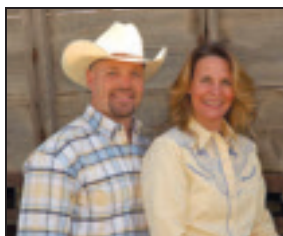


# AGGRAND® NEWS

## Dealer Builds Custom Boom Sprayer



Dealers Tony and Angie Zilar

Tony Zilar of Kennewick, Wash. has the ingenuity of a true entrepreneur. Zilar is an AGGRAND Dealer who designed and created his own boom sprayer to apply AGGRAND fertilizers.

“After purchasing three barrels of AGGRAND 4-3-3, I wanted to build a boom sprayer that would help maximize the effectiveness of the AGGRAND products,” Zilar said. “Most spray application equipment is not designed for the most efficient use of AGGRAND products because they are designed for liquids with minimal particulates. Fertilizing is typically done with dry matter because of the expense and difficulties that arise from spraying fertilizing products.”

The high sediment content of AGGRAND products make it necessary to find a solution to typical spray applications. However, basic understanding of four points can make equipment conversion or design simple and inexpensive, Zilar said.

### **Tips for spray units using high sediment solutions**

- **Nozzle Tips** — Nozzle tip selection is important because many are designed for no to low sediment solutions. AGGRAND fertilizer has much higher sediment content than herbicide and pesticide solutions. “I find the nozzle tips designed for large droplet dispensing and wide angle distribution provide the best means for applying AGGRAND products,” Zilar said. “My personal preference is TeeJet Turbo FloodJet tips. They provide excellent spray distribution for uniform coverage. They are designed with a pre-orifice resulting in larger droplets for less drift. They also have a large, round terminal orifice to reduce clogging from the product sediment.

- **Agitation** — “Most folks think they can produce an adequate solution mixture from the agitation caused by the motion of the spray unit as it bounces along the pasture or crop field,” Zilar said.

“This is not the case with high-sediment solutions. It’s like panning for gold. The water swirls but the gold sediment stays at the bottom of the pan.”

The same thing happens in the holding tanks of sprayer units unless there is a source of internal circulation at the base of the tank. It is important to keep the sediment



**ON THE WEB** — Visit the AGGRAND website at [www.aggrand.com](http://www.aggrand.com) to find a Power Point presentation that details the construction of Tony Zilar’s boom sprayer used to apply AGGRAND Natural Liquid fertilizers.

suspended in the solution to maximize the effectiveness of the AGGRAND products. Zilar uses the hypro jet agitator. “It provides thorough mixing even in large spraying units,” he said. “It can inexpensively increase output flow for agitation up to five-and-a-half times.” Snap-in orifices in various sizes optimize inlet flows in accordance with pump pressure and tank capacity. “I use two opposing jet agitators on a single inlet in my 500 gallon tank,” Zilar said. “The result is a figure-eight solution circulation pattern within the tank that is not disturbed by the motion and bumpy terrain. There is never a sediment build-up in the bottom of my holding tank.”

Product suspension and uniform mixture is adequately maintained in the holding tank.

- Agitators provide a well-designed current
- Holding tank foaming can be controlled without adding chemicals by adjusting the free-flow return with a simple valve.



Continued on page 4

# AGGRAND Excels in Hydroponic Growing

Dealer Gary Bailes uses AGGRAND Natural Liquid Fertilizer in patented hydroponic stackers to grow a bountiful garden on the patio of his home in Orlando, Fla.

“The stackers are soil-less top fertigated growers and are automated with a seven-day timer and pond pump to run two minutes a day,” Bailes said. “It supplies AGGRAND fertilizers mixed in rain water that I recover from the roof gutter to two barrels. One is used as a drain back recovery to reuse the nutrients and water that drains from the bottom of six-high stackers mounted on pipe poles, to create a space-saving vertical organic vegetable and herb garden.”



**VERTICAL GARDEN** — Dealer Gary Bailes has turned his patio into a space-saving, vertical garden where he grows abundant vegetables and herbs using AGGRAND Natural Liquid Fertilizers in stackable hydroponic growers.

Every month, Bailes adds two quarts of AGGRAND NOF, one quart of NKP and one quart of NBM.

“I foliar feed every 10 to 14 days early or late in the day,” Bailes said. “All vegetables are only sprayed with organic insect control as needed. I operate 50 growers in the back yard patio garden.

“I’m growing tomatoes, peppers, lettuce, spinach, broccoli, strawberries, squash, green beans, collards and peanuts.

Bailes is experimenting with a new hybrid sweet corn in the lower units this summer. “In the field it takes 55 gallons of water to produce one corn stalk and pounds of fertilizer,” he said. “This method makes it easy to plant, maintain and harvest. It’s a good hobby for seniors and kids alike, organically grown tomatoes fed with AGGRAND 4-3-3 have a flavor unmatched in the supermarkets.

“I’m looking forward to fall now. Spring was a great success growing with this system.”



TOMATO PLANTS THRIVE



TOMATOES RIPEN ON THE VINE



LUSH LETTUCE PLANTS

# Comparison Proves AGGRAND Fertilizers Outperform Competition

Direct Jobber Conrad Baker of Gramercy, La. shared early results of his comparison gardens between AGGRAND Natural Liquid Fertilizers and Miracle Gro.™

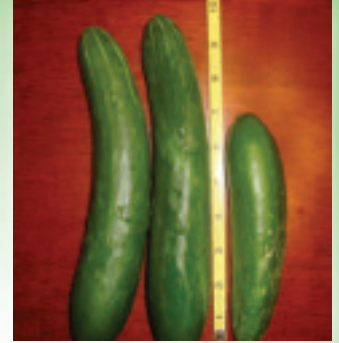
Baker planted one garden with okra, corn, tomatoes, watermelon, cucumbers and large pumpkins. "It is very overloaded now and I know what to change next year," Baker said in early May.

He planted a control garden next to it using Miracle Gro™ fertilizer. "This control garden used the same soil as the AGGRAND fertilizer," he said. "It receives the same amount of sunlight and water. The same seeds were used to start off in the house on April 1."

## Early Results

He first measured the plants on May 26. "My AGGRAND fertilized cucumbers were three inches longer. As you can see in the picture, they are much healthier looking, darker green and are not scarred. The vines for the control garden were 32 inches long and the vines for my AGGRAND cucumbers were exactly twice as long, 64 inches."

The tallest cornstalk in the control garden was 45 inches, and there was only one, Baker said. The other control corn stalks were about half the size. "I am wondering if the 45-inch control stalk may have got wind-blown AGGRAND fertilizer on it as I sprayed the garden," he said. "The tallest cornstalk on my AGGRAND garden was 52 inches with my shortest being 45.5 inches."



### AGGRAND FERTILIZER OUTGROWS COMPETITOR

— These photos document Direct Jobber Conrad Baker's early results in comparison gardens — one fertilized with AGGRAND Natural Liquid Fertilizer and the other with Miracle Gro™.

## 4-3-3 Beats Miracle Gro™ in Avocado Comparison

Dealer Lea Collins of Winter Park, Fla. conducted her own growth comparison with two avocado plants.

She started both from seeds. "When they got good roots, I planted them in pots," Collins said. "The smaller one (see photo at right) I planted in Miracle Gro™ potting soil," Collins said. The larger plant she placed in regular potting soil and fertilized with a dilution of two ounces of AGGRAND Natural 4-3-3 Liquid Fertilizer per gallon of water.

"They were sitting in the same place, got the same amount of sun and water," she said. "I watered them every other week."

Collins reports a "tough winter" in Winter Park. "It got down below freezing one night for six hours," she said. "I couldn't bring the plants in, so I wrapped them and left them in the porch. The one with AGGRAND fertilizer did better because it was healthier."

Typically it takes nine months for an avocado to bear fruit. She potted them in July and picked avocados from the AGGRAND-fertilized plant in December, she said.



# Keys for Success Spraying AGGRAND Fertilizer

Continued from page 1

• **Power of the pump and driving source** — Whether the pump is driven by a combustion engine, electricity or a PTO, you need more power and pressure capability than the system maximum output requires. “I’m no engineer so I just keep it simple,” Zilar said. “It’s easier to control more power than you need than to deal with not enough power from the start.”

**Other things to consider with high sediment solutions:**

- agitation pressure needed to keep the solution suspended
- enough pressure to effectively utilize a combination bypass/in-line filter
- enough power to allow the pump and agitators to work together with the constant pulverizing of the sediment through shearing action

Zilar uses the ACE GE-660 centrifugal pump and Honda GX160 gas engine. “I can pull the unit with tractor, truck or ATV. With this combination, I can use my spray unit with any solution, tip or environment I may need. The solution remains in constant suspension and the particulate matter is in a constant recirculation mode. Anything that may plug a screen or nozzle is pulverized well before it gets to the tips.”

• **Combination bypass/in-line filtering system** — A multifunctional screening device makes a big difference in the performance of spraying equipment for high-sediment solutions. Zilar used a flush-out in-line strainer. It’s designed as an in-line strainer with a flushing port at the base of the strainer body. It provides a quick flush of the strainer by removing the flush port cap allowing particulate matter build-up on the screen to be purged. “I simply plumbed my free-flow return to my tank agitators directly from the purge



**INGENUITY LEADS TO SUCCESS** — AGGRAND Dealer Tony Zilar stands next to his custom-designed boom sprayer at his A2Z Ranch in Kennewick, Wash.

port on the strainer,” Zilar said. “The large particles do not build up and plug the screen as they are pushed out the purge port to head back to the source. The particles remain in constant suspension and end up pulverized by continuous recycling through the system.” Remember, it’s important to place all the strainers/filters on the output side of the pump to maximize the power and pressure capabilities.

• **Remove nozzle screens** — Nozzle screens are simply strainers at the nozzle tips. The nozzle screens are very small and do not allow much surface area for straining the solution. They plug quickly as a result. “I believe secondary strainers should be used after the combination straining unit I mentioned previously,” Zilar said. “But it should be in-line and of adequate size to provide enough surface area to allow for continued flow of solution even if debris is caught up in the strainer. I check them before and after doing a spray job. I have had zero incidents of plugged strainer screens or nozzles.”

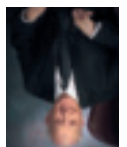


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