

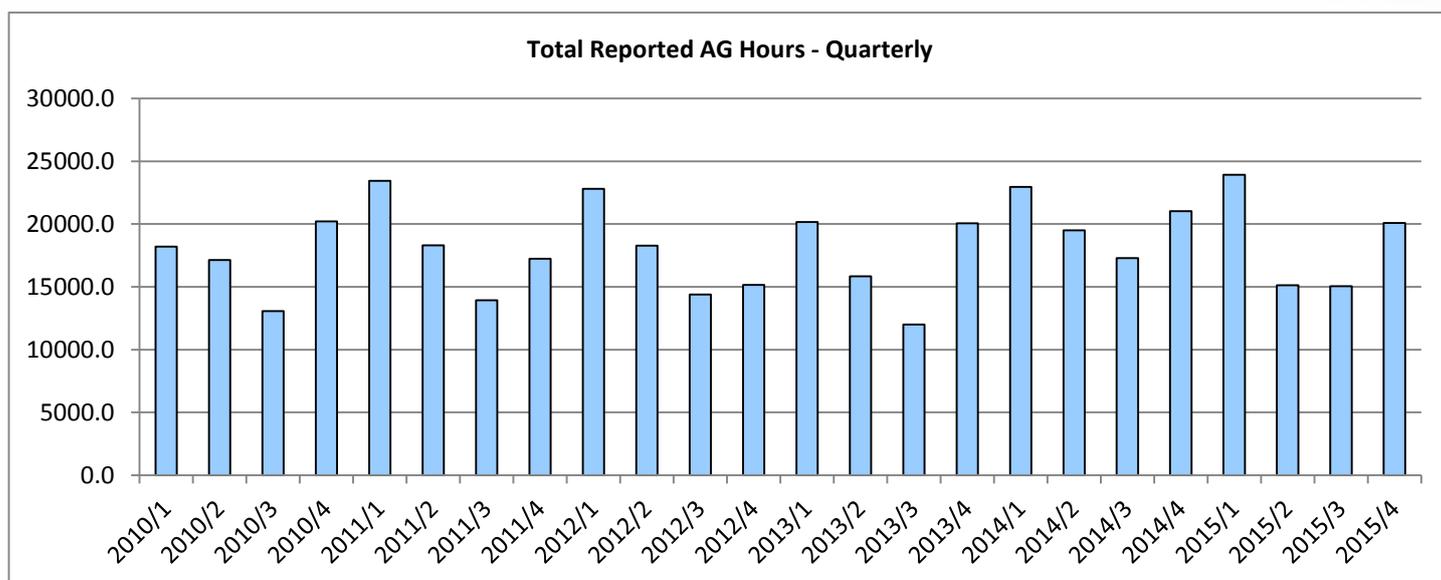
# Agricultural Aviation Safety and Activity Update

March 2016

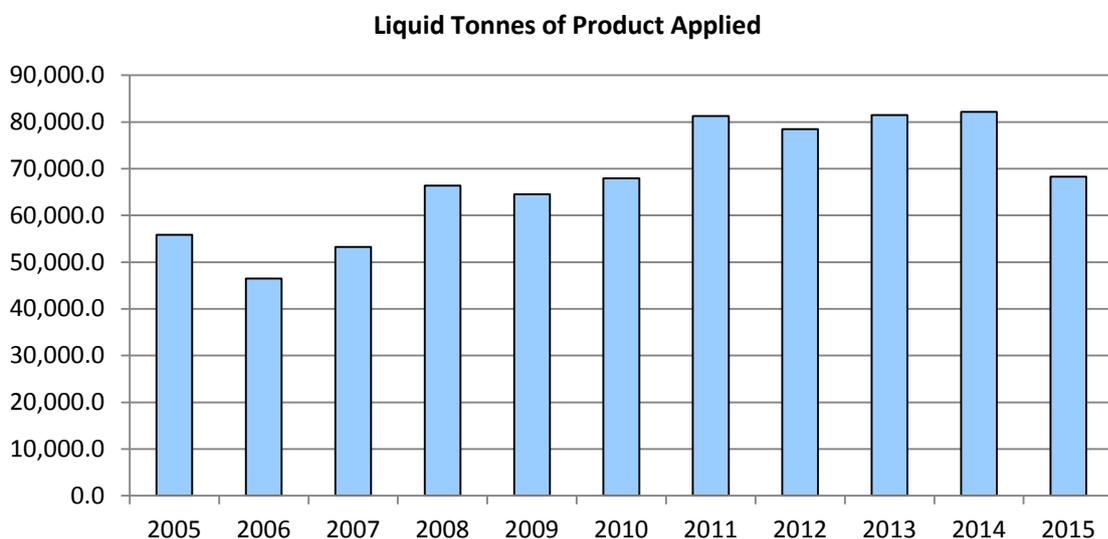
## Activity

There were 6,589 fewer agricultural hours reported in 2015 than in 2014. This has come from a significant reduction in helicopter agricultural work: In 2014 58% of all reported agricultural hours were flown by helicopters.

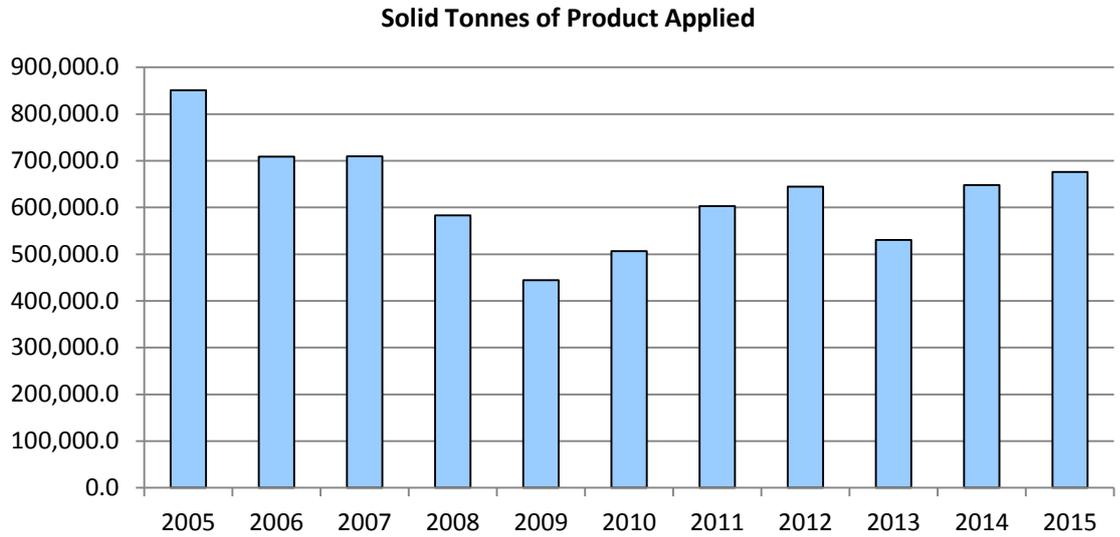
In contrast, fixed wing agricultural hours have slightly increased in 2015: approximately 995 more hours were reported for fixed wing in 2015 than in 2014.



Based on agricultural operating statistics there were 13,857.5 fewer tonnes of liquid product applied in 2015:



The statistics also show that the amount of solid product applied increased. The amount reportedly applied in 2015 was 27,831 tonnes more than in 2014:

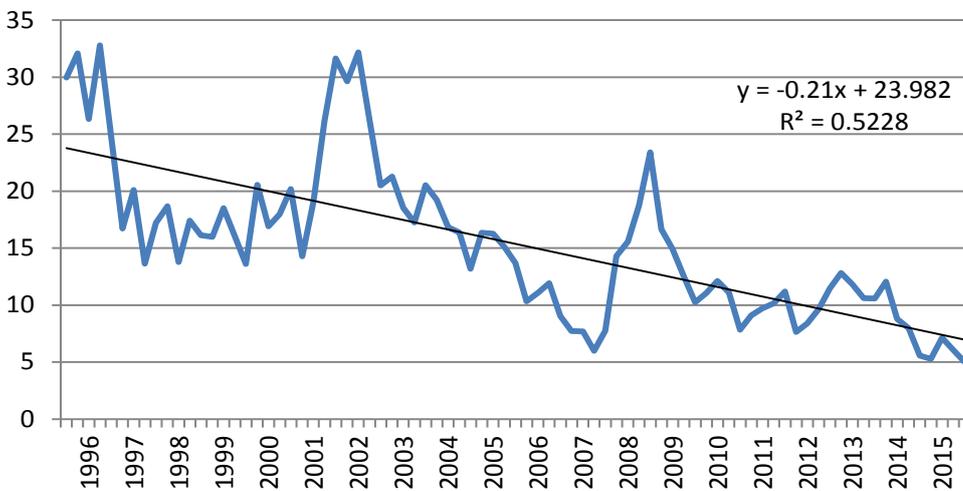


## Safety Performance

Taking a long view, it is clear that agricultural aviation has achieved a sustained improvement in safety over time. The long term trend is one of a reducing number of accidents for both fixed wing aircraft and helicopters,

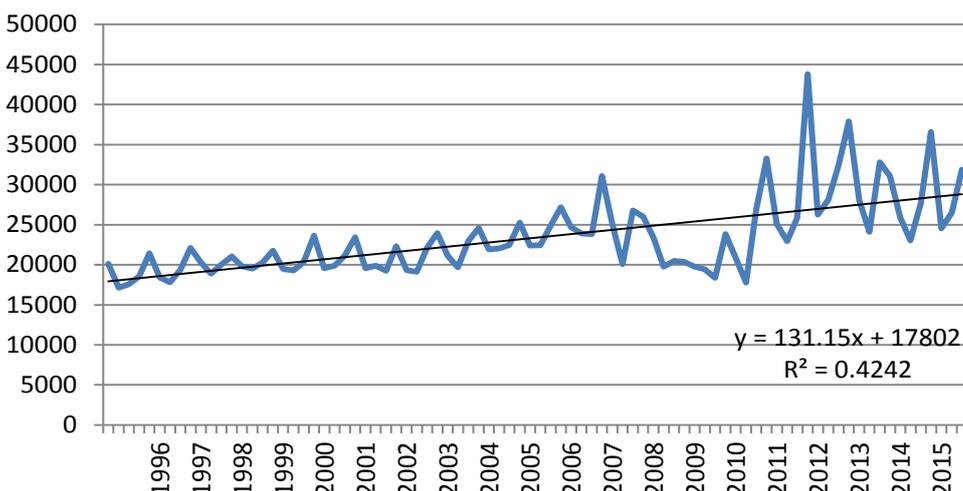
even while the amount of flying activity has steadily increased over the same time period. As it stands currently, the overall 12-monthly accident rate for all agricultural operations (i.e. fixed wing and helicopter)

**Total Agricultural Accident Rate:1995-2015**



stands at 5.02 accidents per 100,000 hours. **That is the lowest that is has been since the accident rate records go back (1995).** The second lowest rate figure was 5.30, for quarter one of 2015. The third-lowest was 5.57, in the fourth quarter of 2014. These encouraging statistics signal that the industry is on the right track.

**Total Quarterly Agricultural Hours**

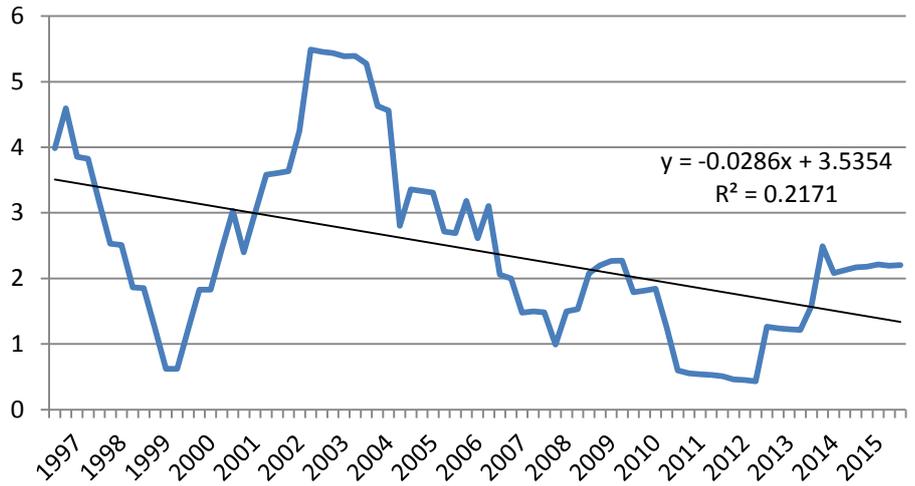


In terms of the safety performance by agricultural aircraft class, the 12-monthly accident rate for fixed wing aircraft stands at 4.28 per 100,000 hours while for helicopters it is 5.50.

These trends are positive and all operators should be encouraged by them. Nonetheless, they do mask the fact that major and critical accidents - those that cause fatal and serious injuries - have not

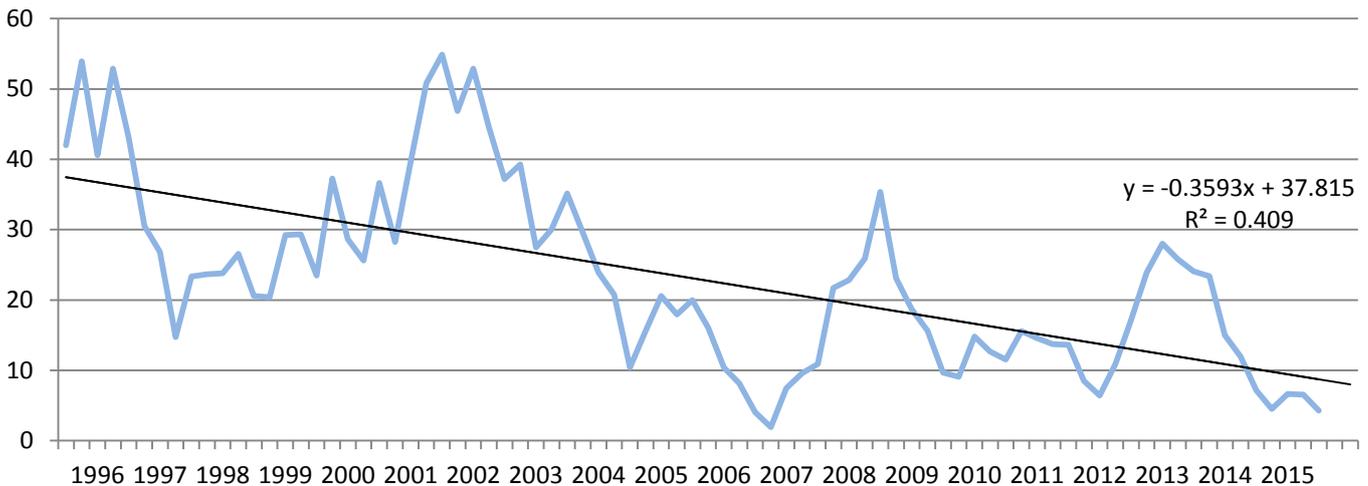
**Fatal & Serious Injury Accidents: 2-Yearly Rate**

reduced at a similar rate. While the overall trend for these accidents is for reducing numbers over time, the trend is not as stable as the trend for *all* accidents over time. In particular, from the year 2012 onwards, fatal and serious injury accidents have gone from a 2-yearly rate of 0.43 per 100,000 agricultural hours to 2.20, a fivefold increase.

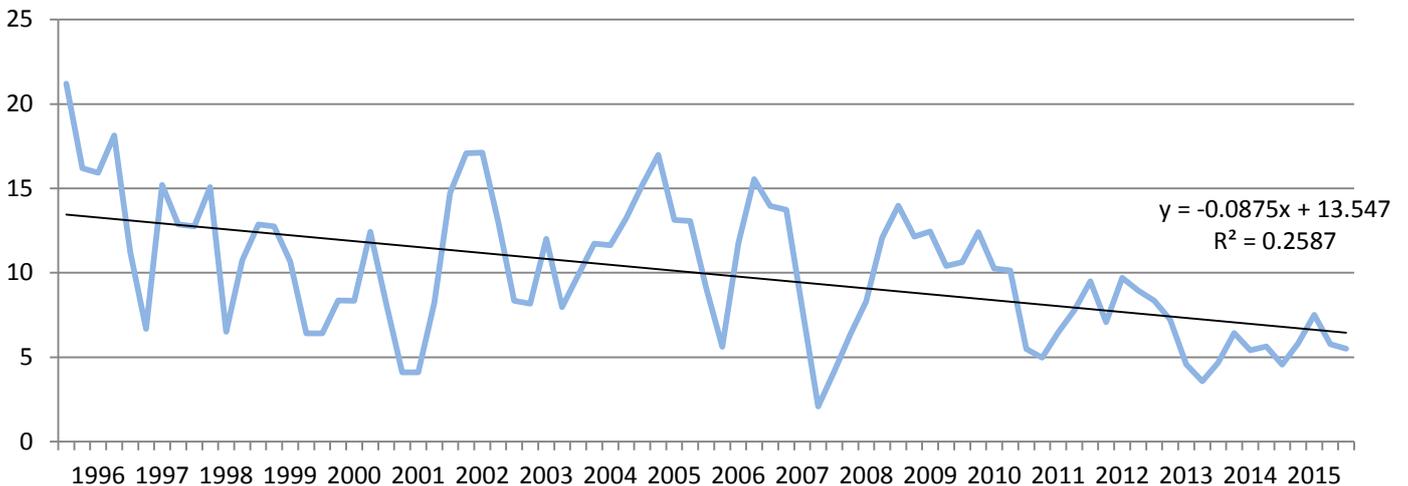


In terms of the accident rates by aircraft class, the reducing trend has been more marked for fixed wing aircraft than for helicopters. This is shown in the two charts below:

**Agricultural Aeroplane Accident Rate: Accidents per 100,000 hours 1995-2015**



**Agricultural Helicopter Accident Rate: Accidents per 100,000 hours 1995-2015**



## Accident Details



22/01/2015 4:50pm



Masons Flat



Landing accident



Gippsland GA200c

On landing, the aircraft's brakes failed causing aircraft to go over the bank. The investigation found the bleed screw missing from the bottom of the brake caliper.



24-Feb-15 08:15am



Akitio



Engine power loss



R22 beta

The pilot was testing the spray equipment by conducting a spray run with water in the tanks. Immediately after the helicopter was turned away from the spray run, the engine stopped and the helicopter crashed into the ground. An investigation into the accident determined that, given the prevailing conditions, the most probable cause of the engine power loss was carburettor icing.



23/03/2015 12:00pm



Pongoroa



Component/system malfunction



R44 II

As the helicopter was spreading fertiliser using an underslung bucket, the clutch failed at approximately 30 ft. Helicopter descended down onto the bucket, resulting in damage to the tail rotor gearbox and tail boom.



5/05/2015 5:20pm



Waipatiki



Collision/strike - wire



Hughes 300

While engaged on a spraying operation the helicopter flew into an unmarked wire.



30/05/2015 7:03am



Operau



Landing accident



PAC FU24-954

During first landing of the morning the aircraft landed to the left of the centre line in dull conditions. The landing was some twelve metres to the left of the centre line. This aligned the aircraft with a washout further up the strip. Not being able to stop the pilot initiated a go-around. The aircraft failed to achieve flying speed and descended into the void. The aircraft's port wingtip contacted the ground at the bottom, twisting the aircraft to the left and out of the washout towards descending ground but through the airstrip boundary fence in a nose-high attitude. The pilot managed to get airborne after this. Major damage had occurred to the underside of both wings, the port flap, aileron, and

underside of the port elevator. The starboard fuel tank was torn back to the main spar and major fuel loss was underway. The pilot managed to land the aircraft safely. He identified a loss of depth perception in the gloomy conditions as the main cause of the accident.



24/10/2015 08:30am



Raetihi



Collision - terrain



R44 II

ELT activation was received by RCCNZ. Enquiries were made with the operator and he advised that helicopter had crashed. The helicopter was conducting spraying operations at the time of the accident. The pilot had completed a turn when the RPM's dropped. The pilot reported turning left towards wind and a downhill escape route, however there was not enough speed and height to recover the situation and the helicopter got into an unrecoverable power settling condition and struck the ground. The pilot identified two causes of the accident: not maintaining sufficient speed and height in the turn, and not adapting to the variable wind conditions that prevailed.

## Major Incident Details



27/10/2015 3:00pm.



Milton



Collision/strike - wire



PAC FU24-950M

The pilot had made three sowing runs. The purpose of the fourth and final run was to 'tidy up' a corner of spray area. On this run the aircraft hit a single power wire.

The wire span was approximately 300 feet at its highest point and ran for around 500 metres between poles. The poles and the wire were known to the pilot following a reconnaissance flight prior to the job. The conditions were calm and clear. The area being sprayed was a sloping hill that sloped down into a steep gully, over which the wire was slung. The spray runs were being conducted downhill. The pilot reported that the spray runs were levelling-out to become the same height as the wire.



30/12/2015 2:00pm



Near Waiuku



Collision/strike - vehicle



Bell 206L-3

While on topdressing operations the helicopter was landed for refuelling next to the loading system. Refuelling was completed. The tractor loader being used to load one-tonne bags into the loading system then moved forward to position the bag over the hopper.

As the pilot rolled on throttle the main rotor blade struck the end of the loader, severely damaging both blades. The loader driver was hit with a piece of one of the blades that broke off on impact, the injury required hospitalisation.



16/01/2016 12:15pm



Te Kuiti



Component/system damage



PAC Cresco o8-600

Cresco elevator jammed solid moments after landing on a newly-metalled airstrip. On inspection an aluminium tab was found stuck in the plastic protector on the leading edge of the stabiliser (image below). The strip had been metalled and rolled but had loosened-up over the course of the job, causing then damage.

