Preserving Mother Earth through Education of Native American Culture!

Go Green

GROW Together

a Green Reservation Of Wisdom Program

HHHC

ROBOFARM

Made in the U.S.A.

"We Do Everything ....But Eat The Crop!"

Uniting
Tribal Council - Local Government
Land Grant Universities - Private Industry

Food sovereignty and natural healing have been cultural traditions for Native American's. Today's tribal youth generation need to consider accepting these traditions and carry them forward in order to continue the integrity, viability, and sustainability of tribal reservation continued independence. With innovative technologies drawing the interest of tribal youth today, cultural traditions need to consider incorporating tomorrow's technology to continue youth interest and willing participation.

What are the issues that confront Native American culture today on tribal lands?

1. **EDUCATION:** Tribal youth are not exposed to emerging industries that address issues in their society. Therefore, they lack the motivation and inspiration to attend a Land Grant University or Community College to educate themselves on solutions to preserve their culture, utilizing tomorrow's innovations in the Agricultural Biotechnology Industry to promote good health.
2. **ECONOMY:** Higher poverty levels exist on native reservations due to the lack of innovation to encourage new business development on reservations that create high paying jobs for its tribal members without the sacrifice of its natural resources or their pure "Quality of Life."
3. **HEALTH:** The rise of obesity and type II diabetes among Native Americans, specifically in our next generation of tribal youth, will continue to manifest itself as our native lands are designated as USDA Food Desert Districts per the lack of access to healthy food choices.
4. **NUTRITION:** The loss of naturally occurring native plant growth, due to drought and global warming conditions, have caused a decrease in native plant production along with the loss of cultivated healthy fruits and vegetables grown by our ancestors. These crops are needed to maintain a self-sustaining agricultural environment on reservations.
5. **PARTNERSHIPS:** Private Industry in urban societies ignore the awareness to tribal cultural issues and therefore, do not come forward with solutions learned in urban areas to help address the same quality of life issues that plague Native American communities today. Logistics and financial resources limit interacting partnerships.

Is there a solution with positive outcomes & outputs that can benefit our people?

ROBOFARM, llc, an agricultural biotechnology manufacturer, has developed an indoor hydroponic, fully-automated, grow system that allows our corporation to manage a growing facility/laboratory on reservations from a remote location with minimal hydroponic management expertise needed in the field. Depending on the crop species grown in the facility, our climate control system will dictate to management and labor, within the grow facility, daily assignments to accomplish along with weekly curriculum to teach to tribal youth during lab work activities. This process minimizes human error while allowing for consistency in crop quality and quantity while educating tribal youth.

What are ROBOFARM's solutions to improve quality of life issues on tribal lands?

The below initiatives of the **GROW-Together Program** embrace Partnerships to drive education:

PURPOSE: The program was created to improve the educational opportunities and achievement of preschool, elementary, and secondary Indian students by improving educational outcomes and outputs, specifically college- and career-readiness. Through strategies tailored to address tribal culture challenges that build upon new business opportunities on reservations to create new jobs, we can unite past and present cultures to improve the quality of life on reservations as tribal youth grow native herbal, fruit, and vegetable crops that stimulate healthy changes in their eating habits.

DEVELOP: Create a Native Community-led/Private Industry partnership to develop an agricultural biotechnology indoor crop production facility/laboratory that will offer curriculum to prepare native youth to enter into Land Grant University - undergraduate studies related to the fields of Agricultural Sciences, Biochemistry and Molecular Biology, Biotechnology, Ecohydrology, Ecology, Conservation Biology, Mechanical and Electrical Engineering, Environmental Sciences and Health, Hydrologic Science, Nutrition Development, Computer Network Administration, and Business Administration.

TEST: Implement an annual grow schedule linked with an educational program to be followed by native youth to expose them to many Science, Technology, Engineering, and Math (STEM) related curriculums that embark principles of the agricultural industry, allowing them the advantage to excel in the those fields while in grades K-12. This exposure will prepare the student to enroll in a State Land Grant University with confidence. Allow for bi-annual field trips between local area tribal reservations to cross train native youth to compare cultural practice differences between tribal cultures as they share outputs and outcomes of their individual program with bi-annual visits to each other's facility. This process will introduce cultures and create lasting friendships, opening the door for future college campus student social interactions based on past friendships created.

DEMONSTRATE: Collect data skills knowledge by survey from native youth each year in the program; 1) what was their understanding in the agricultural fields of study per their initial entry in the program by survey, 2) how many months did they participate in the laboratory program with a minimum of (2) hours a week that year, 3) what was their level of knowledge with improvement at high school graduation date, 4) did their increase in knowledge allow a build-up of confidence and motivation when applying to enter a college program, and 5) did their diet habits improve?

CONCLUSION: 1) Identify the number of tribal youth entered into the program, enrolled in college, graduated with a degree, and then returned to the reservation to utilize their skills in a high-tech job position awaiting for them within an expanding Agricultural Production Facility. 2) Identify the changes in health issues related to obesity and type II diabetes development on the reservation.

ROBOFARM, llc is a manufacturer and crop production company in partnership with the USDA Farm Service Agency office in Nevada to develop a grow system while growing watermelons, tomatoes, and cucumbers on shelves (any native crop can be adopted into our system). Our system can be constructed on reservations across this country, remotely accessed by our IT staff if needed. Tribal youth can help manage the facility based on their lab work experience with facility staff supervision, exposing themselves to industry knowledge. The business model will provide income to expand facilities while embedding cultural traditions for food sustainability, utilizing today's technology.

Focus on crop choices will be based on native grown crops promoted by medicine men in the past as well as crop species high in natural phytonutrient's that help prevent human health illnesses. Many crops are known to have high levels of carotenoids that act as natural antioxidants that tackle harmful free radicals that damage tissues throughout our bodies. Red meat watermelons and tomatoes carry lycopenes, a natural heart disease and cancer fighter. Spinach and Kale help prevent cataracts and age-macular degeneration associated with eye diseases. And finally, bush grown blueberries help prevent asthma, nerve end damage, and can stimulate memory.

Together, we can teach our youth cultural traditions that keep our strength united and independent in today's influential society, creating high-tech jobs on tribal lands to improve nutrition, health, and the quality of life for generations to come!

What are some of the agricultural biotechnology applications exposed to our youth?

PLANT BIOLOGY / NUTRIENT CHEMISTRY: Once the crop starts its first harvest period, with our innovative forced flower-regeneration grow stage process, the same plant will produce multiple harvesting periods. Youth will learn to convert annual vine plants into perennials to produce continuous crop, harvest after harvest, by balancing the perfect climate and nutrient feeding schedule to remove seasonal climate conditions that trigger the death of a plant.

NATURAL RESOURCES / ELECTRICAL-MECHANICAL ENGINEERING: ROBOFARM has developed an agricultural system that conserves energy, water, labor costs, seed, and fertilizer, while yielding massive crop, non-stop, once harvesting period starts, with no pesticides, herbicides, or fungicides used. We teach youth engineering methods to conserve floor space with our innovative, vertical growing modular system, balancing ppms within every cubic volume of air from floor to ceiling.

ENVIRONMENTAL SCIENCE / NUTRITION DEVELOPMENT: We will teach positive gravitropism methods to redirect plant energy from branch stability to crop production, while eliminating the moon from slowing dark reactions in photosynthesis processes, allowing required (12) hours of complete darkness to convert glucose at night to improve phytonutrients. Tribal youth will calculate, measure, and feed individual nutrients to the plants at proper ppm levels, with the ability to identify nutrient deficiencies per plant leaf issues and correct as needed by making changes to recipes.

IT COMPUTER NETWORK – CLOUD SERVER / BUSINESS ADMINISTRATION: We will place a Web Server in the grow facility, teaching youth to install and maintain all networked hardware and write policy software to produce the perfect grow climate based on native crop needs. Management in the grow facility will take direction from the Web Server on a daily basis to accomplish daily tasks.

Below are tasks on an annual schedule the Web Server directs staff to complete.

1. Seeding in Propagation Room into 2 inch net pods using a medium mixture base.
2. Transplanting seedling into Vegetation Room for development into semi-mature plant.
3. Transplant semi-mature plant into Production Room for full development.
4. Trim, weave, and prune plant to match our forced-flower / regeneration growth stage.
5. Bumble Bee management tasks are required monthly, if utilized in the facility.
6. Hardware component maintenance is required on a scheduled basis.
7. Drain nutrient flow system and blow out plant root zones on a weekly basis with clean water.

The plant roots are never disturbed. Once the tribal youth place the seed into a 2 inch plastic net pod, that net pod is placed in a grow tray in the Propagation Room. Once developed into a strong seedling, the 2" pod is moved into a permanent grow tank that allows nutrient flows of specific mixtures to flow within the root zone and back out to recycle the water and nutrient mixture. Dissolved oxygen is pumped into the same grow tank to allow proper ppm levels for water and nutrient absorption. Nutrient solutions are flushed weekly to allow maximum root absorption per a "car wash process", increasing growth speeds, phytonutrient development, and brix sugars.

ROBOFARM designed 14" and 18" wide modular grow racks on wheels, assembled up to 40' long rows. This 40' row is rolled next to another 40' row with our innovative T5 LED light fixtures placed horizontally or vertically along one side or within the rolling shelving unit. The T5 lights will beam specific NM/kelvin light rays onto plant vegetation hanging upside-down, inside or alongside of the next grow rack inches apart. No floor isle space is required. Each single row opens up when needed.

How can a Tribal Council get youth enrolled in the "GROW TogeTher Program"?

Contact Jim Garza - CEO jim@robofarmusa.com to schedule a phone consultation to review the opportunity to participate. We will identify the following avenues in moving forward together.

1. Tribal building facility / land resources.
2. Project budget and funding sources.
3. Existing BIE school or community program.
4. Community Needs Assessment Plan.
5. Federal / Philanthropy grant programs.
6. Land Grant University CoopExt program.

Once it has been determined to move forward, a site visit will be scheduled to review program.










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