

## Unmanned aircraft offer ag potential, but are illegal for business use

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LINCOLN—Advances in unmanned aircraft systems combined with next generation sensors will contribute to the challenge of feeding our future world in a sustainable manner, a University of Nebraska-Lincoln engineer says.

However, while unmanned aircraft systems will have quite an impact in agriculture's future, it currently is illegal to operate one of these aircraft for commercial or business use, said Wayne Woldt, engineer in Biological Systems Engineering.

Farmers and crop scouts may find using unmanned aircraft outfitted with advanced imaging sensors beneficial in locating problem areas in fields, such as weeds, water stress, insect stress and crop stress, and in fact, it is expected agriculture will account for an 80 percent share of the emerging unmanned aircraft market, Woldt said.

"The view you can get of a field or livestock operation is unparalleled, without cost of going up in an airplane, and the view is very helpful in understanding your production system," Woldt said.

But the Institute of Agriculture and Natural Resources engineer cautions it currently is illegal to operate an unmanned aircraft for commercial or business use, which would include agriculture.

The aircraft can be flown for hobby use, which is defined very narrowly. And if an unmanned aircraft is flown for hobby, or private use, the individual needs to be very careful for low flying aircraft such as agricultural spray pilots, pipeline inspectors, photographers, and other aircraft that are flying low for a specific reason. A collision of an unmanned aircraft with an airplane could be very expensive, and perhaps even deadly.

The FAA is working on regulations for small, unmanned aircraft, which are 55 pounds or less. These regulations should be drafted this fall, and this will lay the groundwork for business and commercial use of unmanned aircraft, including use in agriculture.

"The FAA takes great pride in the safety of the air space over the U.S., with it being one of the

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safest in the word,” Woldt said. “The FAA is looking to make it legal to fly these unmanned aircraft for farming purposes. So stay tuned, and commercial use of unmanned aircraft will soon be incorporated into the national air space.”

Until then, it is important that these unmanned aircraft remain grounded, and not used for business or commercial purposes.

If they are used, one must have an FAA issued certificate of authorization, which is only available to aircraft owned by the state, for research, and other civil aviation purposes such as emergency response.

Woldt is just getting his NU-AIRE research and education program underway at IANR, with additional information at <http://nuaire.unl.edu>.