

# AGGRAND® NEWS

## Dealer Builds Custom Boom Sprayer



Dealers Tony and Angie Zilar AGGRAND fertilizers.

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

“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.



**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.

- **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.

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.



“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 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.”

# Keys for Success Spraying AGGRAND Fertilizer

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• **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 port on the strainer,” Zilar said. “The large particles do not build up and plug the screen as they are pushed out the



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

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.”