



February 14, 2019

KIWA BIO-TECH
PRODUCTS GROUP CORP.
(OTC – KWBT)

Price Target: \$2.70

Industry: AgBiotech

KIWA BIO-TECH PRODUCTS GROUP CORP. Undervalued Pure Play Set to Enjoy Major Top-Line Growth

Rob Goldman
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Industry: AgBiotech	Price Target: \$2.70

COMPANY SNAPSHOT

Kiwa Bio-Tech Products Group Corp. develops, manufactures, markets and distributes innovative and environmentally safe bio-technological products for agriculture. Kiwa's focus is to positively impact the environment by reducing the amount of chemicals that are being used by agricultural growers in China. Kiwa products are covered by patent protection and are designed to enhance the quality of human life by increasing the value and productivity of agricultural crops.

KEY STATISTICS

Price as of 2/13/19	\$0.85
52 Week High – Low	\$2.00 - \$0.271
Est. Shares Out. (FD)	18.3M
Market Capitalization	\$15.6M
30-Day Average Volume	2,565
Exchange	OTCQB

COMPANY INFORMATION

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INVESTMENT HIGHLIGHTS

Kiwa Bio-Tech is a pure play on the agbiotech industry in China, which represents a multi-billion-dollar global market. The Company's bio-fertilizers enhance the quality and productivity of crops while simultaneously reducing the negative environmental impact of chemicals currently used.

In 2017, the government in China announced the implementation of five major action plans to spur "green" agriculture development growth. The key plan that impacts Kiwa includes the replacement of chemical bio-fertilizers with bio-fertilizers on vegetables, fruits and teas planting.

Kiwa is the beneficiary of new initiatives. These events leave Kiwa well-positioned to win new, low-hanging business from centers that represent billions in annual fertilizer sales.

Kiwa is in the early stages of a major revenue and EPS boom, led by new and existing products and markets, beginning in 2019. Our model assumes 2018 and 2019 sales of \$31.1M and \$39.2M, respectively, with forecasted 2020 sales of \$51.1M. We also project EPS will leap from \$0.04 in 2018 to \$0.18 in 2019 and \$0.26 in 2020.

Against its industry backdrop, unique positioning, and financial performance, Kiwa's shares are undervalued. Our 12-month target price is based on its 44.4% expected EPS growth rate ('19 – '20), which reflects a substantial increase in net profit margin, and is 15x 2019E projected EPS and 1.25x 2019E revenue.

COMPANY OVERVIEW

Tracing its roots to 2004, U.S.-incorporated **Kiwa Bio-Tech Products Group Corp., (OTC – KWBT – Speculative Buy)**, or Kiwa, is a pure play on the swift implementation growth of environmentally safe biotech products for the agriculture industry in China. This segment is enjoying outsized growth as the government in China announced the implementation of five major action plans on “green: agriculture development with one of the action-plans including the replacement chemical bio-fertilizers with bio-fertilizers on vegetables, fruits and teas planting. Kiwa operates through a variety of subsidiaries and generates revenue via the production and sale of broad suite of products in throughout China. The Company has proven itself an emerging leader in a multi-billion-dollar industry as its offerings enhance the quality and productivity of crops while simultaneously reducing the negative environmental impact of chemicals currently used. Kiwa’s bio-fertilizer products are largely based on unique, patented technology which are designed to promote plant growth, thus enhancing yield, and improving quality while elevating key resistances.

The Big Picture: Kiwa is a Key Beneficiary

The PRC is strongly committed to improving the agriculture environment and is actively providing financial and legal support via a variety of initiatives---all of which serve to directly benefit Kiwa. For example, Chinese government continues to support improved strategies and advanced microbial fertilizers for use throughout the agricultural sector, which represent the Company’s flagship offerings. Separately, as of January 1, 2019, China officially promulgated its first soil contamination prevention law.

The government is now providing significant financial support and is vigorously promoting the integration of farming and breeding programs in rural areas, aiming to further develop green agriculture, restore the farmland and alleviate rural poverty by focusing on utilizing the wastes of breeding and planting industry. Kiwa management believes that is well-positioned to offer its eco-friendly planting techniques and fertilizer utilization methods, which will contribute to the development of the program. Through this initiative, Kiwa also anticipates enhancing local farmers’ income.

In an effort to meet expected demand, the Company has received approval from the Yangling Free Trade Zone in China to obtain land for the construction of a manufacturing facility to meet the US\$16 billion-dollar growing demand for bio-fertilizers in China over the next 5 years. The manufacturing facility will specialize in developing and producing Kiwa’s core microbes, the fundamental components for making high-quality bio-fertilizers. The facility will have a production capacity of 60,000 tons of the Company’s core microbes with an annual production value estimated to be over \$65 million. In Yangling, China alone, there are over 300 planting bases covering approximately 4.4 million hectares of farmlands, which, in the aggregate, could represent over \$3.6 billion chemical fertilizers and \$7.8 billion microbial fertilizers, annually. Clearly, Kiwa plans to leverage its unique positioning and tap into this low-hanging fertilizer market.

Going forward, management plans to continue to increase annual sales by establishing financing and insurance options for farmers throughout each province—which are key catalysts for growth. Based on its strong reputation for low cost and high efficacy, Kiwa plans to establish a brand presence in all of China’s provinces and open new markets in conjunction with local government and their strong agricultural initiatives.

High Growth, Healthy Margins, Higher Valuation

On the strength of its deepening market penetration and new offerings, revenue for the first nine months of 2018 were 25% higher than all of 2017, in which Kiwa recorded \$17.2 million in sales. For 2018, our forecast calls for \$31.1 million in total revenue; however, we believe that 2019 and 2020 results will take the shares to new heights. Our 2019 estimates call for \$39.2 million in sales and EPS of \$0.18, versus \$0.04 in 2018. In 2020, we believe sales will reach \$51.1 million in revenue and \$0.26 in EPS. Despite its China-centric market, which carries geopolitical, economic, and currency risk, we maintain that based on its 44.4% expected EPS growth rate ('19 – '20), which reflects a substantial increase in net profit margin, our 12-month price target is \$2.70.

This figure represents a 15x P/E multiple on 2019E EPS and 1.25x 2019E revenue, which when compared to other, similar sized microcap companies exhibiting similar growth rates, appears to be quite reasonable. Moreover, we believe that this multiple which is roughly one-third of the expected EPS growth rate, largely reflects the aforementioned risks, and does not take into account potential upside top-line surprises. At current levels, we believe downside risk is limited and if our target price were to be reached, investors could enjoy a triple, illustrating a favorable risk/reward ratio, in our view. Plus, we deem it likely that given its current growth trajectory, Kiwa will up-list its shares to a senior exchange which often results in a dramatic rise in liquidity and valuation.

A relative unknown to many small cap investors despite its recent operating performance, we expect even an incremental increase in volume will have a positive impact on the Kiwa share price, given its low shares outstanding.

INDUSTRY OVERVIEW

It is no secret that arable farmland around the world is peaking. Moreover, with population growth moving ever higher, particularly in regions of shrinking arable land and permanent crops, a crisis looms ahead. According to a World Bank report, within the 13 billion hectares of total land, only 1.6 billion is under farmland production; 36% of that land is in Europe, the Middle East and Africa, 39% in Asia Pacific, 15% in North America and the remaining 10% in Latin America.

The lack of land is not the only problem. For example, the UN estimates that by 2030, the world will need 30% more fresh water and 50% more energy and by 2050 we will need 70% more food than what is consumed today. Plus, by 2050, three billion more people are expected to be living in cities, with urban sprawl further reducing arable land and putting biodiversity resources under stress, such as water scarcity.

Key Industry Growth Drivers:

- Increase yield on existing land
- Reduce pesticides use
- Reduce synthetic fertilizer use
- Make yield-producing products affordable and widely available
- Increase water efficiency

This alarming trend has been moving along this path for years. As a result, the agricultural technology and agricultural biotechnology industries have experienced unprecedented growth and resources to combat this problem. The old school method of treating farmland and crops with pesticides, and synthetic fertilizers may still be prevalent, especially in developing nations. However, this method comes with its own issues including the high cost of fertilizer application, lack of universal effectiveness of solutions on all crops, climates and stresses, lack of biodegradability, and others. Therefore, a number of companies have embarked on finding ways to increase crop yield with a renewable source.

The aforementioned agrochemical industry (especially synthetic fertilizer and chemical pesticides) is a monstrous business that has enjoyed nearly 50% growth since 2007 according to leading players such as Syngenta (owned by ChemChina) and Monsanto, some of the major big players in the space. Estimates suggest that the total market size worldwide approaches \$60 billion, and includes herbicides, insecticides, fungicides, and biologicals (Kiwa's focus).

Substantial dollars have been spent in this agriculture industry at both the 800-pound gorilla level and with emerging firms. Syngenta was acquired by ChemChina for \$43 billion in 2016, Bayer bought Monsanto for \$63 billion, and Dow/DuPont completed a \$130 billion merger in 2017. Plus, billions have been invested in hundreds of agbiotech start-ups, according to AgFinder News, illustrating the opportunities in the space. According to a report by Prescient Strategic Intelligence, the Agbiotech space was estimated at \$28.5 billion in 2016, with a CAGR of 10.1%, leading to 2023.



Biologicals

Biologicals include naturally occurring organisms (insects, bacteria, fungi or viruses) that can be harnessed into effective crop protection or yield-stimulant products. They offer growers new modes of action which are instrumental in helping to combat insect or disease resistance. Importantly, some biologicals, such as those developed by Kiwa are also able to address problems not fully resolved by chemical products available today.

The market for microbial products is huge with bio-fertilizers a key segment. Research Nester notes that this global segment was over \$1.1 billion in size in 2016, growing at a CAGR of 14.2% through 2024, while the Asia-Pacific region is slated to rise by a CAGR of over 15%. Microbial solutions are a significant part of the agricultural biologicals industry and are derived from various naturally-occurring microorganisms such as bacteria and fungi. They can protect crops from pests and diseases and enhance plant productivity and fertility. With faster development cycles compared to other agricultural innovations, as well as broad geographic and crop applicability, microbial solutions offer tremendous potential to deliver sustainable, cost-effective solutions that can increase yield using less input.

THE KIWA DIFFERENCE

Kiwa Bio-Tech has developed an impressive eco-friendly bio-fertilizer platform that is designed for a diverse set of agriculture needs. Today, Kiwa’s customers are mainly agricultural cooperative organizations and distributors who then resell its products to individual farmers. In our view, the turning point for the Company’s positioning first occurred in 2017, when the PRC government announced the implementation of five major action plans on agriculture green development with one of the action-plans including the replacement of chemical bio-fertilizers with bio-fertilizers on vegetables, fruits and teas planting. Since this ground-breaking event, management has positioned the Company for broad deployment of its products and outsized growth.

Protected by key patents and fertilizer registration certificates from the Chinese government, Kiwa has developed bio-fertilizer products with bacillus species and/or photosynthetic bacteria as core ingredients. Bacillus is a species of bacteria that interacts with plants and promotes biological processes. It is highly effective for promoting plant growth, enhancing yield, improving quality and elevating resistances. Photosynthetic bacteria are a group of green and purple bacteria. Bacterial photosynthesis differs from green plant photosynthesis in that bacterial photosynthesis occurs in an anaerobic environment and does not produce oxygen. Photosynthetic bacteria can enhance the photosynthetic capacity of green plants by increasing the utilization of sunlight, which helps keep the photosynthetic process at a vigorous level, enhances the capacity of plants to transform inorganic materials to organic products, and boosts overall plant health and productivity.

Available in 40 kg packages and either granules or powder (depending upon the product), and 50 million, 200 million, or 1 billion viable Kiwa-patented bacteria per package, products are designed for use in specific planting scenarios, as illustrated below. These include Biological Organic Fertilizers, Compound Microbial Fertilizers, Bio Water Soluble Fertilizer, and Microbial Inoculum Fertilizer.

Biological Organic Fertilizers



*Figure 1: 200M Bacteria
 Compound Microbial Fertilizer*



Figure 2: 50M Bacteria



Figure 1: 50M Bacteria



Figure 4: General Compound



Figure 5: Fruit Tree



Figure 6: Tea Compound

Looking Ahead

Kiwa appears well on its way to deeply penetrating its target markets while reducing the amount of chemical fertilizers that are being used by agricultural growers. Among other key initiatives such as the highly publicized establishment of an eco-friendly agricultural manufacturing base and operational headquarters in the Yangling Free Trade Zone, Kiwa has executed the formal implementation of the Trinity Agricultural Marketing Model in Zhouzhi County, China for the Kiwi Planting Park of the Cooperative there. This is a landmark event and serves as the first stage of a replicable model throughout China.

The agreement clarified the relevant rules for the implementation of the Company's Trinity Agricultural Marketing Model (Retail Outlet Center—Patented Bio-fertilizer—Safe Produce Distribution) in the approximately 333-hectare Kiwi Planting Park of the Cooperative, the largest kiwi production park in China with a very long history. Historically, the kiwi industry has been a critical industry for Zhouzhi County's economic development—given the revenue production is \$580 million annually, accounting for more than 70% of the county's GDP.

However, due to the excessive application of chemical fertilizers and pesticides in recent years, the quality of kiwi has declined, which has led to a negative impact on the sales and brand reputation of the Kiwi market in Zhouzhi County. This situation prompted the government to seek remedies and elected to partner with Kiwa. As the Trinity Agricultural Marketing Model is designed to greatly promote the healthy development of the agricultural industry in Zhouzhi County.

Going forward, we envision new business will be driven in Zhouzhi, Yangling, and new regions, on the heels of its innovative models. As Kiwa continues on this track, it can build a national, replicable ecosystem, model, and standardized platform for ecofriendly innovation. For example, the Yangling government wishes to implement the Trinity model to a national-level Yangling model and copy and promote it in Yangling's demonstration planting bases. The 54 standard specifications for planting of major crops edited by Kiwa's Research Institute have also been promoted to the national agricultural planting areas by the Yangling Demonstration Zone as the standard system for scientific planting and standardization management throughout China.

It should be noted that Kiwa competes with a handful of firms, notably, China Green Agriculture, Inc. (NYSE – CGA – NR), Genliduo Biotechnology Ltd., Shenzhen Baitan Ecotypic Engineering Co. Ltd., Hunan Taigu Biotechnology Co. Ltd. and Shanxi A.K. Quantum Agricultural Technology Corporation. Although these companies are much larger and have long histories, we believe that Kiwa is best positioned to generate outsized growth, deployment, and profitability. To that end, we expect that management will seek to up-list these shares to a senior exchange during 2019 and could raise funds to fund its growth and perhaps increase its market share along with the penetration into new markets.

THE KIWA LEADERSHIP TEAM

Yvonne Wang, Chairwoman, Acting CEO

Ms. Wang became our Chairperson in 2015. She was Corporate Executive Secretary from 2005 to 2015. Duties include ensuring the integrity of the governance framework, the efficiency of company administration, compliancy with statutory and regulatory requirements and implementing decisions made by the Board of Directors. She was responsible for board and committee meetings, minutes of meetings, annual meeting of shareholders, corporate records, etc. Prior to that, she served as an executive assistant and manager for the Company's U.S. office from 2003 to 2005. Duties included implementing the decisions of the Board of Directors, handling the company share transactions, liaising with auditors, lawyers, tax advisors, bankers and shareholders on board governance issues to ensure compliance obligations under relevant laws and regulatory authorities. Established sales and marketing channels in the USA for Kiwa bio-fertilizer products. Guided the company through its initial public offering (IPO) and leading Kiwa to becoming a publicly traded and owned entity.

Prof. Qi Wang, Director, VP Technology, Professor

Prof. Wang became our Vice President of Technology on July 19, 2005 and was elected as one of our directors on July 18, 2007. Prof. Wang has also acted as Director of Kiwa-CAU R&D Center since July 2006. He served as a Professor and Advisor for Ph.D. students in the Department of Plant Pathology, China Agricultural University ("CAU") since January 2005. Prior to that, he served as an assistant professor and lecturer of CAU since June 1997. He obtained his master's degree and Ph.D. in agricultural science from CAU in July 1994 and July 1997, respectively. Prof. Wang received his bachelor's degree of science from Inner Mongolia Agricultural University in July 1989. He is a committee member of various scientific institutes in China, including the National Research and Application Center for Increasing-Yield Bacteria, Chinese Society of Plant Pathology, Chinese Association of Animal Science and Veterinary Medicine. Prof. Wang's unique expertise in the field of agriculture offers significant knowledge and experience to the Board of Directors when making critical operational decisions.

Lucy Li, Director, Corporate Secretary

Upon graduating university in 2011 with a Major in Commerce and Minor in Economics degree from University of Toronto in Canada. She began working as an assistant project manager for SCHSAsia, a boutique business consulting firm specializing in events and project management for overseas company wishing to expand into the Asia Pacific arena. Her responsibilities include connecting overseas businesses with established local networks and seeking sponsorship in the form of cash and goods/services for specific events and programs. Since then, she has been involved in campaigning for WildAid China Office, a non-profit organization with focus on raising

awareness on wildlife and climate-change related issues. Her role focuses on establishing an integrated marketing strategy for different programs, budgeting for long term and short-term campaigns, developing and maintaining strong relationships with various parties such as donors, and consulting agencies to ensure smooth collaborations of WildAid's campaigns in China. She has been involved in Kiwa's "Living Green" agricultural markets network security planning, and company's microbiological fertilizer market research projects.

Yonglin Song, Director, VP, CTO

Mr. Song is a deputy researcher and senior agronomist at the Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences (IARRP, CAAS). He has 29 years of experience in microbial R&D and technology promotion. He hosted and participated in 8 scientific research projects, won 1 provincial and ministerial level achievement, published more than 100 papers. From 2001 to 2009, he was responsible for technological achievement transformation and technology promotion of IARRP, CAAS. He is the company's agronomist and project director. From 2009 to 2015, he served as deputy secretary general of the Chinese Society of Plant Nutrition and Fertilizer Science (CSPNF), participating in the national science and technology support project "efficient fertilization" research work.

Hon Man Yun, CFO

Mr. Yun has been the CFO of the Company since April 15, 2018. Prior joining the Company, Mr. Yun has served as Compliance and Internal Control Officer of Kaisun Energy Group Limited since May 2017. Mr. Yun has served as an Associate of China Merchants Securities (HK) Co., Limited since December 2014 to May 2017. Mr. Yun has served as a Financial Controller of E Lighting Group Holdings Limited since March 2013 to September 2014. Mr. Yun has served as an independent director of the Company since November 2008 to February 2013. Mr. Yun has served and continues to serve as a Corporate Consultant with Smart Pine Investment Limited since September 2007, a consulting firm organized under the laws of Hong Kong. Mr. Yun serves as an independent director of CH Lighting International Corporation (OTCBB: CHHN) since July 2008 to July 2012 and as an Independent Director of Xinde Technology Company since January 2010 to October 2012. Mr. Yun also served as Chief Operating Officer of China INOnline Corp. (NASDAQ: CHIO) from January 2008 through April 2010. Prior to that, Mr. Yun served as Corporate Controller of Hi-Tech Wealth Inc. (n/k/a China Mobile Media Technology, Inc.)(OTCBB: CHMO) from January 2007 through August 2007. From January 2003 through December 2006, Mr Yun served as Corporate Controller of General Components, Inc. (n/k/a China Mobile Media Technology, Inc.). Mr. Yun is a Chartered Accountant having fellowship with the Institute of Chartered Accountants in England and Wales. He is also a Fellow Member of the Chartered Association of Certified Accountants and a member of the Hong Kong Institute of Certified Public Accountants. He was a member of Association of International Accountants, the Society of Registered Financial Planners, the Institute of Financial Accountants and the Institute of Crisis and Risk Management. Mr. Yun received his MBA at the University of Western Sydney in 2007.

Xiaoqiang Yu, VP, General Manager, Operations Center

Mr. Yu got into Chinese fertilizer market since 1999. He has loads of experience in market operation and corporate management. Mr. Yu is familiar with the development of China's fertilizer industry and the distribution of agricultural planting structure, with rich experience in product market positioning and marketing model. Mr. Yu became Kiwa's Sales and Marketing Director in June 2016. His responsibilities focus on managing the overall marketing strategy of Kiwa, market research, establishing and expanding sales channels, and accomplishing the company's sales goals.

Yanan Tong, CTO; Dean of the Kiwa Institute of Ecological Agriculture and Environment

Professor Tong was the chairman of the Plant Nutrition and Fertilizer Society of Shaanxi Province. He is currently a professor and doctoral tutor of the College of Resources and Environment of Northwest Agriculture who is mainly engaged in soil chemistry, plant nutrition, fertilization and environment, modern agriculture, agricultural environmental protection, and food safety research.

Over the years, professor Tong has participated in a number of domestic and international special research projects, and the several projects that hosted the research have won Shaanxi Province and even national scientific progress awards. In addition, he is also the editorial board member of the agricultural core journals, and has published many monographs and more than 180 papers.

He studied at the Swedish Agricultural University from 1992 to 2003 and received his Ph.D. from the Swedish Agricultural University in 2003.

FINANCIALS

On the strength of its deepening market penetration and new offerings, revenue for the first nine months of 2018 were 25% higher than all of 2017, in which Kiwa recorded \$17.2 million in sales. For 2018, our forecast calls for \$31.1 million in total revenue under Non-GAAP; however, we believe that 2019 and 2020 results will take the shares to new heights. Our 2019 estimates call for \$39.2 million in sales and EPS of \$0.18, versus \$0.04 in 2018. In 2020, we believe sales will reach \$51.1 million in revenue and \$0.26 in EPS. As noted in the pro forma income statement found at the end of this report, we expect meaningful top-line growth of over 82% for 2018, driven by increases in the legacy product categories along with a roughly 15% overall contribution from the Water-Soluble product category. Interestingly, this category already accounted for nearly one-fourth of sales in 3Q18, which bodes well for future quarters.

Our model does not demonstrate much change in gross margin. However, due to the Yangling operation, G&A is expected to jump markedly, going forward. With table gross margins, and little variability in figures above the operating line, we project that net margin expansion will occur in a dramatic fashion, beginning with 4Q18. Expansion should continue into 2020, albeit at a lower rate. The Company's balance sheet, which has not had much change on the debt side but increasing receivables due to the model (harvest cycle), should also be a beneficiary of improved operating performance. Moreover, a reduction in debt or better terms will ultimately also play a role in net profit performance going forward as well.

RISK FACTORS

In our view, the Company's biggest risks are related to the timing of project implementation/deployment/sales into existing and new markets, along with the (3-9 month) sales/harvest cycle mentioned earlier in the report. While efficacy is not an issue, migrating to bio-fertilizers may take time and there may be resistance to the shifts, delaying potential business. Competitive risks include lower pricing, more effective sales/marketing, etc. from larger competitors or new entrants. Still, these risks are typical future concerns and are also consistent with firms of KWBT's size and standing.

Volatility and liquidity are typical concerns for microcap stocks that trade on the stock market. The bid/ask spread on Kiwa's stock is larger than typical and in our opinion this illiquidity reflects a lack of investor awareness, perceived geopolitical risk with China given the frosty U.S./China trade relations, and currency risk. It is possible once an up-listing occurs and trading activity is greater that the shares outstanding of this stock could increase due to potential capital needs. However, since the proceeds of any future funding would be used in large part to advance M&As or major business development, we believe that any dilutive effect from such a funding could be offset by related increases in market value.

CONCLUSION

Kiwa Bio-Tech is a pure play on the agbiotech industry in China, which represents a multi-billion-dollar global market. The Company's bio-fertilizers enhance the quality and productivity of crops while simultaneously reducing the negative environmental impact of chemicals currently used. In 2017, the government in China announced the implementation of five major action plans to spur "green" agriculture development growth. The key plan that impacts Kiwa includes the replacement of chemical bio-fertilizers with bio-fertilizers on vegetables, fruits and teas planting. Moreover, Kiwa is the beneficiary of new initiatives. These events leave Kiwa well-positioned to win new, low-hanging business from centers that represent billions in annual fertilizer sales.

As a result, Kiwa is in the early stages of a major revenue and EPS boom, led by new and existing products and markets, beginning in 2019. Our model assumes 2018 and 2019 sales of \$31.1M and \$39.2M, respectively, with forecasted 2020 sales of \$51.1M. We also project EPS will leap from \$0.04 in 2018 to \$0.18 in 2019 and \$0.26 in 2020.

Against its industry backdrop, unique positioning, and financial performance, Kiwa's shares are undervalued. Our 12-month target price is based on its 44.4% expected EPS growth rate ('19 – '20), which reflects a substantial increase in net profit margin, and is 15x 2019E projected EPS and 1.25x 2019E revenue.

KIWA BIO-TECH PRODUCTS GROUP CORP.

Pro Forma Projected Statements of Income
(\$, thousands)

	<u>2017A</u>	<u>1Q18A</u>	<u>2Q18A</u>	<u>3Q18A</u>	<u>4Q18E</u>	<u>2018E</u>	<u>2019E</u>	<u>2020E</u>
Revenue								
Biological Organic Fertilizer	\$9,219	\$4,227	\$2,901	\$3,812	\$4,000	\$14,940	\$18,675	\$22,410
Compound Microbial Fertilizer	\$8,051	\$4,506	\$2,427	\$2,048	\$2,000	\$10,981	\$12,628	\$14,775
Bio-Water Soluble Fertilizer	\$0	\$22	\$7	\$1,852	\$2,700	\$4,581	\$6,413	\$9,620
Microbial Inoculum Fertilizer	\$0	\$0	\$0	\$13	\$600	\$613	\$1,533	\$4,291
TOTAL REVENUE	\$17,270	\$8,755	\$5,335	\$7,725	\$9,300	\$31,115	\$39,249	\$51,096
Cost of Goods	\$11,846	\$6,309	\$3,874	\$5,452	\$6,557	\$22,192	\$27,474	\$35,512
Gross Profit	\$5,424	\$2,446	\$1,461	\$2,273	\$2,744	\$8,924	\$11,775	\$15,584
<i>Gross Margin</i>	31.4%	27.9%	27.4%	29.4%	29.5%	28.7%	30.0%	30.5%
Operating Expenses								
Selling Expenses	\$483	\$184	\$161	\$37	\$200	\$582	\$900	\$1,300
R&D	\$148	\$39	\$39	\$64	\$40	\$182	\$200	\$300
G&A	\$2,997	\$1,565	\$1,514	\$962	\$1,200	\$5,241	\$7,000	\$8,500
Total Operating Expenses	\$3,628	\$1,788	\$1,714	\$1,063	\$1,440	\$6,005	\$8,100	\$10,100
OPERATING INCOME (LOSS)	\$1,796	\$658	(\$253)	\$1,210	\$1,304	\$2,919	\$3,675	\$5,484
OTHER INCOME								
Change FV of Der Liab	\$322	\$130	\$72	\$42	\$50	\$294	\$500	\$800
Interest Expense	(\$524)	(\$155)	(\$153)	(\$151)	(\$150)	(\$609)	(\$700)	(\$700)
Other Income	\$382	(\$1)	\$0	\$0	\$0	(\$1)	\$0	\$0
Exchange Gain (Loss)	(\$59)	(\$38)	\$56	\$36	(\$25)	\$29	\$0	\$0
PRETAX INCOME	\$1,917	\$593	(\$277)	\$1,137	\$1,179	\$2,632	\$4,875	\$6,984
Income Tax	\$1,103	\$539	(\$358)	\$514	\$500	\$1,195	\$1,500	\$1,800
Inc from Cont Ops	\$814	\$54	(\$635)	\$623	\$679	\$721	\$3,375	\$5,184
Inc from Disc Ops	\$4,495							
Net Income	\$5,309	\$54	(\$635)	\$623	\$679	\$721	\$3,375	\$5,184
Other Comp Inc (Loss)								
Foreign Curr Trans Adj	\$378	\$499	(\$781)	(\$570)	\$300	(\$552)	\$500	\$800
Total Comp Income	\$5,687	\$553	(\$1,416)	\$53	\$979	\$169	\$3,875	\$5,984
<i>Comp Inc Margin</i>	32.9%	6.3%	N/A	0.7%	10.5%	0.5%	9.9%	11.7%
EPS	\$0.43	\$0.00	(\$0.04)	\$0.04	\$0.04	\$0.04	\$0.18	\$0.26
Shares Outstanding	12,542	15,920	16,497	18,315	18,500	17,308	19,000	19,800

Sources: Kiwa Biotech and Goldman Small Cap Research

RECENT TRADING HISTORY FOR KWBT

(Source: www.Stockta.com)



SENIOR ANALYST: ROBERT GOLDMAN

Rob Goldman founded Goldman Small Cap Research in 2009 and has over 20 years of investment and company research experience as a senior research analyst and as a portfolio and mutual fund manager. During his tenure as a sell side analyst, Rob was a senior member of Piper Jaffray's Technology and Communications teams. Prior to joining Piper, Rob led Josephthal & Co.'s Washington-based Emerging Growth Research Group. In addition to his sell-side experience Rob served as Chief Investment Officer of a boutique investment management firm and Blue and White Investment Management, where he managed Small Cap Growth portfolios and *The Blue and White Fund*.

ANALYST CERTIFICATION

I, Robert Goldman, hereby certify that the view expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the recommendations or views expressed in this research report.

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