



BEACON ROCK RESEARCH

APRIL 9, 2009
SPECIAL VIDEO REPORT*

Star Scientific, Inc.

(NASDAQGM: STSI, \$4.56)

www.beaconrockresearch.com

Disclosures 1,2,3

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*Video best viewed in Microsoft Internet Explorer with "Full Screen" (MAC users may download <http://www.silverlight.net>).
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Star Scientific May Soon Get its Day in Court

Jonnie Williams may be considered a key figure in the legacy of the Austrian classic liberal economist Joseph Schumpeter for his American version of "creative destruction" of the American Tobacco industry. A native Virginian, Williams tackled the challenge of developing less harmful (and potentially helpful) tobacco products while any real progress was deadlocked between the monopolies (and careerism) of Big Tobacco and the radical Anti-Smoking lobby. As an entrepreneur, Williams patented a process for curing "less harmful" tobacco, provided a means for widespread adoption, and changed the industry for the better. While it may take a generation for the real value of this advancement for national health to be calculated, a partial but cumulative monetary assessment might be determined in the upcoming jury trial in which Star Scientific, Inc. (Nasdaq: STSI) has alleged infringement of its patents by RJ Reynolds Tobacco Company, or Reynolds American (NYSE: RAI).

We attended the "bench trial" in January of 2005, heard Reynolds' argument for inequitable conduct, and previously provided research coverage as a partner in a boutique broker dealer. Our interest was rekindled when after years of lying fallow, the judge's decision determining inequitable conduct was overturned, and the US Supreme Court refused to hear the appeal. Jury trial in the near future again appears unavoidable.

Star is seeking \$261 to \$311 million from Reynolds for infringement during the 2001-2002 growing seasons (plus a multiple of damages may be awarded by the court if willful infringement is determined). Star may be entitled to royalties due since filing the lawsuit, and an injunction against future infringement. A ruling favorable to Star may well exceed any judgment for the 2001-2002 growing season, extending beyond the 2001-2002 growing season with a judgment against Reynolds and the Tobacco Industry at large that may eventually exceed a billion dollars.



Figure 1 Video Clip 1—Tobacco Greenhouse

(<http://www.beaconrockresearch.com/STSI.nursery.htm>)

Source: Analyst

We hoped to bring closure to our earlier effort and investment thesis, and completed additional due diligence by visiting tobacco farms near Chase City, Virginia. While the slow wheel of justice has increased our cynicism for the current legal system, we remain even more confident of our original opinion and hopefully curious of karma which answers to no man. A privilege of writing research on world-changing entrepreneurs is equivalent to writing history, and a confirmation that individuals can make a difference. With equal interest we may see if justice in America may be still found in a jury of the People. This report should provide a general outline for investors to complete their own research.

Star's Patented Solution Leads to Reduction of TSNAs

Tobacco-specific nitrosamines (TSNAs) are a powerful group of cancer-causing agents in tobacco in both tobacco smoke and smokeless tobacco. TSNAs have been recognized as a carcinogen in cured tobacco since the 1950s. Researchers explored the causes of tobacco formation including tobacco type, fertilizers, growing conditions, and curing methods. While some tobacco is air-cured at ambient temperatures, Virginia tobacco is cured using heat.

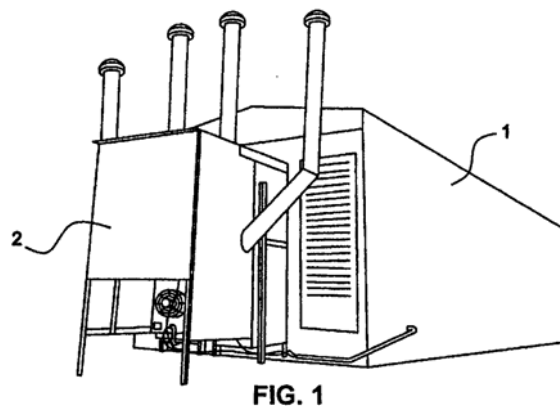
Until the 1960s, farmers hung tobacco in barns using radiant heat from pipes for curing. These were replaced with economical bulk-curing methods, where tobacco was densely packed and cured by "direct-fired" or "indirect-fired" methods. Farmers using "dirty" fuel like oil utilized an "indirect-fired" approach, with heat exchangers blowing heated air through the tobacco. Farmers preferred a cheaper "direct-fired" approach utilizing propane, which could conserve heat by exposing the tobacco to combustion exhaust.

In the early 1990s, Jonnie Williams was working on a chewable gum product as an alternative to smoking. Williams observed that TSNA formation resulted from microbial activity on tobacco leaves during curing which was promoted by an oxygen-deficient environment. Microflora on the leaves takes oxygen from nitrates in the leaves, reducing nitrates to nitrites, which combine with alkaloids in the leaves to form TSNAs. In 1996, Williams explored various solutions including microwaving; while TSNAs were reduced, so was the quality of the finished product. Williams considered clothes dryers as well, and made further progress when utilizing a HVAC unit, the type found on the roof of a school gymnasium, which he mounted on a tobacco curing barn. Williams patented this "indirect-fired" method which controlled airflow, temperature, and humidity, making possible the first systematic and consistent reduction of TSNAs.

Jonnie Williams filed a provisional patent September 15, 1998. Williams requested that Dr. Burton provide a letter with his observations on TSNAs. He had completed tests on tobacco leaves for Williams and had measured very low to undetectable TSNA levels in cigarettes he brought home from China in 1997. Burton focused on the radiant-heat methods from the 1960s compared to "direct-fired" curing. Dr. Burton did not make the connection of TSNA formation with air flow and rejected any credit for Williams' discovery at the bench trial. It became apparent to us at the bench trial that Williams was responsible for developing a scientific method for consistently curing tobacco rather than leaving it to chance. Williams reduced TSNA levels 0.05 ppm, considered "substantial prevention" by the courts, far surpassing previously aggressive targeted levels of 1.0 ppm.



Figure 2 Video Clip 2—Tobacco Curing Operation
Star Cured Barns (foreground)
<http://www.beaconrockresearch.com/STSI.farm2.htm>
Source: Analyst



The patents covered drying a portion of a tobacco plant in “a controlled environment...by controlling at least one of humidity, temperature, and airflow,” with the environment comprising “air free of combustion exhaust gases and an airflow sufficient to substantially prevent an anaerobic condition around the vicinity of said plant portion.” The patents distinguished the invention from curing methods that do not control the conditions to avoid an anaerobic condition. Radiant heat curing did not provide the controlled airflow required and did not provide for controlled conditions. Other “in-direct” methods might reduce TSNA but those methods did not focus on controlling air flow.

Star’s Patented Solution Enjoys Widespread Acceptance

Things got more interesting (destructive) when Star made curing barns available to farmers who were all too happy to grow less harmful tobacco and sell to Star at a premium (creative). Prior to debut of Star’s process, tobacco farmers were selling their product at auction which set grade and price for large third-party buyers under the USDA quota system administered by the Flu-cured Stabilization Board. Until Jonnie Williams came along, the farmers were the bottom of the food chain.

In 1999, Star provided about 1,000 of its patented “indirect-fired” curing barns to tobacco farmers. Star purchased the low-TSNA tobacco from these farmers for sale under its contract with Brown & Williamson. Tobacco farmers competed cheerfully amongst themselves to produce tobacco with the lowest TSNA levels. This set off a boom in refitting curing barns with heat exchangers. In three years 86% of the tobacco produced was reduced TSNA. By 2002, only tobacco that had TSNA reductions would be eligible for full price support. The Flu-cured Stabilization Board stood ready as a buyer of last resort; tobacco grown under previous methods was acquired at significant discounts, likely for sale outside the U.S.



Figure 3 Video Clip 3—Tobacco Farm and Curing Barns
(<http://www.beaconrockresearch.com/STSI.farm1.htm>)

Source: Analyst

Star asserted that during this period, Reynolds contracted with farmers to purchase low-TSNA tobacco cured in barns retrofitted with heat exchangers. Reynolds spent over \$11 million to purchase 2,050 heat exchangers and retrofit hundreds of curing barns owned by independent farmers with the heat exchanger technology. For the 2000 curing season, Reynolds contracted with these independent farmers to purchase low-TSNA tobacco cured in their barns retrofitted with the heat exchanger technology. In 2001, Reynolds replaced many of its 2000 curing season contracts with new five-year contracts for the purchase of low-TSNA tobacco cured using the heat exchanger technology.

Star also asserted that Brown & Williamson was the only legal contracted buyer of low-TSNA tobacco. In 2001 to 2002, Star’s barns were the third-largest producer of low-TSNA tobacco. In 2003 Brown & Williamson was no longer to be a buyer of low-TSNA tobacco from Star with its merger with Reynolds in 2004. As an interesting twist of fate, Brown & Williamson’s director of marketing, Susan Ivey, became Reynold’s CEO following the merger. Star allowed tobacco farmers to continue using its curing barns until they were forced to sell them to the farmers in 2007 in order to increase liquidity.

Figure 4 Video Clip 4—Retrofitted Barns (on left)
(<http://www.beaconrockresearch.com/STSI.retrofit.htm>)

Source: Analyst



Star v. Reynolds Lawsuit Summary

Star sued Reynolds for infringement alleging that Reynolds had infringed or induced infringement of patents by contracting with tobacco farmers to purchase low-TSNA tobacco using a heat exchanger technology in lieu of direct-fired heaters. The suit was filed on May 23, 2001 claiming infringement and filed a second complaint July 30, 2002. The two cases were later consolidated.

(In August 2001, according to the filings by Star, Reynolds conferred with Richard Lione of Brink, Hofer, Gilson & Lione regarding the infringement. “Mr. Lione provided RJR with a formal opinion regarding the ‘649 patent on December 21, 2001. According to Mr. Lione, RJR and/or its growers infringed the claims of the ‘649 patent, but the claims of the ‘649 patent should be found to be invalid.” While an interesting opinion, not necessarily proof of infringement, should infringement be determined, an argument against willful infringement may be a challenge.)

The discovery phase was completed in early 2003 and motions for summary judgment were filed during the first half of 2003. After hearings in August 2003, the Special Master appointed to review motions issued “Reports and Recommendations” recommending denying each of six motions for summary judgment. Judge Alexander Williams issued orders denying those motions and the suit was reassigned to US District Court Judge Marvin Garbis in August 2004.

We attended the bench trial for inequitable conduct held in Baltimore in early February, 2005. After a two year wait, in January of 2007, Judge Garbis ruled against Star on two motions for summary judgment, and in June of 2007, on the bench trial on inequitable conduct. Star filed notice of appeal with the US Court of Appeals for the Federal Circuit the following day. On March 7, 2008, oral arguments took place before the three-judge panel and on August 25, 2008, the Federal Circuit issued its opinion, reversing Judge Garbis’ rulings on inequitable conduct and on definiteness. The case was remanded back to the district court for “further proceedings” including a jury trial.

A pre-trial conference was held on November 25, 2008, to address pre-trial issues; and a jury trial was scheduled for April 20 to May 29 of 2009. Reynolds filed a petition for review with the U.S. Supreme Court which was denied on March 9, 2009. The Supreme Court’s denial of Reynold’s petition ends the process through which they may appeal the Federal Circuit’s decision in favor of Star to move to a jury trial to begin May 18, 2009.

Conclusion and Valuation

We are intrigued by the Star story for several reasons. We like stories and investment ideas which are relatively unknown or misunderstood. The notion that millions of smokers using a product, that unbeknownst to them, has been made potentially less harmful by a non-tobacco industry entrepreneur they will never hear of, is priceless. The story gets even better upon further study that the same individual is responsible for advancing safer dissolvable tobacco products (Ariva and Stonewall), and pharmaceuticals potentially addressing other marquee health issues as Alzheimer’s disease, Parkinson’s disease, schizophrenia, and depression. While this is a big story, from an investment perspective, return and risk is measured with application of time.

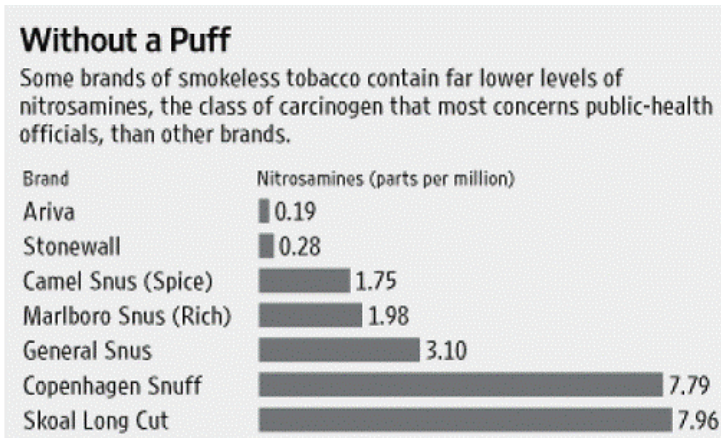


Figure 5—TSNA Levels in Brands of Smokeless Tobacco
Source: Nicotine and Tobacco Research, December 2008 and April 2006
Wall Street Journal, January 27, 2009

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It would appear that in the near term the possibility of a jury trial will more provide a significant amount of volatility in an investment in Star. Given the influence of aggressive traders, an investment in Star contains a significant amount of risk beyond the underlying fundamentals of the company and the potential outcome of the trial. Having attended the bench trial in 2005 (four years ago), and even though vindicated by the three-judge panel reversing Judge Garbis' decision, we have seen firsthand that an unfavorable or delayed outcome may lead to loss of all or part of an investment.

Star is seeking damages in the range of \$261 to \$311 million from Reynolds for infringement during the 2001-2002 growing seasons (Star's market capitalization is now over \$450 million). Should the jury determine infringement is willful, Judge Garbis may increase the damages. Star may also be due for royalties that would have been owed following the 2001-2002 growing season. Some estimate the eventual award may exceed a billion dollars. Potentially more significant, should Star prevail, they should seek an injunction on future infringement, which may force a negotiated settlement or license agreement. While there is speculation among investors that Star may be attractive for acquisition by Reynolds or another tobacco company, it is too early to know with any certainty how the story will play out. In the meanwhile, while consumers have benefited from the introduction of low-TSNA tobacco, we may soon see who gets the credit.



Figure 6—Analyst with Star Cured Tobacco
Source: Analyst

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This report has been written in accordance with current SEC regulations and the Standards of Practice developed by the Chartered Financial Analyst Institute (CFAI). Our research has been conducted by employing analytical practices generally accepted as standard within the analytical industry. In this instance, a comparison of financial strength, a bottom-up earnings projection based on a recovery in the U.S. economy, and relative multiples, were employed. Target prices are calculated on comparative EPS, sales and book value multiples, and our knowledge of small-cap markets when enjoying both a sector and a cyclical rebound. Our conclusions are, by the very nature of forecasting, speculative, but are also reasonable, supportable and consistent.

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Buy	Immediate purchase is recommended. The security is expected to outperform the market over the next 12 to 18 months.
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