



AG TEC MINUTES

Advisory Meeting

Nut Processing

Consult: Tim Donovan **Minutes – Bob Geyer**

Roger Isom (WAPA) / Chris McGlothlin (WAPA)

Maryn Pitt (Manufacturers Council) /

Anthanasios "Alex" Alexandrou Ph.D.

Tim Donovan convened the meeting by showing the overall blue prints of the Merced College Processing facility, and its location to adjacent Merced College facilities. Mr. Donovan opened the discussion by saying the building would be split in half, 2500 sq. ft. for meat processing and 2500 sq. ft. for row crops and permanent crops. Mr. Donovan stated the plan did not include machinery, and asked if anyone in the room would be interested in contributing to the types and placement of equipment into the design.

This is a brief set of statements by the personnel listed above.

Marin Pitts questioned the ready adaptation of fuel sources in case of emergency power outages. Example: electricity vs. petroleum-based fuels. Ms. Pitts example was Blue Diamond's inability to continue to operate without petrochemical back up units during times of power outage caused by inclement weather, heat, and the power company's inability to keep the grid functioning.

Roger Isom specifically talked about the necessity of having an alternate source of power in almond processing.

Tim Donovan stated the design concept as discussed by those participants at the design meeting specifically talked about processed nuts (almonds), and possibly almond flour, and almond butter.

Roger Isom came in with the idea almond flour would possibly work, but the facility would need to incorporate a slicer, and dicer, if flour, and butter, or coatings were to be processed. Mr. Isom also stressed that (FOOD SAFETY) would be important and needed to be considered.

talked about the 5000 sq. ft. capacity, and had concerns it would not facilitate the project. Roger Isom asked about storage, both warehouse, and cold storage for finished products, plants, and meats. Mr. Isom also stressed the need for controlled fumigation for bulk almond storage.

Ms. Pitt also questioned the size and type of cold storage units and sq. footage because of the possible limitations of amounts processed and retention necessity. Ms. Marin also asked about manning the facility. How would we run both parts, who would be trained to keep the facility running, clean, and maintain equipment. Would there be part time instructors, state of the art instruction, continuous interaction, quality control, instruction in management and automation? Also, have we considered a citrus line?

Roger Isom volunteered that Valley Harvest on the west side of Modesto might help move machinery, and place it in the structure.

Dr. Alexandrou inquired about if there would be any four-year instruction.

Ms. Pitt finished with, who, and what work force we would be appealing to.

Overall, the consensus was Merced College was putting the cart before the horse by not deciding what we would be processing, deciding on necessary equipment, and then designing a building to suit the project. There was also discussion about access, egress and parking at the facility by each of the guests. This included truck access and adequate parking for customers.

Break Out Groups:

- Nut Processing
- Fruit and Vegetable Processing
- Meat Processing

Fruit and Vegetable Processing

Consult: Bryan Tasse **Minutes: Jose Perez**

Attendees: Jim Wolf, Andrew Ornelas, Sandy Del Real, Scott Warr, Vince Nunes, Briana Giampaoli, Carlos Marquez, Tony Quevas, Josh Viers

Can Products, formulated products, boxes for pizza

Mini factory with the almonds process, someone that knows automated equipment.

Bryan: 80 acres farm (What we grow) and we are in a teaching environment (Pistachios) Talked about the new plant science area. Talked about automation in plant science and potentially sell them to local schools (Greenhouse to processing)

Greenhouse – Can be anything ½ can be production and 1/2 ornamentals.

-Innovation in the processing and packaging

-bagging that can do various products (Machine)

-dicing the bell pepper

-Focus on innovation and training people on how to do that.

JVT- people struggling with technicians have larger accounts in the bay area.

(Engineering) the company does not mess with it.

Sensors, Drives, photocells, Gear motors, VFVS Change speeds. Troubleshoot power supplies understand pneumatic, PLCs, troubleshoot.

Issues with brake motors (Troubleshoot). Traver- does tomatoes and citrus

Venders (Tomra)

Automated valves (Set a class on)

Air and signals to set up the controls with the PLCs computer and be able to troubleshoot and repair the issues.

They have different groups for different areas – It would be nice to get those students from the college.

Caning peaches and tomatoes and showing them how it works

Even freezing the food/fruit.

Growing tomatoes in the greenhouse

Nut processing – Fillers (A small tank with a pumping systems) Makes bloody merry sauces Puts them in jars

This is how you sterilize the jars; this is how you label.

Pouch – due to the cost of things (uses a paste and film form pouches and pouch thing is big. (Only 28 cents) Needs to be cooked a certain way. Good for the employees (Safety)

Slow way lines and you buy the roles (material the looks like plastic)

Set up a program that sorts out unions a program - Fresno State

Main line industries – they do small footprints

Label – many printers

Pack Expo in Vegas this September can get many ideas. Sinclair's and small stickers.

Need to adjust the programming to meet the line. Technicians just maintain the equipment.

Machine that stacks the boxes and packaging equipment.

Processing (Cooking and sterilizing) Aseptic packaging

There are companies that have a miniature system (re-torque System)

Pouching is a big thing going on right now.

Merced College (Get donations from local business and make a special college sauce)

Industrial technology covers many of the things industry needs.

Fresh market- #2 product with sustainability for UC Merced.

End 1:50PM

Meat Processing

Consult: Nikki Maddux

Minutes: Summer White

Russell, William Brandle and Javier Arreguin from Darden Architects

Discussions

Russell: If bringing in raw product, makes it easier all around. Have a cook side and a raw side.

Nikki: South side (cooler area) is the processing side, for sausage/grinding etc. other side will have rails for carcass and fab (North side)

Russel: Down side is there isn't a divider. There no actual wall. What products will you sell?

Nikki: No retail cuts, sausage, chorizo, and jerky.

Russell: equipment manufacturer?

Nikki: Bunsell

Russell: Also Chad Bower from Fresno, lecturer from Fresno State. Talk to Wolfson.

Nikki: meeting with him in July.

Russell: Talk to foster farms, you can do birds, maybe whole birds.

Nikki: Is that a different inspection?

Russell: No. I know their higher ups like R&D. To upscale employees because poultry is huge.

Nikki: How different is the infrastructure?

Russell: Not that different. Can do poultry on the table.

Architect: Is that a chance for cross contamination?

Russell: No, because you have raw and cooked sides, have hoses, sinks, drains, and water up to 180 degrees.

Architect: overhead system?

Russell: Fresno State and Cal Poly would be relatively new systems to look at Fresno is currently set up what you want minus the kill floor.

Architect: we can go look at that.

Nikki: I'll set that up. Is there a problem with rails for carcass hangers. They will need to end up in the freezer or cooler. Worry about tangles. Processing overhead is fine.

Arch: We can do a combo? Might be better?

Russell: square footage?

Nikki: 3000sq ft.

Russell: Reefer trailer or truck box, have a rail for transfer

Nikki: and have a lift system

Russell: Rail from trailer to room through the doorway.

Architect: outside to inside without any interstitial space?

Russell: I'm ok with that. The area inside needs to be below 45 degrees.

Nikki: Safety-wise, the lift system needs to be easy for 1-2 students to do it.

Russell: one long rail across ad 1 to each cooler.

Nikki: need system with 3 sets of rails, with clicker to change or move the carcass to another rail.

Russell: Showed where the lever switch could go.

Architect: and across out to production tables?

Russell: yes

Nikki: should be able to be done by one person safely. :It's a big room, probably have to wash carcass where?

Russell: Wash in N.E corner. Right next to the door.

Architect: Wash with 180 degrees water?

Nikki: yes, and goes to cooler after

Meat Processing

Consult: Nikki Maddux

Minutes: Summer White

Russell, William Brandle and Javier Arreguin from Darden Architects

Discussions

Nikki: yes, and goes to cooler after

Russell: Storage? None?

Nikki: In the process of solving. We're looking at container/reefer, as we are running out of wall space.

Russell: C-train, wash equipment regularly. If storing it elsewhere it could get dusty, best to keep it inside.

Nikki: Storage of rolls of paper and such. Like maybe a tough shed

Russell: smoker housed in SE corner, keep it isolated

Nikki; and grinding on other side.

Russell: Tables separate

Nikki: yes. What about electrical?

Russell: Drop downs for 220.

Architect, Based on designs and which equipment, such as dehydrator etc.so can estimate size. Find estimate sizes of which electrical meat cutting equipment you can find and where to put. We can provide the dropdowns.

Nikki: We will make a few things and be selling them so things that we can sell a lot of like chori-zo, jerky, linguica.

Russell: My thing with jerky is it is expensive for time to dry and equipment needed. Is the student gong to spend \$15 per bag for jerky, Maybe snack sticks? Tend to be less expensive.

Nikki: yes, planned.

Small smoker 500lbs, single tree smoker, enviropac, put in corner.

Arch: electric or gas?

Russell: both, it depends on equip. some have the woodchip option.

Nikki: I had both before

Architect: Where you see it used what would be needed for smoker?

Nikki: Inside, so exhaust required and drainage for it, using a misting system.

Russell: best by thawing cooler. May want thawing cooler bigger, push the wall out a bit.

Architect: Ceiling, open to structure or solid and scrub able?

Russell: no ceiling.

Architect, 8-10 foot panels.

Russell: 8 ft panels, LED lights, long ones

Architect, no natural light?

Russell: no window or skylights etc. How are you getting the finished product to the store?

Nikki: boxed and moved via pallet.

Russell: no cross contamination through the nut area, or have to claim nut allergy

Use plastic pallets, easy to scrub. What about lockers?

Nikki: yes only one for meats.

Russell lockers to store unless have sanitizer

Nikki: only one in and out. Shoe washer on both sides.

Russell: tank waste for scraps 50 gal trash cans

Arch: ceiling height?

Meat Processing

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Discussions

Russell: no drop ceiling

Architect: what is the clear height?

Niki: height of this ceiling is where the rail would be.

Architect: but open to structure?

Nikki: Russell would that be a sanitation issue over time?

Russell: don't think ceiling is necessary.

Nikki: so at an inspection down the road is there accumulation issue?

Russell: ask Amanda

Architect: hard to clean once the rails are in.

Russell: pilot plant in Turlock with foster farms you should see it.

Nikki: Lets set it up for July/August. When do you want info?

Architect: mid July

Curriculum—Regional Certificate

Consult: Bryan Tassej and Nikki Maddux

Minutes: Summer White

General session with all committee members

Discussions

Review of the developing curriculum below:

Title	Credit Equivalents	Competencies
Agriculture Technical Literacy	1	Digital Literacy
	0.5	Applied Technical Reading
	0.5	Applied Technical Writing
Agricultural Systems	1	General Agriculture Systems Fundamentals
	1	Animal Production Systems
	1	Crop Production Systems
Agricultural Safety	0.5	Basic Safety
	0.5	Tool Operation
	1	Food Safety
Equipment Operation, Configuration, & Troubleshooting	1	Basic Equipment Operation
	0.5	Basic Equipment Configuration
	1.5	Basic Equipment Troubleshooting
Workplace Effectiveness	0.5	Industry Communication
	1.5	Employability Skills

Consult asked for a motion to approve the regional curriculum and recommend that Merced College include the certificate as the AG systems into Merced College's program.

Main Motion: Summer White

Second: Jose Perez

Passed by Majority Voice Vote