Blockchain Peyote Garden: Peyote Conservation and Growth

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Abstract. Peyote is a sacred plant for many Indigenous cultures, including the Huichol Tribe of Mexico and members of the Native American Church. However, wild populations of peyote are under threat due to habitat destruction, over-harvesting, and climate change. To address this issue, we propose a high-tech, blockchain-attached, climate-resistant greenhouse that offers a sustainable and efficient way to produce peyote. The greenhouse design is modular, transportable, and energy-efficient, using renewable energy sources and conservation programs to reduce environmental impact. The greenhouse will also offer transparency and traceability through blockchain technology.

1. Introduction

Peyote (Lophophora williamsii), a small cactus native to Mexico and parts of Texas, is a sacred plant for many Indigenous cultures, including the Huichol Tribe of Mexico and members of the Native American Church. However, wild populations of peyote are under threat due to habitat destruction, over-harvesting, and climate change. A growing concern for the sustainability and traceability of peyote among members of the Native American Church has been present since the turn of the millennium. To address this issue, we propose a high-tech, blockchain-attached, climate-resistant greenhouse that offers a sustainable and efficient way to produce peyote.

The climate-resistant greenhouse is transparent with traceability through blockchain technology, which features versatility in different climates and growing conditions. Automation of the process through artifical intelligence technology, smart contracts, and web application manages management and scalability.

2. Distribution Model

Our distribution model provides a sustainable and efficient way to produce and grow peyote. It offers transparency and traceability through blockchain technology, capable of adaptability to different climates and developing conditions, and automation of the

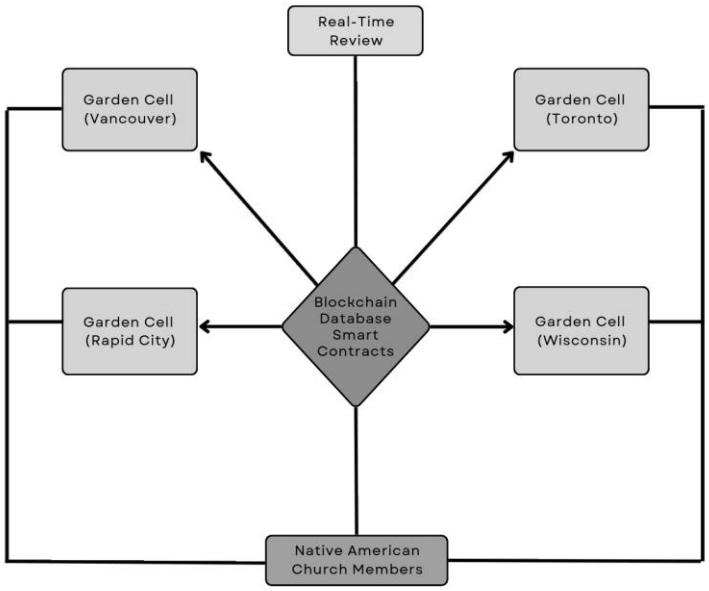
process through artificial intelligence technology, smart contracts and a web application for distribution management. Our primary client segments include members of the Native American Church, other organisations and individuals interested in using blockchain and artificial intelligence to improve their greenhouse operations, and licensing agreements with other organisations and individuals.

The sale of peyote can be facilitated directly to members of the Native American Church through a web application for distribution management. In addition, we can offer consulting services to other organisations and individuals and sign licensing agreements with other organisations and individuals legally authorised to administer peyote.

3. Green House Technology

The greenhouse design is modular and transportable, with advanced climate control systems, artificial intelligence technology, and smart contracts to monitor and control the environment. The secure, encrypted greenhouse web application manages the distribution of the peyote plants and provides transparency to the members of the Native American Church. The use of renewable energy sources and conservation programs will further promote sustainability. The greenhouse is specifically designed to provide optimal peyote-growing conditions, reducing the risk of crop failure and increasing yield.

The greenhouse is equipped with advanced climate control systems that automatically adjust the temperature, humidity, light, and irrigation levels based on the specific needs of the peyote plant. This ensures that the plants are grown optimally, producing a higher yield and quality plant.



The greenhouse also uses artificial intelligence technology to monitor the health of the plants and detect any potential issues early, allowing for quick corrective action. Smart contracts also control the environment, ensuring that the plants are consistently grown in optimal conditions.

The greenhouse is also designed to be energy efficient, using renewable energy sources such as solar and wind power and implementing conservation programs to reduce water usage. This promotes sustainability and reduces the environmental impact of the greenhouse.

The greenhouse is connected to a blockchain network, which provides transparency and traceability in the supply chain, allowing members of the Native American Church to see where their peyote is coming from and ensure that it is ethically and sustainably sourced. In case of connection failure, the structure can operate stand-alone and will report its status when reconnected to the blockchain network. In the diagram above, city names are used as an example of potential locations.

In addition, the greenhouse is designed to be modular and transportable, which allows for flexibility in location and scalability, making it adaptable to different climates and growing conditions. This is important for members of the Native American Church who may live in other regions and have different environmental conditions.

4. Growth Calculations

The peyote plant typically takes about 4-7 years to mature and be ready for harvest fully. The proposed greenhouse will use seed germination with a combination of solar energy, temperature control and horticulture techniques. The greenhouse will optimise the growth and development of the peyote plants, resulting in a faster maturity time and higher yield.

Based on the average dimensions of the proposed greenhouse (100 ft long and 35 feet wide), the potential yield for a community of 50 Native American Church members can be calculated. Assuming an average gain of 100-150 grams of dried peyote per square meter and an average plant spacing of 0.5 square meters per plant, the greenhouse can produce up to 5,250-7,875 grams of dried peyote. It equates to approximately 11-17 grams per Native American Church member per year, considered a sufficient amount for traditional religious use.

It's important to note that these calculations are on ideal growing conditions, and yields may vary depending on climate, soil quality, and maintenance. Other factors such as labour, maintenance, equipment and materials costs will also need feasible consideration before community implementation.

In 10 years, the greenhouse system can scale by building additional greenhouses, improving the yield and reducing the need to harvest from the wild, which can help to conserve the wild population of peyote. Furthermore, with artificial intelligence technology and smart contracts, the greenhouse can be managed more efficiently,

increasing the yield even further. Additionally, blockchain technology allows for traceability, which ensures that the peyote originates from authorised individuals and organisations, which is essential for Native American Church members.

5. Incentives

A key feature of the proposed greenhouse is the use of a web application to manage the distribution of peyote plants. This application can be attached to other applications, such as a peyote music records application, to create a symbiotic relationship between the two.

The peyote music records application is for Native American Church peyote songs. The music application can provide insights into the traditional use of peyote, such as the number of peyotes needed for traditional ceremonies. This information is used by the greenhouse application to optimise the production of peyote. In turn, the greenhouse application can provide information about the availability of peyote. This way, a feedback loop is created between the two systems.

This integration not only allows for more efficient and sustainable production of peyote but also helps to preserve the traditional cultural practices of the Native American Church. Additionally, it could be a valuable tool for researchers and academics who study the traditional use of peyote and organisations involved in preserving indigenous cultures.

6. Conservation Plan

To ensure the sustainability of wild populations of peyote, we will locate a percentage of the profits from the distribution of peyote produced in the greenhouse to conservation efforts for the Huichol Tribe of Mexico and Native Americans in the United States where peyote populations potentially exist.

These conservation efforts will include funding habitat conservation, research and monitoring, community education and engagement, restoration, and collaboration with experts and members of the Huichol Tribe of Mexico and Native Americans in the United States.

7. Conclusion

The high-tech, blockchain-attached, climate-resistant greenhouse project offers a unique solution for the sustainability and traceability of peyote for the members of the Native American Church. It addresses the environmental concerns of peyote cultivation and supports the cultural and spiritual practices of the Huichol Tribe of Mexico and Indigenous people in the United States and Canada. The greenhouse also respects the

laws and regulations and involves consultation with experts, the Native American Church and Indigenous communities. We believe that our innovative distribution model, technology, and conservation plan can contribute to preserving wild peyote populations while providing a sustainable and transparent source of peyote for members of the Native American Church.