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Nondaily Smokers Who Switch to 22nd Century's Very Low Nicotine Content Cigarettes Reduce their Consumption by a Staggering 51%

Intermittent smokers assigned to VLNC cigarettes reduced both the overall number of cigarettes smoked and the number of days on which they smoked

WILLIAMSVILLE, N.Y.--(BUSINESS WIRE)-- 22nd Century Group, Inc. (NYSE American: [XXII](#)), a plant biotechnology company that is a leader in tobacco harm reduction and Very Low Nicotine tobacco, announced today that an [independent clinical trial](#) published this summer in *JAMA Psychiatry* (a specialty journal of the American Medical Association) found that nondaily smokers who switch to 22nd Century's proprietary Very Low Nicotine Content (VLNC) cigarettes **"reduced their smoking by 51%."**

In conducting this important clinical trial, study authors Saul Shiffman, Ph.D., Brenda Kurland, Ph.D., Sarah Scholl, MPH, and Jason Mao, B.S. used 22nd Century's proprietary SPECTRUM® VLNC cigarettes and standard nicotine content cigarettes. The 12-week, randomized, controlled, double-blind intervention trial enrolled 297 adult U.S. smokers who do not smoke daily; this clinical trial is the first published study to focus on occasional (nondaily or "intermittent") smokers.

Intermittent smokers assigned to VLNC cigarettes reduced both the overall number of cigarettes smoked and the number of days on which they smoked. Reporting that 25% to 33% of all U.S. smokers do not smoke daily (intermittent smokers), Dr. Shiffman, *et al.* believe that this substantial fraction of the smoking public must be included in all tobacco policy considerations.

The researchers reported that their study results did not vary by sex or race/ethnicity. Dr. Shiffman, *et al.* reported further that their study results "mitigate concern that intermittent smokers might increase smoking when switched to Very Low Nicotine Content cigarettes," and that intermittent smokers "respond to Very Low Nicotine Content cigarettes in a manner similar to daily smokers, suggesting that a universal policy [by FDA] is possible."

"The Shiffman clinical study shows that when nicotine is largely absent from cigarettes, occasional smokers – just like daily smokers – consume drastically fewer cigarettes," explained Henry Sicignano, III, President and Chief Executive Officer of 22nd Century Group. "22nd Century is proud to be at the center of a national policy initiative designed to ensure that all cigarettes sold in the United States are minimally or non-addictive; it is imperative that we take this important step to prevent millions of today's youth from becoming addicted to cigarettes."

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 hemp/cannabis plants through genetic engineering and plant breeding. The Company's primary mission in tobacco is to reduce the harm caused by smoking. The Company's primary mission in hemp/cannabis is to develop proprietary hemp strains for important new medicines and agricultural crops. Visit www.xxiicentury.com and www.botanicalgenetics.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, 2017, filed on March 7, 2018, 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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