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## 22nd Century Very Low Nicotine Cigarettes Could Reduce U.S. Smoking Rates by More than 75%

### Leading Scientists Advocate Dramatic Reduction of Nicotine Content in Cigarettes

CLARENCE, N.Y.--(BUSINESS WIRE)-- 22nd Century Group, Inc. (NYSE MKT: [XXII](#)), a plant biotechnology company that is a leader in tobacco harm reduction, announced today that a group of leading scientists from the United States and New Zealand have published a special paper in an international peer-reviewed journal strongly advocating for a “national nicotine reduction policy.” [The article](#), published in the September issue of *Tobacco Control* journal online, outlines the compelling and urgent case for enacting a national nicotine policy in order to dramatically lower smoking rates. The authors cite results from many of the [15 major clinical studies](#) conducted with 22nd Century’s Very Low Nicotine (VLN) tobacco.

Drs. Eric Donny, Natalie Walker, Dorothy Hatsukami, and Chris Bullen authored the special paper that asserts governments around the world should reduce the nicotine content of cigarettes to “... $\leq$  0.4 mg per gram of tobacco, a 95-98% reduction in nicotine content relative to what is currently on the market.” The *Tobacco Control* article reinforces the World Health Organization recommendation that member countries “mandate reductions in nicotine to minimally addictive levels.”

With ownership or exclusive control of more than 200 patents on the genes in the tobacco plant that regulate nicotine production, 22nd Century is the only company in the world capable of growing tobacco with up to 97% less nicotine than conventional tobacco plants. Company scientists believe that at just 0.04 mg per gram of tobacco, nicotine is *non-addictive* and yet still present in sufficient amounts to stimulate a small number of bio-receptors in the brain, thus greatly reducing cravings in smokers.

22nd Century’s proprietary Very Low Nicotine SPECTRUM®, MAGIC®, and BRAND A cigarettes have the taste and sensory characteristics of conventional cigarettes, but contain approximately 95% less nicotine than conventional cigarettes made by Altria Group, Inc. (NYSE: [MO](#)) and Reynolds American, Inc. (NYSE: [RAI](#)), including Marlboro®, Newport®, Camel®, and American Spirit®.

Building on the results of previously-conducted clinical studies, the *Tobacco Control* article authors summarize the highly attractive characteristics of VLN tobacco: “...**in current smokers, very low nicotine content (VLNC) cigarettes decrease nicotine exposure, decrease cigarette dependence, reduce the number of cigarettes smoked per day and increase the likelihood of contemplating, making and succeeding at a quit attempt.**”

Dr. Donny and his collaborators point out the cost of delaying policies to reduce nicotine: “waiting for the results of [additional] trials before seriously discussing a [nicotine reduction policy] that is rooted in decades of research... could delay potential action and ultimately lead to a failure in efforts to more rapidly improve public health.” As cited in the *Tobacco Control* article, scientists associated with a previous [recommendation](#) by the American Medical Association, predict that a dramatic reduction in nicotine content in the United States will result in a reduction of smoking rates to just 5%.

The *Tobacco Control* article authors suggest that such a national nicotine policy could be the centerpiece legislation necessary for New Zealand to reach its goal of becoming smoke-free by 2025. Because the island-nation has a clearly defined goal of becoming smoke-free (< 5% prevalence by 2025), and because regulators and tobacco control experts in New Zealand have well-developed tobacco control programs in place, the *Tobacco Control* paper recognizes that New Zealand presents a “unique opportunity” to implement a nicotine reduction policy for combustible cigarettes.

Furthermore, many New Zealand consumers appear ready to embrace a national nicotine reduction policy. In a recent population-based survey of New Zealanders, 81% of random consumers and 63% of current smokers believe “The nicotine content of cigarettes should be reduced to very low levels so that they are less addictive.”

(New Zealand Medical Journal, Volume 129, Number 1430.)

“New Zealand’s goal of becoming smoke free by 2025 is both laudable and achievable,” observed Dr. Paul Rushton, Vice President of Plant Biotechnology at 22nd Century Group. “We are proud that world-renowned scientists are proposing that Very Low Nicotine Content cigarettes play an important part in New Zealand’s smoke-free objective.”

“Though New Zealand seems to be winning the race, the FDA already has the regulatory authority to mandate maximum nicotine levels for cigarettes sold in our country,” explained Henry Sicignano, III, President and CEO of 22nd Century Group. “We think the United States could – *and should* – be the first country to require all cigarette manufacturers to offer consumers a Very Low Nicotine brand style alongside their existing products.”

#### **About 22nd Century Group, Inc.**

22nd Century is a plant biotechnology company focused on technology which allows it to increase or decrease the level of nicotine in tobacco plants and the level of cannabinoids in cannabis plants through genetic engineering and plant breeding. The Company’s primary mission is to reduce the harm caused by smoking. 22nd Century currently owns or exclusively controls more than 200 issued patents and more than 50 pending patent applications around the world. Visit [www.xxiicentury.com](http://www.xxiicentury.com) and [www.heraclespharma.com](http://www.heraclespharma.com) for more information.

*Cautionary Note Regarding Forward-Looking Statements: This press release contains forward-looking information, including all statements that are not statements of historical fact regarding the intent, belief or current expectations of 22nd Century Group, Inc., its directors or its officers with respect to the contents of this press release, including but not limited to our future revenue expectations. The words “may,” “would,” “will,” “expect,” “estimate,” “anticipate,” “believe,” “intend” and similar expressions and variations thereof are intended to identify forward-looking statements. We cannot guarantee future results, levels of activity or performance. You should not place undue reliance on these forward-looking statements, which speak only as of the date that they were made. These cautionary statements should be considered with any written or oral forward-looking statements that we may issue in the future. Except as required by applicable law, including the securities laws of the United States, we do not intend to update any of the forward-looking statements to conform these statements to reflect actual results, later events or circumstances, or to reflect the occurrence of unanticipated events. You should carefully review and consider the various disclosures made by us in our annual report on Form 10-K for the fiscal year ended December 31, 2015, filed on February 18, 2016, including the section entitled “Risk Factors,” and our other reports filed with the U.S. Securities and Exchange Commission which attempt to advise interested parties of the risks and factors that may affect our business, financial condition, results of operation and cash flows. If one or more of these risks or uncertainties materialize, or if the underlying assumptions prove incorrect, our actual results may vary materially from those expected or projected.*

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