**Horticultural Meeting 1/26/24**

**Summary:**

Savanah- Give hands up sign of agreement for the wish list I presented in this meeting?

All members in meeting are **in favor**. Any opposition? No

Savanah- The list will go in as is.

**Details of Meeting:**

Intro of Members:

Mike - Cannabis Grower – Sustainable farming

Arianna Bozzolo – Rodale Institute – Organic farming…works with grants…..working on mainly vegetables

Michelles Tjahjadi – Company does Carbon storing, working with Poplar trees.

Heather Kibble – seed producer

Guillermo Veliz – Corona Seeds

Marcie – Farm Mrg.

Mon- Dean Career/Technical Training and Grants - bring funding into programs to move forward.

DMV – Dean

Meika Best – Student – involved in papers Plant Sci is publishing

Laura – Student/Plant Sci tutor – Landscape Design, certificate in CA native plant scaping

Sonia Rios – Bayer Crop Science – Central Coast and AZ

Jonathan Ebrahimpour - Adj Professor-Plant Sci

Diala Melendez - Adj Professor-Plant Sci

Aron Kamajaya, Professor, Biotech BS Leader

Raquel Folgado – Huntington Gardens

S: Notified SFV-STEM grant awarded.

 Applied for USDA Agriculture Workforce training grant.

 Students have not been able to receive paid-internships on campus, but if Meeting Members can offer paid internship…? Wants to create internships for students.

Mon- Has grant to pay for **off-campus** internships – plant Sc or CTE hours, maybe able to use grant to pay for it, if Members have opportunities.

Sonia - ? on grants- when students sign up, do the students receive payment from Pierce or from the Sponsoring Member?

Mon – have student in programs in research applicable to their degree. Will have MOUs with the companies. Co pays student, and Grant pays invoice to Co. **No** benefits are covered, by CA state grant. No workcomp. coverage either.

Student – taxes?

Mon- Student is responsible for taxes. Students have to apply for financial aid as a requirement.

Mike – Has worked on USDA grants in the past and offered to review for Savanah. He has job opportunities as well.

S- New classes – Algae and aquaponics…..think about details for next meeting; soil classes; taking hemp out of classes. Will include testing for pathogens, essential oils from plants- Osimine from Basil…etc.

Soils class is being worked on as a 6 hour class, rather than 4. US is requiring 6-hr classes. Focus on data science for the 2 hour addition.

New facility opening soon – Certificate of Occupancy still needed…waiting for. Wants to plant grape vines – build vineyard. Any ideas?

Arianna Rodale Institute – Pierce College Vineyard?

S – Yes, has several varieties, students responsible for grafting etc.

Arianna RI – practice with vineyard – work with plants that are already grafted. Use vines that are pest-resistant from US Davis …..has research.

S- US Davis and USDA are providing vines

A -Not sure her research was successful in the past

S – Purchased a John Deer tractor and cultivator to grow crops in the field. Also acquired an Electron Microscope. Soils can be looked at, as well as soil bacteria. Grant paid for it.

S – Request list for the future- see attached. What do you think?

 Laboratory flow hood – while with bacteria, fungi, and protects the worker.

Autoclave –

M- very pricey, he has a $800 pressure cooker that solves his problem

S- We do have pres. Cookers – not sure how safe they are. Johns Hopkins uses them too. She wants something a little better.

M- Is Lab hood really nec? Safety is a factor of course.

Steam sterilizer - allows potting soil to be re-used

Turbidimeter – to test how much bacterial growth is generated.

GC/MS – -15-20 years old, need an upgraded replacement

Next gen sequencer – needs new one, but is a sequencing contract better idea?

Power tools – circular saws, drills, tables, chain saw,

Landscape tractor – John Deer is $10K, and attachments are more: Trencher, bucket loader, rake/harrow, backhoe….what should we get?

Irrigation pipe – broken and needs repairs…

Arianna – There is a Grant called SWEEP – CA state grant, to replace broken piping. Healthy soil and SWEEP programs she has heard of.

Planting fruit trees and replacements for Arboretum

Sonia – How many trees do you need? Species? She has worked with greenhouses and may be able to donate trees.

S- She will be together a list and send it to Sonia. Not Avocado though.

Raquel – Some of the equip- flow hood, if bio cabinet may be too pricey. Suggested prioritizing bacteria or plan culture. She would go for type of bacteria that is safe. UV light can be used for cleaning. Bio cab may not be needed.

Raquel – pressure cookers are not safe. She works with them.

Raquel – sequencing – depends on what you want to do…contract might be cheaper.

S- donated vs buying a safety cabinet.

Raquel – money could be used for other stuff.

S- equip. is being donated.

Raquel -Cab. can be used for plant cultures.

S- Go for flow hood option, if donation not available.

Raquel- re: Tractor attachments: how much land do you have?

Marcie – 30 acres for planting…..250 acres overall

Raquel – mower is good enough…..all the attachments are really necessary?

S- attachments are associated with certain degrees and certificates. A former asst. was able to move supplies with a bobcat, but he took it with him.

Marcie – Every semester students are planting for animal feed…bucket loader really useful for compost spreading. They are tilling, etc.

Mike – Next gen sequencer – better support to local companies – find out what they are using as they will be hiring the students.

S- Data analysis in soils and botany classes, very basic right now, without a sequencer.

Mike – there are companies in San Diego using this tech, can send you more info later.

S – Jonathan? Your take on this landscape tractor? Anything else could be used?

Jonathan- Students always want new tech and any equip we can bring in, will be attractive. Ex: Sustainable Water course- 2 students are certified on the Zoom meeting.

S – Resource priority list has to be turned in before May. Anything to come off list?

Raquel – Keep wish list as is.

S- Give hands up sign of agreement in this meeting?

Yes – Mike, most of members in meeting are in favor. Any opposition? No

S- The list will go in as is then.

S- Student presentations next.

**Laura Flores Lopez** – landscape designs – Pergola being built now, using **Morpholio**. Using **Autocad** is great to use. **HD3D** is another program to use.

**Meika Best** – behind on a power point presentation….

**Matheos Kostoglou** – Nutrient presentation in soil. How specific nutrients can affect growth of a plant. Potassium is clearly involved, Nitrogen is too. How to use fewer nutrients/ chemicals in the soil to increase sustainable growth. Wants to learn how to distil plant components leading toward medicinals.

**Janet Pena and Sarah Glenn** did a study in a Pierce pasture with irrigation. # 23 – has red clay soil, mostly used for grazing of farm animals. Irrigation experiments used a water wheel, flooding and sprinkler lines ---favored sprinkler lines for working the best. Showed videos with music.

**Les Vion** – Soil Metagenomics – What genes are in a soil sample, as an indicator of health of the soil. Sustainable practices can be developed based on this info. Screen bacteria for sources of antibiotics also very useful. Development of Metabarcoding is helping to ID new species.

**Conor Ray** – farm volunteering at Pierce lead to being employed as a student worker now, on the farm. Hands-on valuable experience helped him in class and will aid in his continued education and professional career. Working on the farm helped him clarifying his educational goals.