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## **22nd Century Group Achieves Breakthrough Technology; Granted New Patent for Reducing Nicotine in Tobacco Plants**

### **New intellectual property leads to precise genetic control over nicotine levels in virtually any variety of the tobacco plant**

WILLIAMSVILLE, N.Y., Oct. 14, 2020 (GLOBE NEWSWIRE) -- 22nd Century Group, Inc. (NYSE American: XXII) ("22nd Century" or "the Company"), a leading plant-based, life science company driven by next generation biotechnology, today announced it was granted a new U.S. patent related to the reduction of nicotine in the tobacco plant. The new technology provides 22nd Century with a rapid pathway to introduce very low nicotine traits into virtually any variety of tobacco, including bright, burley, oriental, and cigar tobacco varieties.

"We are very pleased to receive this patent which reflects the ingenuity and expertise of our talented scientific team. This new technology allows us to reduce nicotine in any tobacco variety. Importantly, this breakthrough further demonstrates that the FDA's Comprehensive Plan for Tobacco and Nicotine Regulation to limit the nicotine content of all cigarettes sold in the United States is technically feasible and at the same time refutes the claim from 'Big Tobacco' that such low nicotine levels cannot be achieved in multiple tobacco varieties," said James A. Mish, chief executive officer of 22nd Century Group. "I am proud of the significant R&D gains we continue to make as we work to achieve our mission to reduce the harm caused by smoking and seek to significantly disrupt the \$100 billion U.S. and the \$800 billion global tobacco industries with our proprietary reduced nicotine tobacco products."

The new patent and allowed claims, published as U.S. Patent No. 10,669,552 and entitled "Up-regulation of auxin response factor NbTF7 to decrease nicotine in a plant," cover methods of manipulating plant metabolism and alkaloid levels by controlling transcription factor NbTF7, which regulates the nicotinic alkaloid biosynthetic pathway. The patent enables the Company's use of next-generation gene modification technologies that afford greater flexibility for genetic control over nicotine levels in virtually any variety of the tobacco plant.

22nd Century is preparing for a successful launch of VLN<sup>®</sup>, its proprietary reduced nicotine content tobacco cigarettes containing 95% less nicotine than conventional counterparts. Pending the FDA's potentially imminent authorization of the Company's Modified Risk Tobacco Product (MRTP) Application, VLN<sup>®</sup> would be the first and only combustible cigarette to receive a MRTP designation. Numerous independent scientific [studies](#), funded largely by the U.S. Food and Drug Administration (FDA), the National Institutes of Health (NIH), and other U.S. federal government agencies using 22nd Century's reduced nicotine content tobacco cigarettes, show that smokers who use the Company's products: (i) reduce their nicotine exposure and dependence, (ii) smoke fewer cigarettes per day, (iii) increase their number of smoke-free days, and (iv) double their quit attempts – all with minimal or no evidence of nicotine withdrawal. The Company believes that bringing its reduced nicotine content tobacco cigarettes to market will be an important step towards the implementation of the FDA's proposed [plan](#) to require all cigarettes sold in the U.S. to be made "minimally or non-addictive." By limiting the nicotine content of all combustible cigarettes to just 0.5 milligrams of nicotine per gram of tobacco, a level already achieved by VLN<sup>®</sup>, the FDA [projects](#) that five million adult smokers would quit one year after implementation and over eight million American lives would be saved by the end of the century.

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

22nd Century Group, Inc. (NYSE American: XXII) is a leading, plant-based, life science company that develops and provides disruptive, commercial solutions to the life science, consumer products, and pharmaceutical markets in the tobacco and hemp/cannabis industry. 22nd Century is dedicated to its primary mission of reducing the harm caused by smoking and is poised to disrupt the global tobacco market by bringing its proprietary reduced nicotine content tobacco cigarettes, containing 95% less nicotine than conventional cigarettes, to adult smokers in the U.S. and globally. 22nd Century owns or controls the rights to commercialize greater than 200 issued and pending

patents related to the tobacco and hemp/cannabis plants.

Learn more at [xxiicentury.com](http://xxiicentury.com), on Twitter [@\\_xxiicentury](https://twitter.com/_xxiicentury) and on [LinkedIn](https://www.linkedin.com/company/xxiicentury).

**Cautionary Note Regarding Forward-Looking Statements**

Except for historical information, all of the statements, expectations, and assumptions contained in this press release are forward-looking statements. Forward-looking statements typically contain terms such as “anticipate,” “believe,” “consider,” “continue,” “could,” “estimate,” “expect,” “explore,” “foresee,” “goal,” “guidance,” “intend,” “likely,” “may,” “plan,” “potential,” “predict,” “preliminary,” “probable,” “project,” “promising,” “seek,” “should,” “will,” “would,” and similar expressions. Actual results might differ materially from those explicit or implicit in forward-looking statements. Important factors that could cause actual results to differ materially are set forth in “Risk Factors” in our Annual Report on Form 10-K filed on March 11, 2020 and in our subsequently filed Quarterly Report on Form 10-Q. We undertake no obligation to publicly update or revise any forward-looking statement as a result of new information, future events, or otherwise, except as otherwise required by law.

All information provided in this release is as of the date hereof, and we assume no obligation to and do not intend to update these forward-looking statements, except as required by law.

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