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## 22nd Century Group Adds Strategic Partnerships With Sawatch Agriculture and Folium Botanical for Next-Generation Commercial Hemp/Cannabis Plant Breeding and Commercial Scale-Up

- *Company Already Operating With Expert Alkaloid-Based Plant Breeders, Critical to Scaling Up New, Disruptive Plant Lines*
- *Expands Company's Operating Network in the Northern Hemisphere to Provide Indoor and Outdoor Alkaloid-Based Plant Line Breeding, Scale-Up, and Cultivation Program*
- *Folium Botanical Is In Close Proximity to and Allows for Vertical Integration of Breeding Expertise With Needle Rock Farms*
- *New Lines Already Completing the Initial Two-Year Development Cycle and Emerging From Company's Vast Portfolio of Hemp/Cannabis Lines Poised to Be Monetized in the Fourth Quarter*
- *Collaborations Key to Development of New, Commercially Valuable Plant Lines and Related IP in Two-Year Cycles, A Fraction of the Time Typically Required to Develop New Plants*
- *Addition of Southern Hemisphere Breeder to Be Announced Shortly Will Provide 22nd Century with Year-Round Growing Capabilities*

BUFFALO, N.Y., July 14, 2021 (GLOBE NEWSWIRE) -- 22nd Century Group, Inc. (NYSE American: [XXII](#)), a leading plant-based biotechnology company focused on tobacco harm reduction, reduced nicotine tobacco, and hemp/cannabis research, today announced that it has added strategic partnerships with expert commercial-scale plant breeders [Sawatch Agriculture](#) and Folium Botanical. The partnerships with these two northern hemisphere breeders add to the breeding capabilities that 22nd Century already has through its close partnership with [Aurora Cannabis](#), and another southern hemisphere-based breeder that will be announced shortly, providing 22nd Century year-round growing capabilities.

With decades of combined specialized alkaloid plant breeding and plant biotechnology experience, these expert breeders have proven next-generation technologies and innovations on breeding, commercial scale-up, and cultivation, many of which are far beyond those of independent competitive breeders or in-house breeding in consumer product companies. Under 22nd Century's direction, proprietary plants will be developed with optimum levels of cannabinoids that meet high-quality standards when grown at commercial scale.

"We are thrilled to announce the addition of these world-class alkaloid-based plant breeding specialists to complement 22nd Century's capabilities in our upstream value chain. Our four breeding partnerships complete our portfolio of comprehensive plant science capabilities, enabling the rapid creation and scale-up of stable, tailored, highly disruptive plant lines with predictable yields critical to the mass cultivation of hemp/cannabis, which will be absolutely necessary to meet the rapidly growing market demand for improved, stable genetics. We are giving growers a competitive advantage by substantially improving crop yield and optimizing the time that it takes to develop new lines to a two-year cycle, a reduction from the 7 to 10 years that would typically be necessary to create new lines using our proprietary capabilities," said James A. Mish, chief executive officer of 22nd Century Group. "Along with new lines progressing in development, we have lines emerging from our vast portfolio of hemp/cannabis lines that are completing the initial two-year development cycle. We look forward to the monetization of these lines and our current hemp/cannabis IP portfolio, with our first revenue from our hemp/cannabis franchise expected in the second half of 2021. Our complete upstream hemp/cannabis capabilities enable us to rapidly offer additional disruptive, commercially valuable hemp/cannabis plant lines at large scale and with increased, stable yields to very attractive end-use markets."

**Strategic Partnerships Maximize 22nd Century's Cannabinoid Value Chain**

With today's announcement of these expert breeding partnerships, 22nd Century has secured all key partnerships needed to maximize and support each of the segments of its cannabinoid value chain: plant profiling (CannaMetrix), plant biotechnology (KeyGene), plant breeding, commercial-scale plant cultivation, and ingredient extraction/purification (Sawatch Agriculture, Folium Botanical, Aurora Cannabis, Needle Rock Farms, and Panacea).

22nd Century's plant science mission and expertise serve as the crucial link between these partner companies to create the specific traits needed to optimize hemp/cannabis products at commercial scale. Mass cultivation is quickly becoming a critical challenge in the hemp/cannabis industry. Most existing plant lines do not exhibit the stable genetics, predictable yield, or specific composition of cannabinoids required to fully unlock the value of the hemp/cannabis industry. 22nd Century's upstream capabilities provide for optimized plant products and scale-up as the industry evolves toward mass production.

The Company's goal is to provide leading brands in the life science, consumer product, and pharmaceutical end-use markets a license to utilize the new lines or ingredients (flower, distillate, isolate, etc.) derived from the most stable, predictable, and reliable hemp/cannabis lines with differentiated traits. These licenses or ingredients will serve to enhance their respective products, consumers' experience, and commercial success. Using its genetically engineered hemp/cannabis plants and ability to scale, 22nd Century can accelerate development and speed to market of products with desired end-user benefits based on specific cannabinoid and terpene profiles at scale in a fraction of the time of competitors.

### **Multiple Hemp/Cannabis Revenue Streams in 2021 and a Long Growth Runway**

The Company is actively pursuing multiple hemp/cannabis revenue streams in 2021 and beyond. These include monetization of a portion of the Company's valuable hemp/cannabis intellectual property, including through its recently announced strategic partnership with Aurora Cannabis, and offtake commitments for the Company's high CBD and CBG plant lines currently growing in its prime Colorado hemp/cannabis growing location, 22nd Century's world-class Needle Rock Farms, for commercialization in the forms of flower, distillate, and isolate. Additional new plant lines coming through the development pipeline will expand revenue generation opportunities for years to come creating a long growth runway.

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

22nd Century Group, Inc. (NYSE American: XXII) is a leading plant biotechnology company focused on technologies that alter the level of nicotine in tobacco plants and the level of cannabinoids in hemp/cannabis plants through genetic engineering, gene-editing, and modern plant breeding. 22nd Century's primary mission in tobacco is to reduce the harm caused by smoking through the Company's reduced nicotine content tobacco cigarettes – containing 95% less nicotine than conventional cigarettes. The Company's primary mission in hemp/cannabis is to develop and commercialize proprietary hemp/cannabis plants with valuable cannabinoid profiles and desirable agronomic traits.

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 the Company's Annual Report on Form 10-K filed on March 11, 2021. All information provided in this release is as of the date hereof, and the Company assumes no obligation to and does not intend to update these forward-looking statements, except as required by law.

This press release shall not constitute an offer to sell or the solicitation of any offer to buy the securities discussed herein, nor shall there be any offer, solicitation, or sale of the securities in any state in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such state.

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