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22nd Century Partners with The University of Virginia to Utilize Industrial Hemp to Clean Up and Reclaim Polluted Lands

22nd Century's proprietary industrial hemp could revolutionize land reclamation initiatives across the United States

CLARENCE, N.Y.--(BUSINESS WIRE)-- 22nd Century Group, Inc. (NYSE MKT:[XXII](#)), a plant biotechnology company focused on tobacco harm reduction and cannabis research, announced today that, together with The University of Virginia (UVA), it has launched a project aimed at utilizing novel varieties of industrial hemp to clean up and reclaim abandoned mine lands and other polluted areas. These polluted lands will be returned to productive use and cultivation through a cost-effective, plant-based process known as "phytoremediation."

22nd Century has developed proprietary hemp plants that are particularly well-suited for use in phytoremediation. These plants feature rapid growth rates and are highly efficient at absorbing toxins, metals and other soil contaminants. Similar varieties of hemp proved extremely effective in helping to remediate the land after the nuclear accidents at Chernobyl, Ukraine and Fukushima, Japan. In addition to removing contamination, hemp's deep tap roots alter soil structure, aerate the soil, and add organic matter deep into the soil profile.

In the Commonwealth of Virginia and elsewhere throughout the Appalachians, coal mining and other environmentally damaging activities have left behind vast stretches of compacted, polluted and generally untillable soil. This summer, researchers at UVA and its affiliate, UVA at Wise, will begin testing industrial hemp varieties developed by the 22nd Century-UVA partnership to improve soils in Virginia. Because there are more than 30,000 sites that require soil remediation in the United States alone, phytoremediation is expected to become a significant area of business for 22nd Century. UVA and 22nd Century will also investigate other uses of their phytoremediation hemp plants in Virginia, including the production of fiber, oils and other high value products, thus creating lucrative secondary markets for 22nd Century.

Based at the UVA-Wise campus, this landmark project reaches beyond conventional hemp remediation applications because UVA and 22nd Century are employing their combined biotechnology expertise to produce improved proprietary hemp varieties that are specifically designed for soil remediation. Such novel and powerful proprietary plants promise to become a central tool in farmland decontamination initiatives around the world.

"Our phytoremediation-optimized varieties of industrial hemp will open up new and lucrative markets for 22nd Century," explained Dr. Paul Rushton, 22nd Century's Vice President for Plant Biotechnology. "We are enthusiastic about the prospect of applying our biotechnology expertise to a challenging environmental problem. We see phytoremediation as an opportunity for 22nd Century to do very well... by doing **good** for the Earth."

"We are very excited about using 22nd Century's industrial hemp plants for land reclamation in Southwest Virginia, where years of poor land management practices and industrial mining have devastated soil quality and fertility," explained Dr. Michael Timko, the principal scientific investigator at UVA. "This is also a tremendous opportunity to partner with UVA-Wise where Dr. Ryan Huish and his colleagues have been studying the problems of mining land reclamation. Industrial hemp farming provides a new approach to not only rejuvenating the land but also the local economy in key portions of the Commonwealth of Virginia."

About 22nd Century Group, Inc.

22nd Century is a plant biotechnology company focused on genetic engineering and plant breeding which allows the increase or decrease of the level of nicotine in tobacco plants and the level of cannabinoids in cannabis plants. The Company's primary mission in tobacco is to reduce the harm caused by smoking. The Company's primary mission in cannabis is to develop proprietary hemp/cannabis 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, 2016, filed on March 8, 2017, 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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