acres in production. Our market analysis also includes organic pears and cherries, the next largest temperate organic tree fruit categories. We also note that niche agriculture crops like our local northwest Iowa aronia berries may find value in our product; however, we limit our market estimates to the three major US organic tree fruits previously listed.

Looking beyond the US, organic agriculture presents another tremendous opportunity for international expansion. For apples alone, certified and transitional organic acres in Europe exceed 63,000 hectares—that is, over 150,000 acres. The European Union comprises 68% of worldwide organic apple acreage. Per EUROSTAT, organic orchards planted to fruits and berries cover almost 300,000 hectares (741,00 acres). As more detailed crop breakouts are not available and the general fruit category includes many vine and bush crops for which TreePans aren't suitable, we use only European apple acres in our market estimates herein.

Based on average total costs of approximately \$11,400 per acre and cultural costs of \$4,300 per acre (all in USD, assuming purchase power parity), we estimate the combined US and EU expenditure on organic fruit tree care at \$2.7 billion per year, with **\$1.0 billion per year** attributable to direct growing costs.

Together, these three markets generate over **\$3.6 billion** in annual spending on tree planting and care.

Target Market Overview¹

Market Segment	Industry Size (billions)	Annual Tree Care Spend (millions)	Trees Planted per Year (millions)
Municipal & Campus	N/A	\$755	2.77
Lawn & Landscaping	\$78.0	\$1,836	21.93
Organic Orchards ²	\$2.8	<u>\$1,042</u>	<u>3.29</u>
Total		\$3,633	27.99

1. All dollar figures in USD. See appendix for calculations and assumptions.

2. Estimates based on data for US organic apples, cherries and pears and EU organic apples.

By evaluating estimated trees planted per year in each market and assuming 25% of trees are actively managed with tree protection products, we estimate a serviceable available market of **\$280 million** per year. This translates to **potential annual sales of over \$8 million** for TreePans.

TreePans Market Potential (USD millions)

Market Segment	Trees Planted per Year (millions)	Serviceable Available Market ¹	Target Market Share, TreePans	TreePans Market Potential
Municipal & Campus	2.77	\$27.70	10%	\$2.77
Lawn & Landscaping	21.93	\$219.03	1%	\$2.19
Organic Orchards	3.29	<u>\$32.86</u>	10%	<u>\$3.29</u>
Total		\$279.59		\$8.25

1. Market size calculated at \$39.95 per TreePan and assumes 25% tree care intervention.

Competition

Competitive Landscape

Alternatives to TreePans include a variety of water delivery and protection products taking the form of bags, tubes, rings and grates. Many branded and generic products exist across these categories. None of these products address all major tree mortality factors, leaving ample opportunity for an easy-to-use, multi-faceted solution like TreePans.

While certain products offer noted strengths, many present substantial weaknesses that are cited by arborists and well documented in online product reviews. A detailed matrix analyzing competitor products is provide in the Appendix.

TreePans Advantages

TreePans present a comprehensive, innovative solution to tree care. TreePans outperform both traditional tree care practices, such as mulching and sheeting, as well as existing tree care products focused on single issues. TreePans are the only *complete tree care system* on the market.

TreePans Features versus Traditional Tree Care Practices and Products

Feature	TreePans	Mulch	Plastic sheeting	Water buckets	Mulch & lawn pads	Water bags & tubes	Tree grates	Tree rings
Water delivery	✓			✓		✓		✓
Mower & weed-eater protection	✓							
Weed & grass prevention	✓	✓	✓		✓			
Rodent protection	✓	✓					✓	✓
Moisture retention	✓							
Water runoff mitigation	✓							
Mold/fungus resistant	✓						✓	✓
Evaporation prevention	✓	✓	✓		✓			
Expands with tree growth	✓	✓	✓			✓		
Durable & reusable	✓			✓			✓	✓

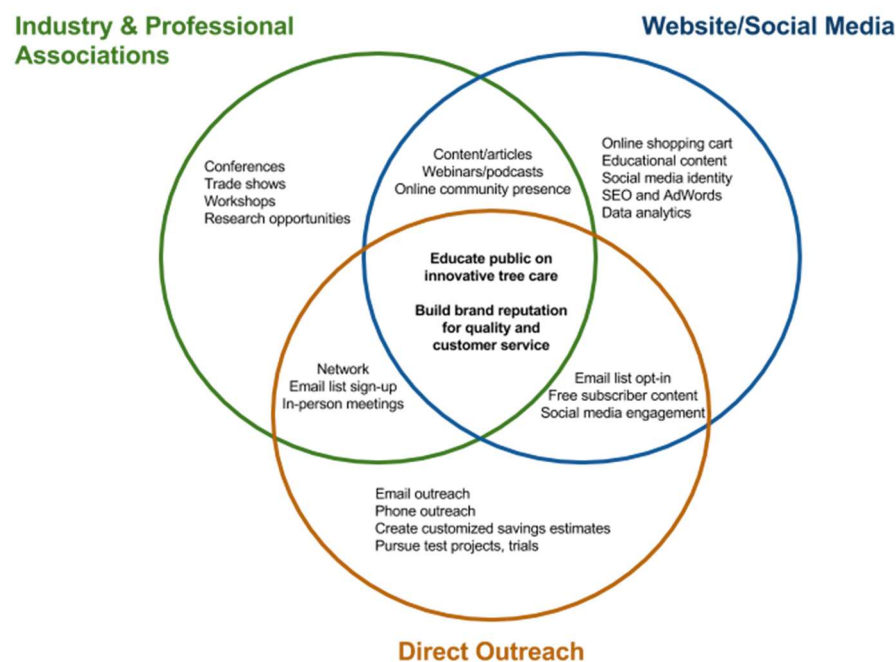
TreePans address numerous problems associated with the growth of young trees. From watering to mower protection, no other product provides such a complete roster of maintenance solutions. TreePans expand with the growth of the tree, an innovative design feature unique among available tree care products. The easily adjustable doors accommodate not only tree growth but reuse over multiple tree projects. TreePans are durable and easily assembled. They disassemble quickly and stack neatly for storage. TreePans are made from tough, UV-resistant plastic for multiple uses over many years.

Implementation

Marketing & Sales

Marketing Strategy

The TreePans.com marketing strategy encompasses three interwoven focuses: industry associations and professional organizations, website and social media, and direct outreach. Our central goal is to educate the public on tree care and protection, while building our brand's reputation for quality, innovation, and excellent customer service.



Industry Associations & Professional Organizations

Industry associations and professional organizations are the backbone of the arboriculture, landscape and commercial orchard communities. These groups function as clearinghouses of industry information, best practices and trends, and provide centralized forums for discussion, networking and idea exchange. Organizations are often leaders and advocates driving research, innovation and regulatory requirements within their fields. As such, our primary marketing strategy is built around maximizing our visibility among major arboriculture, facilities management, lawn care, and organic agriculture associations.

The TreePans.com team attends major arboriculture and landscaping conferences where we host an informational booth, network formally and informally, and participate in panels or discussion forums. We target key events based on attendance and feedback. Our budget of approximately \$30,000 covers 5-7 trade shows per year.

In addition to attending live events, we look for opportunities to promote TreePans through industry journals and trade magazines, and contribute brand-forward content to industry sites, webinars and blogs. We maintain a list of Priority Industry Organizations and Key Partners, which guide both our in-person activity and online engagement.

Priority Industry Organizations

- ACTrees
- American Public Works Association
- American Society of Landscape Architects
- International Society of Arboriculture
- National Association of State Foresters
- Professional Grounds Management Society
- Society of American Foresters
- Society of Municipal Arborists
- Arbor Day foundation

Key Partners in Community Forestry Initiatives Within the Public Property Sector

- Urban Planners/ City Managers
- City Arborists/ Utility Arborist
- Parks and Recreation Managers
- Landscape Architects
- Nonprofit Directors
- Environmental Consultants/ State Foresters

Website & Social Media

Our website www.treepans.com serves as a portal for customer education, engagement and purchasing. We point potential customers from trade shows, direct marketing and online content to our website. We drive traffic and increase engagement by offering free informational content such as white papers and case studies. We aim to increase conversion through customized landing pages and calls to action. Through site analytics, we gain valuable customer insights to refine future content marketing. With email opt-ins, we build a high quality contact list that funnels into our direct outreach efforts.

To increase inbound traffic, we are investing in search engine optimization (SEO) and are assessing the potential of Google AdWords. This campaign will be managed by a third-party marketing team.

Most important, our website services as the primary sales platform for TreePans. Customers can place orders for TreePans via an online shopping cart. Currently, orders eligible for bulk discount are referred to contact our team directly. We anticipate updating our ecommerce functionality in conjunction with our SEO project.

For CRM, email management, web statistics and data analysis, we use HubSpot, MailChimp, Google Analytics, Unbounce and Heap.

We actively build brand awareness via social media, using Facebook, Instagram, and Twitter to engage managers and thought leaders in our target markets. Our social media is managed in-house, to ensure content and follow-up are high quality, knowledgeable and consistent. At this time, we do not place paid promotions on Facebook and Twitter. While we believe social media is an effective channel for educating the general public and building a positive reputation within the tree care community, we do not believe it directly drives purchasing decisions within our target markets.

Direct outreach

Our direct outreach strategy involves developing and cultivating a roster of high quality leads. We engage directly with these potential customers to provide information on how they might benefit from the use of TreePans.

Lead generation is driven by email list opt-ins and in-house research. At conferences and industry events, we encourage people to sign up for our email list at our booth and while networking. Online, our content marketing strategy is built around email

opt-ins. In addition to the leads gained through in-person or online interaction, our team researches organizations that show active participation in urban forestry and community tree planting initiatives.

We reach out to these groups by email and phone to offer information on TreePans. We offer potential customers descriptive and educational material and can provide customized savings calculations for users' specific tree planting projects. Our goal is to develop ongoing relationships with tree care managers and advocates, providing them with useful information and tools to help advance tree planting projects—that, ideally, include the use of TreePans.

Sales Plan

TreePans.com is well positioned to grow our Municipal & Campus market in 2017.

Our product meets design and reporting requirements for government agencies and key customers in our target markets. We are registered with the GSA as an approved vendor for all US government contacts seeking services for protecting trees. TreePans.com is also a registered vendor with numerous Canadian municipalities, US universities, and the California and Iowa DOT. We expect to add to these registrations as customers express interest.

Strategically, we will leverage our status as a woman-owned small business. Government contracts are currently required to set aside 8% of all procurements for services for female/minority owned small businesses. Accordingly, there are over \$1 billion unused dollars available for businesses such as TreePans.com to bid on directly or within the bid of other businesses who are providing services. We are certified as a woman-owned business by the SBA, and as a Targeted Small Business with the Iowa Economic Development Authority.

Our product fulfills many “wish list” qualities for municipal and campus buyers. TreePans are designed and manufactured in the USA using recyclable materials. They are durable and reusable, designed for environmental performance and sustainability. Particularly in urban tree planting projects, governments and campuses are keenly attuned to water use and cost savings. These are all characteristics, and sometimes outright requirements, that government agencies and universities generally emphasize in their purchasing. They are also features that may, in some cases, qualify the buyer for subsidies or grant funding.

In 2017, we will also engage with key decision makers in the private Lawn & Landscaping. We will primarily due this through social media engagement and direct outreach. We believe the most effective way to reach this market is through wholesalers and distributors; as such, we will reach out directly to corporate buyers at landscaping, garden and farm supply companies. In 2018, we anticipate entering the Organic Orchard market.

TreePans 5-Year Sales Forecast: 2017-2021

	2017	2018	2019	2020	2021
TreePans	5,250	10,000	20,000	40,000	80,000
Water trays	2,625	5,000	10,000	20,000	40,000
Gross Revenue	\$170,363	\$324,500	\$649,000	\$1,298,000	\$2,596,000

Pricing & Costs

TreePans are priced at \$39.95 per pan, with volume discounts available to wholesale and bulk buyers. In our financial projections, we assume the price per pan is \$29.95 to reflect these discounts.

Our pricing is comparable but slightly higher than competitor products, which generally run \$15 - \$25 per unit. However, no competing products address the full spectrum of tree growth issues, therefore users must employ at least two or more alternative products to achieve similar performance as TreePans. In addition, our product is designed for durability and reuse, therefore buyers effectively amortize the cost of a single pan over multiple projects. With just three uses, the average cost of TreePans drops under \$10 per tree. With a need for multiple interventions, alternative tree care regimes can quickly amount to \$50 dollars or more per tree.

Currently, direct product costs for TreePans total \$12.69 per unit. Our manufacturer provides the base polymer, molds and tooling. Wrapping and handling costs associated with shipping are also included in this cost. At our current cost structure, each pan sold generates a gross margin of \$17 to \$27 or, respectively, 58% to 68%. We actively monitor input costs to identify cost savings opportunities. Water trays, an add-on feature, currently cost \$3.76 to produce. We anticipate charging \$5.00 for this feature.

TreePans Margin Analysis

Product	Cost	Retail Price	\$ Margin	% Margin	Discount Price	\$ Margin	% Margin
TreePan	12.69	39.95	27.26	68%	29.95	17.26	58%
Water tray	<u>3.76</u>	<u>5.00</u>	<u>1.24</u>	25%	<u>5.00</u>	<u>1.24</u>	25%
TreePan + water tray	\$16.45	\$44.95	\$28.50	63%	\$34.95	\$18.50	53%

Buyers pay shipping, and the product is shipped directly from our manufacturing partner in Excelsior Springs, Missouri. Freight shipping costs vary based on size of order and destination but generally run \$250 to \$300 per pallet of 36 pans. A truckload (900 pans) ships for approximately \$700. Orders under 36 pans are shipped via commercial shipping provider and run from \$50 to \$200. We are currently working with a buyer to arrange container shipment to Europe.

Operations

TreePans.com is a family-run business operating in the rural town of Akron, Iowa. Among the highest yielding corn and soybean land in the world, northwest Iowa is also home to a diverse and growing array of tree fruit and berry orchards, including the antioxidant-rich native aronia berry. TreePans.com's in-house apple tree and aronia bush testing takes place in Akron at Bluebird Springs Orchards.

TreePans are manufactured by Excelsior Plastics Ind., Inc. (EPI), a plastics manufacturer located in Excelsior Springs, Missouri. EPI's minimum order is 720 TreePans, or 20 pallets at 36 pans per pallet. TreePans.com maintains an inventory of 20 pallets on-site in Excelsior Springs. EPI does not charge TreePans.com for warehousing and packaging/handling of shipments, which are shipped directly from manufacturing plant to buyer.

Truly "Made in the USA", it is perhaps even more apt to say we are "Made in the Midwest." Our product is designed, sourced, manufactured, and managed by teams throughout Iowa and surrounding states.

Research & Development

TreePans.com is dedicated to providing a high performing, high quality product. Before coming to market in 2016, we devoted four years to market research, product design, and field testing. We continue to pursue in-house and third party testing to validate the benefits of TreePans. In developing and marketing our product, we have spoken with over one thousand tree care professionals in the US, Canada and Europe.

Ultimately, our goal is for independent research organizations to replicate and build upon our work. We actively seek partnerships with universities, industry associations and non-profit arboriculture groups to advance research on innovative new tree care methods and products.

Currently, several research efforts are underway:

- We are currently developing an operational case study in conjunction with the University of South Dakota landscaping department. An early adopter of TreePans, the facilities and grounds department will report on the labor, operational and tree health impact over multiple seasons using our product.
- In 2016, we applied for a Phase I USDA Small Business Innovation Research grant in conjunction with the University of Maryland. While we did not receive funding during this round, we were “strongly encouraged” to reapply in the coming 2017-18 cycle.
- We are also in discussions with Cornell University to do a side-by-side trial with traditional tree care. As part of our direct outreach plan in 2017, we hope to forge relationships with additional North American universities that have urban forestry programs.
- In the commercial sector, we have professional orchard managers in Iowa and California testing our products. We will leverage our research and feedback into product improvements and market education material.
- We've also sent TreePans to multiple locations for Davey Tree Expert Company for testing and feedback. Davey Tree is a multinational company providing tree and lawn care and environmental consulting.

Company Overview & Management

Our History

While working in a northwest Iowa orchard, Bill Brown’s sons experienced firsthand the challenges of young tree care. Despite employing the best available tools and practices, significant tree death during the drought of 2012 frustrated the brothers. Together the Brown family set out to rethink the care of young trees.

Over the intervening four years, TreePans.com invested substantial time and resources in market research, product development, and customer discovery. The result is an innovative solution unlike anything available on the market: a product that provides comprehensive protection to young trees, increasing tree health while reducing maintenance costs. TreePans.com officially launched its eponymous product in 2016, focusing initially on the North American government/municipal and campus landscaping market.

In 2017, we will add a new feature: water trays. Other major 2017 initiatives include expanding our brand name within the Municipal & Campus market, forging relationships with Lawn & Landscaping buyers, and building research partnerships. On the research front, we hope to establish partnerships with universities, research organizations, and private growers to validate and measure the benefits of TreePans.

Ownership & Structure

TreePans.com is an Iowa S-corporation. Ownership proportions are:

Susan G. Brown, President	51% stock ownership
William A. Brown, Vice President	49% stock ownership

Management

Susan G. Brown – *President* - Susan has been involved in sales and marketing for over 20 years, with an emphasis on relationship building. Sue's duties as President include sales, operations, and building relationships with customers and potential customers.

William A. Brown – *Vice President* - Bill is the inventor of TreePans. Bill brings 25+ years of management in the financial and insurance sales with an emphasis on problem solving. Bill's duties as Vice President include overseeing finance and accounting and leading research and development efforts.

Benjamin J. Brown - *Brand management and Social Media* - Ben is a 2015 graduate of the Tippie School of Business at the University of Iowa. Ben manages the Treepans.com website and spearheads marketing efforts including social media and B2B.

Advisors

Melanie Arnold - Melanie Arnold is an agricultural economist with a background in investment management and institutional agriculture. Most recently she served as the portfolio manager for the \$2B+ Hancock Agricultural Investment Group. Melanie provides financial analysis, market research and content development.

John & Mary Lucken - The Luckens are the owners of Bluebird Springs Orchards in Akron, Iowa. Bluebird Springs is home to TreePans' apple tree and aronia berry field testing. John and Mary contribute their expertise in agribusiness and industry knowledge, and provided seed funding for TreePans.com.

Mary Lynch - Mary is a Six Sigma Black Belt, LEAN Process Improvement with over two decades of corporate experience in the insurance industry. She provides project management support and organizational strategy for TreePans.com.

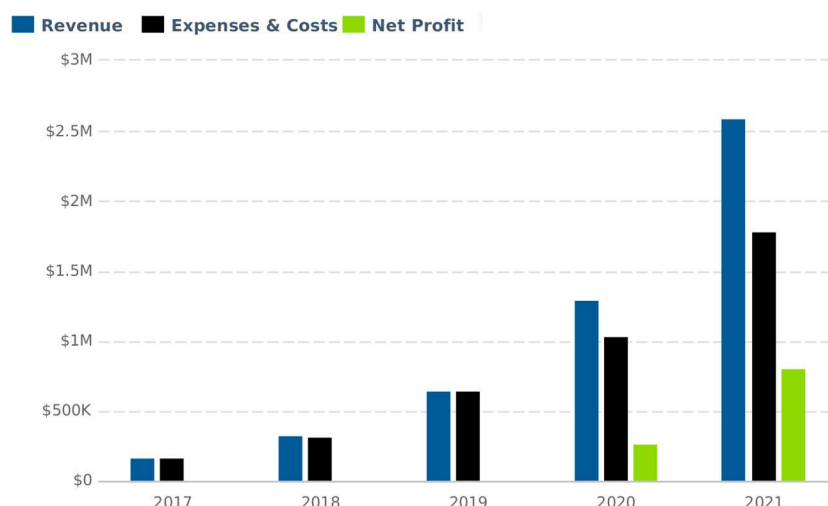
Nathan Steele - As a certified Arborist and landscaping manager at the University of South Dakota, Nathan serves as a voice for TreePans' primary market. Nathan is an early adopter of TreePans and his feedback and guidance helps us build a product that resonates with tree care professionals.

Doug Van Holland - Doug owns Holland Landscape & Design, a regional landscaping company. Doug provides insight and information on the lawn and landscaping industry, and brings numerous years of experience in tree care.

Legal guidance and patent filings are provided by **Kaufhold & Dix** in the United States, and **Oyen Wiggs Green & Mutula LLP** in Canada.

Financial Plan

Forecast



Key Assumptions

Sales	We project sales volume per the schedule below, assuming revenue of \$29.95 per pan and \$5.00 per water tray, reflecting bulk/wholesale discounts. Growth will accelerate due to the addition of marketing/sales associates in 1Q2018 and 1Q2019. All receivables are assumed within 30 days.					
	TreePans 5-Year Sales Forecast: 2017-2021					
	2017	2018	2019	2020	2021	
TreePans	5,250	10,000	20,000	40,000	80,000	
Water trays	2,625	5,000	10,000	20,000	40,000	
Gross Revenue	\$170,363	\$324,500	\$649,000	\$1,298,000	\$2,596,000	
Cost of Goods Sold	COGS per unit of \$12.69 (pan) and \$3.76 (tray) is assumed constant. \$1 per pan is allocated to as a sales commission to Ben Brown.					
Personnel	All salaries and wages assume a burden rate of 20% for taxes and benefits. One (1) operations assistant starting October 2017 at \$30,000 per year with 2% annual increase. One (1) sales/marketing associate starting January 2018 at \$40,000 per year with 2% annual increase. One (1) sales/marketing associate starting January 2019 at \$40,000 per year with 2% annual increase. Management draws combined salary of \$100,000 per year starting January 2019.					
Operational Expenses	Please see Profit/Loss Statement for detail on all other operational expenses. All payables are assumed within 30 days.					
Financing	TreePans.com received a loan of \$100,000 from the Iowa Economic Development Authority's Venture Net program. Monthly payments of \$965.61 begin in June 2017 and continue through June 2021 whereupon a balloon payment of \$68,878.72 is due.					
Inventory	Manufacturer requires minimum order size of 720 pans (\$9,137).					
Other	Starting balances of \$6,880 (cash), \$8,120 (inventory), and \$94,800 (paid in capital) are applied as of 1/1/2017.					

Appendix

Pro-Forma Financial Statements 2017-2021

Projected Profit & Loss

	2017	2018	2019	2020	2021
Revenue	\$170,363	\$324,500	\$649,000	\$1,298,000	\$2,596,000
Direct Costs	\$81,743	\$155,700	\$311,400	\$622,800	\$1,245,600
Gross Margin	\$88,620	\$168,800	\$337,600	\$675,200	\$1,350,400
Gross Margin %	52%	52%	52%	52%	52%
Operating Expenses					
Salary	\$7,500	\$71,400	\$214,444	\$218,732	\$223,107
Employee Related Expenses	\$1,500	\$14,280	\$42,889	\$43,746	\$44,622
Conference / Trade Shows	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
Legal	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
Design / Tooling Updates	\$0	\$5,500	\$0	\$5,500	\$0
\$0-Consultant Fees	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
Marketing	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
Insurance	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000
Dues & Memberships	\$3,500	\$3,500	\$3,500	\$3,500	\$3,500
Software / Computer	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000
Office Supplies	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
Postage / Shipping	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000
Total Operating Expenses	\$81,000	\$163,180	\$329,333	\$339,978	\$339,729
Operating Income	\$7,620	\$5,620	\$8,267	\$335,222	\$1,010,671
Interest Incurred	\$3,391	\$3,447	\$3,141	\$2,821	\$1,441
Income Taxes	\$846	\$434	\$1,026	\$66,480	\$201,846
Total Expenses	\$166,979	\$322,762	\$644,899	\$1,032,080	\$1,788,615
Net Profit	\$3,383	\$1,739	\$4,101	\$265,920	\$807,385
Net Profit / Sales	2%	1%	1%	20%	31%

Projected Balance Sheet

	2017	2018	2019	2020	2021
Cash	\$104,198	\$98,968	\$78,067	\$319,612	\$1,024,228
Accounts Receivable	\$30,065	\$32,440	\$64,911	\$129,790	\$259,611
Inventory	\$12,972	\$25,953	\$51,897	\$103,803	\$103,803
Total Current Assets	\$104,198	\$98,968	\$78,067	\$319,612	\$1,024,228
Total Assets	\$147,235	\$157,361	\$194,874	\$553,206	\$1,387,642
Accounts Payable	\$18,141	\$32,411	\$57,897	\$110,261	\$109,803
Income Taxes Payable	\$846	\$114	\$262	\$16,625	\$50,511
Sales Taxes Payable	\$13,236	\$16,225	\$32,450	\$64,900	\$129,800
Total Current Liabilities	\$32,223	\$48,750	\$90,609	\$191,786	\$290,114
Long-Term Debt	\$96,629	\$88,489	\$80,043	\$71,277	\$0
Total Liabilities	\$128,852	\$137,240	\$170,651	\$263,063	\$290,114
Paid-in Capital	\$94,800	\$94,800	\$94,800	\$94,800	\$94,800
Retained Earnings	(\$79,800)	(\$79,800)	(\$76,417)	(\$74,678)	(\$70,577)
Earnings		\$3,383	\$1,739	\$4,101	\$265,920
Total Owner's Equity	\$15,000	\$18,383	\$20,122	\$24,223	\$290,143
Total Liabilities & Equity	\$147,235	\$157,361	\$194,874	\$553,206	\$1,387,642

Projected Cash Flow Statement

	2017	2018	2019	2020	2021
Net Cash Flow from Operations					
Net Profit	\$3,383	\$1,739	\$4,101	\$265,920	\$807,385
Change in Accounts Receivable	(\$30,065)	(\$2,376)	(\$32,470)	(\$64,880)	(\$129,820)
Change in Inventory	(\$4,852)	(\$12,982)	(\$25,943)	(\$51,907)	\$0
Change in Accounts Payable	\$18,141	\$14,271	\$25,485	\$52,365	(\$458)
Change in Income Tax Payable	\$846	(\$732)	\$148	\$16,363	\$33,886
Net Cash Flow from Operations	\$689	\$2,909	(\$12,454)	\$250,311	\$775,893
Investing & Financing					
Change in Long-Term Debt	\$96,629	(\$8,140)	(\$8,447)	(\$8,765)	(\$71,278)
Net Cash Flow from Investing & Financing	\$96,629	(\$8,140)	(\$8,447)	(\$8,765)	(\$71,278)
Cash at Beginning of Period	\$6,880	\$104,198	\$98,968	\$78,067	\$319,612
Net Change in Cash	\$97,318	(\$5,231)	(\$20,901)	\$241,546	\$704,615
Cash at End of Period	\$104,198	\$98,968	\$78,067	\$319,612	\$1,024,228

Market Calculations & Assumptions

MUNICIPAL & CAMPUS			
Formula	Figure	Description	Note/Reference
A	\$8.76	Per capita spend on municipal tree care	1
B	324,118,737	US population	2
C	62.70%	US population in urbanized areas	3
A x B x C = D	\$1,780,228,645	US municipal tree care spend	
E	41.30%	Tree planting/removal as % budget	1
D x E = F	\$735,234,431	US municipal tree planting/replacement budget	
G	\$47,000,000	Select US college & university tree spend	4
E x G = H	\$19,411,000	Campus tree planting/replacement budget	
D + G	\$1,827,228,645	Municipal & Campus tree activity budget	
F + H	\$754,645,431	Municipal & Campus tree planting/removal budget	
I	7.1	Trees planted per Year per 1,000 residents	1
B / 1000 = J	324,119	1,000 residents	
I x J = K	2,301,243	Municipal trees planted per year	
L	100	Trees planted per year	5
M	4,726	2- and 4-year universities	6
L x M = N	472,600	Campus trees planted per year	
K + N	2,773,843	Municipal & Campus trees planted per year	

LAWN & LANDSCAPING			
Formula	Figure	Description	Note/Reference
O	\$78,000,000,000	Industry size, US	7
P	6%	Average proportion of spend on tree care	8
Q	95%	Non-governmental commercial/residential services	8
O x P x Q = R	\$4,446,000,000	Lawn & Landscaping tree care spend	
E x R	\$1,836,198,000	Lawn & Landscaping tree planting/replacement spend	
S	0.55	Average trees planted per household per year	9
T	125,820,000	US households	2
U	63.7%	US home ownership rate	2
V	50%	Households with yards (est. %)	
T x U x V = W	40,073,670	Households with yards	
S x W	21,926,022	Lawn & Landscape trees planted per year	

ORGANIC ORCHARDS			
Formula	Figure	Description	Note/Reference
X	16,245	US organic apple acres	10
Y	2,948	US organic pear acres	10
Z	2,353	US organic cherry acres	10
AA	63,609	EU organic apples hectares	11
BB	2.47	Acres per hectare	
AA x BB = CC	157,114	EU organic apple acres	
X + Y + Z + CC = DD	242,269	Total organic tree fruit acres	
EE	340	Trees per acre	12
DD x EE = FF	82,371,538	Total trees	
GG	25	Average productive lifespan (years)	13
FF x GG	3,294,862	US/EU Organic orchard trees planted per year	14
HH	\$11,400	Average total costs per acre	15
II	\$4,303	Average cultural cost per acre	15,16
DD x HH	\$2,761,869,222	Total costs per year, organic orchards	
DD x II	\$1,042,484,497	Organic orchard tree care costs per year	

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15. UC Davis (2001) "Costs to Establish an Apple Orchard" Available online at https://coststudyfiles.ucdavis.edu/uploads/cs_public/6e/24/6e24cf05-727f-4eb0-952c-1ed0da7bb256/applesjv2001.pdf
16. Cultural costs are those expenses involved directly in growing the fruit and maintaining the tree (\$3,588 per year) and includes amortized planting costs (\$715).

Competitor Assessment: Existing Tree Care Products

Competing Product	Brands	Pricing	Strengths	Weaknesses
<p>Water bags</p> 	<p>Tree Gator DeWitt DEW Sherrill Tree EZ Soak Arbor Springs bag</p>	<p>\$15-25</p>	<ul style="list-style-type: none"> • Holds 15-25 Gall • Inexpensive • Light/compact for shipping and storage • Made in USA (Tree Gator) • 5 year warranty (Tree Gator) 	<ul style="list-style-type: none"> • Users report mold growth under bags • Need two for larger trees, 5"-8" if two zipped together (Tree Gator), 1-10" (Sherrill, two bags) • Rips easily • Difficult to move (heavy) post-installation • Trunk bark becomes sun-sensitive underneath • Zippers may require pliers • Folding in storage can damage bag • Requires mulch or sheeting • Not for trees/bushes with branches lower than 25" • Hard to fill • Bag color fades
<p>Water tubes</p> 	<p>Ooze Tube Tree Gator, Jr. Arbor Springs tube Tree Ring</p>	<p>\$12-22</p>	<ul style="list-style-type: none"> • Holds 15-25 Gall • Inexpensive • Light/compact for shipping and storage • Made in USA (Tree Gator) • 3 year warranty (Tree Gator) • Low profile 	<ul style="list-style-type: none"> • Limited diameter opening • Water emitters clog and leak • Reviewers state less durable, rips easily • Reports of shipping without emitter, torn • Poor quality (reviews)
<p>Tree grates</p> 	<p>Ironsmith Neenah Foundry Grating Wabash Valley et cetera</p>	<p>\$250-600</p>	<ul style="list-style-type: none"> • Low profile • Protects root base • Size/shape options from 36"-72" • Extensive aesthetic design options • Various materials available 	<ul style="list-style-type: none"> • Fixed diameter tree well • Do not provide irrigation • Limited weed reduction • Expensive • Do not protect tree trunk • Can be extremely cumbersome to relocate or reuse
<p>Tree rings</p> 	<p>Greenland Gardener Water Ring GreenWell Water Saver</p>	<p>\$15-20</p>	<ul style="list-style-type: none"> • Slow release (2-4 hour) • Holds 4.5 gallons • Durable • Inexpensive • Sits flush with topsoil (Water Ring) • Provides mower protection (Water Saver) 	<ul style="list-style-type: none"> • Not easily compacted/stored • Still requires mulch • Does not prevent mechanical damage (Water Ring) • Also requires mulch/sheeting (Water Saver) • Slow release considerably shorter than competitors