

# Ag Air *update*

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AG AVIATION'S NEWSPAPER

## *Avocado Spraying in Tzaneen*



- *Australian update from JARBA*
- *Thrush Aircraft appoints rep*
- *Importance of valve adjustment*



# Avocado spraying in Tzaneen

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TZANEEN, SOUTH AFRICA — In June of 2004 I got a call from Duncan Smith, the director of Westfalia Estate in Tzaneen – in the north-east of South Africa (they export large quantities of avocado pears to Europe). Duncan asked me if I would come to Tzaneen to spray his export avocado pears in late September.

After discussing with Duncan the problems he faced, I arranged to start on Monday September 27th. The ground sprayers couldn't finish 800 ha in two weeks. Fixed wing were not able to spray the area properly due to the mountainous terrain, where the trees were planted.

With the Enstrom F28C on a trail-

er, we made the long, slow journey to Tzaneen, arriving about 9:15 pm. We were met by Duncan and preceded to our guesthouse on the estate. After a few cold beers and a chat, we settled in for the night.

The next morning we off-loaded the Enstrom, installing the blades and spray gear within an hour. Once all systems were checked out with the chopper, we started to look at aerial photos and GPS maps of the fields to be treated. I suggested a survey of the area and inspection of potential landing sites.

Upon arrival at the first field, I asked where we would operate for refueling and chemical uploading. To my horror I was shown an open area load zone approximately the size of a football field surrounded by 150-foot pecan trees. I said "No way!" Everyone looked at me and



The sun rises over Diesel Dog's Enstrom's F28C, ready to start another day.

said, "But we thought the helicopter can just go straight up". After a lesson in "principals of flight and aviation safety" to my new "students", we settled on a nearby dam wall. I then had them remove several trees in the direction of my takeoff flight path.

Once the LZ was taken care of, I started looking at the first field. A cold shiver went up my spine thinking of the very brave fixed-wing pilots trying to spray here. I now knew why fixed wings were

not doing it right – not because of a poor job, but simply the wrong aircraft for the job. I knew this spraying contract was going to take all my skill, nerve and a very tight seat belt! Undoubtedly, I was going to gain a lot of experience and fast!

The avo trees are planted on the sides of mountains. They are also planted amongst natural bush and trees in the ravens running down the slope, as the policy is to leave as much natural bush as God created. Then, there was the 300-foot

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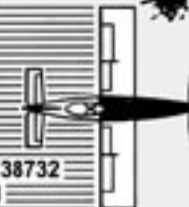
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plus gum tree plantations planted right next to the avo trees. There was no contouring to follow or separate fields to reference. This was a 60-hectare block of avos all planted together and amongst other natural bush and trees. There were also a few old, lightning-struck 300-foot gum trees sticking out of nowhere towards the heavens, which I later nicknamed the "Widow Makers". My task was to accurately spray the avo trees only – "Please don't spray the other bush!" My reply was, "No problem." Right!

The chemical we used was "Bulldock", a "betacyfluthrin", to kill the fruit-sucking bug. The nozzle set up was D4-45 tilted 90° with 30psi for 30lt/ha.

At 4:30 am the next morning, my ground truck set off to the dam wall where the area manager met it. I arrived in the chopper shortly afterwards. It was a perfect spray morning - overcast skies, cool temperature and no wind. We started

mixing the chemicals, in view of all the directors and managers, checked my Kestrel weather station and entered all data into the spray logbook.

The first load was going to be my "How much can we haul?" load. I filled with a moderate 150-liter load. Once all RPM's and gauges were where they should be, I engaged the spray system and purged the air, nozzles were checked and my ground crew gave me the thumbs up.



Eugene "Diesel Dog" Kalafatis prepares to make a dam landing (as in water).

Slowly I raised the collective and entered into a hover. I checked again all the chopper's systems. I was now ready for the upcoming lesson. I climbed over the cut down trees and slowly turned toward the middle of the field. I decided where my point A was going to be on the Satloc. After a few orbits, I decided that short runs were going to be the order of the day and I would have to forget about the Satloc. There was no way the GPS was going to help me with all the obstructions in

the way. I took a reference on one of the roads below me and started the spray runs.

I was now spraying cross – slope. One boom was about three meters or so from the top of the avo canopy and the other was – well, I wasn't worried as it was out of the way of being hit by a branch. This was the order of the day and I soon got into a mode of cross-referencing to safely get the upslope boom into position.

The next issue was dipping into the ravines. The avo treetops were not all uniform. This meant a lot of pulling and pushing on the collective to try and maintain the correct height over the canopy.

Due to the short runs across the slope, I was able to see my previous swath, making it easy to line up for the next run. Once a section was finished, I proceeded up to the gum tree line where the avos ended. Now, even more thankful of my hover capabilities, started spray-

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ing the clean up around the edges. Just when I thought, "This is not too bad!", three sets of power lines at different locations appeared, going straight through and down the hills. This was getting interesting.

Spraying operations went well the first day, I felt better about this venture. That night we had a braai (barbeque), a few beers and discussed the day's spraying.

The next morning we were to work from a new LZ, which was a rural school's soccer field. When I landed there, the sun was just piercing through over the horizon. The same type of spraying of the day before was the order of the day – but what was to come later was – well awesome. I had also wised up to Bulldock and got myself a respirator. The previous day saw me with a burning face and lips from inhaling this chemical!

Whilst spraying, I heard a jumbled call on the radio. All that I could make out at the end of



Redefining the meaning of "chopper" with the Enstrom F28C.

the transmission was that it was the military. I carried on with my routine. I had just finished a spray run and was on my way back to the LZ, when out of nowhere two attack helicopters joined me. My first thought was, I've sprayed the wrong field!

The attack helicopters were Rooivalks armed with missiles. They are just like the Apache gun ships in the U.S.A. The two pilots were playing cat and mouse and decided

to escort me back to my LZ. After a brief chat with them and a photo – they headed their own way – but not before a overfly over our LZ. My ground crew scattered like rats (The South African black people feared the military from the past.).

After a few days of more slopes, power lines, etc., we had completed our task. I had quickly gained a

huge amount of flying experience, probably aging 10 years in the process. But, it felt good completing a difficult task and having very satisfied clients.

Looking back at the job, I take my hat off to the fixed-wing guys for flying that type of terrain. I have asked myself if I would have done the same in a fixed wing, probably not. This leads me to believe that during these difficult economic times, sometimes we take on jobs where the risk and safety factors far outweigh the revenue gained. We end up doing unsafe spraying jobs, just to keep the bank manager away. Enjoy ag-flying and the challenges it poses. However, remember to always know yours and your aircraft's limitations.



South African armed Rooivalks make fly-by.

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