

Machinery



'Snug up' greenhouses to battle winter's chill

By DAVID ROSS

IT'S a little late to make major changes in your greenhouse operation for next season. But you can try to shave energy costs.

Tally up last year's energy costs, then take 1% of that cost. In most cases, you'll be able to save at least that much by making a few changes to reduce heat losses in greenhouses used over winter.

Consider the following as a starter checklist for your operation:

- Have you cleaned your heating system and had all the components checked? Professional service may be called for. But be sure the service person is in contact with your manufacturer for the correct information and specs.

- Unit heaters should be checked for rusted heat exchangers.

Key Points

- Clean and check all heating components for greenhouse.

- Make sure winter ventilation will keep greenhouse dry.

- Check temperature sensors/thermostats for accuracy.

- Check exhaust flues for blockage and for height required to get a good draft.

- Check motors and fans for dirt and to see if they need lubrication.

- Check exhaust fan housings and shutters/louvers for ease of tight closing.

- Cover and seal up fans that won't be needed for several months, so cold air doesn't infiltrate and warm air doesn't escape.

- Make sure doors close tightly.

- Do you have a small fan and louver for those winter

days when warm moist air should be ventilated and cool dry air brought in? This helps to avoid excess cooling of the inside air and helps to dry out wet houses to reduce disease damage.

- Are your horizontal airflow fans lubricated, blades and housings clean, and fans correctly aimed down the house? HAF fans help maintain uniform temperatures and dry conditions.

- Do you have air-aspirated temperature sensors or thermostats with plus or minus 1- to 2-degree accuracy? Are these placed properly so any greenhouse air that's moving over the plant foliage is sensed? Are they shaded from the sun? You want precise temperature control.

- Tighten up your houses against air leakage.

Ross is an Extension ag engineer at University of Maryland.

Use alternate heating sources with care



**I.T. Hurtz
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SKY-HIGH heating-oil and gas prices are sending many people's blood pressure soaring. And that's why retailers have experienced record sales of alternate heating sources for this winter.

Please be aware of the risks directly associated with portable heaters and kerosene heaters.

First, heating sources are the leading cause of fires in rural areas. Second, they are the No. 2 cause overall of residential fires.

Winter fires peak in January. Every year, they result in more than 1,900 deaths and more

than \$3 billion in property losses in this country.

One of every three fires results from improper maintenance of heating equipment. While only 10% of fires are caused by portable heaters, they account for 40% of deaths.

Wise heating advice

Portable kerosene heaters may be used as emergency heat for homes or as a general heat source in farm shops. But exercising safe practices and good judgment is a must when using unvented portable heaters.

Follow these tips:

- Choose a heater having a safety shut-off device that extinguishes the flame if the heater is overturned.

- Use only a heater that has Underwriters Laboratories (UL)

listed on the nameplate.

- Always have a window open to provide ventilation when the heater is used. Carbon monoxide is a by-product of combustion and a silent killer.

- Install smoke detectors and CO detectors in your home.

- Only use "K1" kerosene, no other type of fuel.

- Turn off the heater when you sleep or leave your house or shop.

- Teach children to avoid the heater to prevent burns.

- Store the kerosene outside the shop — never in your basement.

Staying warm this winter is important. But do it safely.

Dr. I.T. Hurtz is brought to you by Cornell University's farm safety program.



Equip your ATV to run in snow

NOW you can equip your four-wheel all-terrain vehicle to run where only snowmobiles and tractors could go before. Bombardier Recreational Products introduces the aftermarket Apache ATV track kit that fits most quads on the market.

Drawing on Ski-Doo snowmobile technology, BRP delivers great traction and flotation with the lowest steering effort on snow. Designed for utility purposes, this track kit "makes winter ATVing more functional and much easier than any other track kit available," says Pierre Arsenault, BRP vice president.

The exceptionally durable Apache includes two different, purpose-built track profiles. The rear track is designed to deliver optimal traction on the snow. The front track is engineered with an optimized, free rotating/floating ski-concept system for steering ease.

The front track's 10-inch wheels give it a higher angle of attack to help it climb obstacles and improve maneuverability. Flotation is significantly improved by four 5.66-inch intermediate wheels and plastic sliders like those found on Ski-Doo snowmobiles.

The kit ships as four fully assembled tracks, ready for easy "bolt-on" installation. Contact your nearest Bombardier ATV dealer or visit the Web site at www.brp.com.

Swiss introduce a low-slung tractor made for steep slopes

WHILE it may look like a super-heavy-duty ATV, the Swiss-made Terratrak TT270 is a low-slung tractor. Available from Aebi North America, it's an implement carrier and tractor designed for steep slopes and for running hydraulic-driven and power-takeoff-driven attachments front and rear.

Powered by a 95-horsepower, turbocharged, four-cylinder, water-cooled Detroit Diesel, it's driven by a hydrostatic transmission via a two-speed mechanical gearbox. The 4x4 all-wheel drive is switchable to front-wheel steering, rear-wheel steering or quasi-crabsteering by push button control for a tight 40-degree turning radius.

The TT270 comes with front and rear hydraulics and three-point hitches, plus four extra hydraulic connections front and rear. Its standard 425-55 R17 all-terrain radials can be fitted with optional 7.50-18 wheels for double tires front and rear.

The standard onboard computer screen displays most important settings and the operating status. Some 20 functions can be programmed and operated on the multi-function control lever without changing hands. An integrated air conditioner guarantees the driver a cool head in the dust-proof cab.

For more details, visit the Web site at www.aebi-us.com or call (888) 729-2324.



GROUND-HUGGING: Terratrak TT270 is a low-slung tractor with lots of hydraulic power. The Swiss-made machine is powered by a four-cylinder turbocharged Detroit Diesel.