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SPREADING THE NEWS

AUTUMN
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Graeme Martin

From the desk

To say that times have been turbulent recently would almost be an understatement! Fluctuating exchange rates, changes to lamb and cattle prices and Fonterra's rollercoaster payout forecasts have certainly altered the face of farming in New Zealand. I really hope that despite all this, you have been able to get a good break over summer and have had a safe and enjoyable time of it.

The aerial top-dressing world is also changing. The downturn in demand for aerial application of fertiliser by fixed-wing aircraft has affected the whole industry, and introduced the sort of pressures that we haven't seen for several decades. On the plus side, the reduced workload has given us time to look at how we do our business and how we can make sure we operate safely and effectively.

Over the past two years a lot of work has gone in to understanding why the agricultural aviation industry has such poor safety statistics. The Civil Aviation Authority (CAA) has reviewed all of the incidents in the industry and is developing rules to ensure a safer operating environment – not just for fixed-wing craft, but for helicopters too.

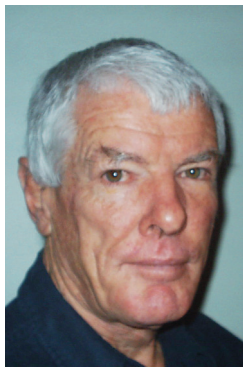
I've asked the executive officer of the New Zealand Agricultural Aviation Association, John Maber, to comment on the rule review – his article is included in this newsletter.

Personally, I believe it is in the best interests of the entire industry that we look at all factors that impact on safety. This means everything from fertiliser manufacture, through carriers, farm access, fertiliser bins and airstrips. Any one of these points in the process can introduce hazards for the pilots. For more details, you can check out the Safety Guideline: Farm Airstrips and Associated Fertiliser Cartage, Storage and Application, which is a free download from www.caa.govt.nz

I hope that the autumn period brings settled weather, good growing conditions and prosperous farming.

Don't forget, it always pays to book your fertiliser application needs early. This helps us to give you the service that you want, when you want it. As always, you can contact us on our freephone number – 0800 787 372 (0800 SUPERAIR).

We look forward to hearing from you.



John Maber

The rules of engagement

John Maber, Executive Officer for the New Zealand Agricultural Aviation Association, reflects on some of the imminent changes in the industry.

The accident rate in the top-dressing industry is unacceptable and while the reasons for this are debatable, almost everyone seems to agree that the biggest issue is pilot attitude. There is less of a consensus on why this should be the case and what to do about it.

To help change this situation, the CAA has undertaken a thorough safety review, which included studying anecdotal reports of industry safety as well as formally documented incidents. The whole process was done in close collaboration with those of us in the industry.

In terms of a general approach, the biggest overall changes proposed as a result of this review are that:

- CAA will audit the industry's operating rules
- Each operator will have to have a document that states how they are going to comply with the operating rules
- CAA safety officers and agricultural aviation specialists will spend more time working in the field to help ensure safe practices are followed.

There are also some very specific areas where changes are proposed. One of these is the issue of overloading the aircraft above the manufacturer's certified takeoff weight (MCTOW). Under the new rules, CAA will require each operator to state the 'agricultural operating weight' (which is greater than the MCTOW) of the aircraft under various operating speeds. Importantly, this must be supported by performance data and fatigue analysis for the type of plane in question. This should raise awareness of the true performance limits of the plane and enable better operation with appropriate safety margins.

The other significant focus is on product quality. In the event of an emergency, pilots are supposed to be able to jettison 80% of their load in five seconds. This rule – which covers lime as well as fertilisers – has always been in place but has been poorly interpreted. Under the proposed new rules, pilots must be able to meet these jettison criteria for any substance that is being loaded into the hopper.

Some of the other areas that are addressed in the

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new operating rules are:

- Pilot fatigue and risk mitigation strategies
- Pilot training and supervision
- Pilot competency and education
- A review of maintenance programmes and procedures.

Now that the new rules have been developed, they need to be formally approved and adopted. The first part of this process is for the Minister of Transport to approve the rules. Once that has happened, copies of the rules will be sent to stakeholders and operators for their comments; if anyone has objections or suggestions, they can make submissions on the matter. At the end of this process, the operating rules will be mandated by the CAA. It is expected that the new rules will officially be in place by early 2011.

Will the new rules improve the poor accident record? Time will tell, I guess, and pilot attitude is likely to be a key factor in the outcome. The agricultural aviation industry is committed to safety and to working with our farmer-clients to address safety issues related to airstrips. With this joint approach we will be able to reverse the accident rate in the industry.



Super Air engineer Phil Kirkpatrick shows off the new fin as fitted to the tail of a Fletcher

From the workshop

As a result of an engineering safety review of agricultural aircraft, the CAA ruled that all Fletcher aircraft must be fitted with a new, stronger fin by October 2010.

We own the largest Fletcher fleet in New Zealand, and have designed a new fin to meet CAA requirements. This fin won't just be fitted to Super Air planes – it will also go on other Fletchers in New Zealand, Australia and Indonesia. In total, over 40 fins have been ordered.

To gain CAA certification for these fins, we had to engage a design engineer and develop a testing procedure, which also had to be approved by CAA. Over the last year, designing, building and testing the prototype has taken up nearly all of the time of Phil Goudie, Super Air's engineering manager.

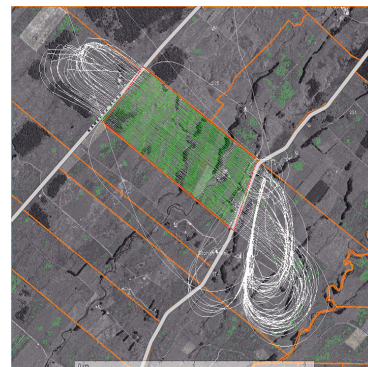
'Developing the prototype fin has involved liaising with the design, CAA engineering and certification teams, as well as with our own people, to make sure that we can build the fins to the standard needed. Our key area of focus was the point at the leading edge where it attaches to the fuselage. We are now required to have two points of attachment, whereas before there was only a single point,' says Phil.

Testing the new fin involved loading weights onto the critical areas of the fin to the point where the fin failed. The fin has to be able to withstand 150% of the actual load that it is certified for. This is to provide an acceptable safety margin for the structure.

To have developed the new fin and have it approved by CAA is a great achievement and it reflects well on the engineering expertise at Super Air – expertise that keeps our planes in the sky, flying safely day after day.

A changing environment

As well as changes to the rules regarding safe operating practices, we are also facing changes designed to protect the wider environment.



You will well be aware of the efforts of environment councils to manage potential impacts of human activity on the land and waterways. For farming, the focus is primarily on the management of nutrient flows into streams and rivers.

As an industry, aerial top-dressers need to be very aware of the need to apply fertiliser to farms in a responsible way. This means we have to make sure we stay away from any significant waterways, rivers and lakes.

We have three key tools to achieve this. First, we have experienced pilots, who understand their responsibilities and who operate in a way that minimises the potential for any environmental damage, for example, through drift.

Second, we have an operating standard that sets a 20-metre riparian strip around any waterway. This provides a further safety zone to protect vulnerable areas.

Third, we have GPS technology fitted in all of our planes. Using this guidance system the pilot can not only avoid known risk areas, but they also have unequivocal evidence of the boundaries of the designated sowing areas.

You can take advantage of this technology too. If you have a digital farm map in a suitable format, you can give it to us before we start the job – this means we most likely won't have to carry out a briefing flight, and this can save you money. In turn, once we have completed the job, we can supply you with a map showing evidence of where your fertiliser has been sown.

We believe that we have a responsibility to protect the environment, and that we can do this through the right combination of people and technology. Talk to your local pilot about GPS to see what it can do for you.