# Wind shear

(Continued from Page B10)

says. "We know that nature is somehow creating an impulsive downflow. One ingredient is the right-size raindrops." Sometimes the clouds are high, above 10,000 feet, and the raindrops evaporate before reaching the ground, making the downdraft invisible, he explains. This evaporation condition is known as virga.

More urgent is setting up a system to alert pilots to the invisible danger. In his book "The Downburst," published this year, Fujita wrote that radar in operation at airports rarely detects microburst winds because the microbursts are small, shortlived, and strongest very close to the ground, where radar echoes can be contaminated by ground clutter."

A more sophisticated Doppler radar system either at airports or on planes would be effective, Fujita and McCarthy agree. Doppler (which police use to clock the speed of cars) was used for the experiment at Denver. Fujita will be testing detection methods at Huntsville, Ala., next summer.

But Doppler is not likely to be installed, even at high-risk airports, before 1990.

In the meantime, McCarthy says, pilots can be trained to watch for certain telltale signs of dry microbursts: high cumulus clouds,

virga on the radar, and dust kicking up on the ground. Other microbursts may be hidden in thunderstorms. "But a pilot can't avoid every shower," Fujita points

Techniques for Survival

With enough accurate warning, a pilot may be able to go around a microburst, abort a landing, or stay on the runway in a takeoff situation. The airlines also are teaching techniques for successfully flying through one.

Although microbursts didn't have a name until recently, they have been around for eons everywhere in the world except the coldest regions, Fujita says. Their existence was not considered alarming until the jet age.

But microbursts have claimed victims on the ground too. Like a steamroller, they have flattened stands of pines in Maine and fields of corn in Indiana.

**Montgomery Extension** 

## plans Christmas program

CREAMERY -"Christmas Through A Quilter Eye" will be the theme of the up-coming annual Christmas Program sponsored by the Montgomery County Extension Service, Dec. 3, 9:30 a.m. to 2 p.m. at the Creamery 4-H Center, Route 113. Other activities include a

demonstration on using turkey left-overs; holiday music by the North Penn High School Choral Group; and a craft sharing.

The public is invited to attend. Admission is \$1. No registration is required. For more information, contact the Extension office at 489-



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45LR1	45 000	135 000	70	120,240	175	1	3	670	730
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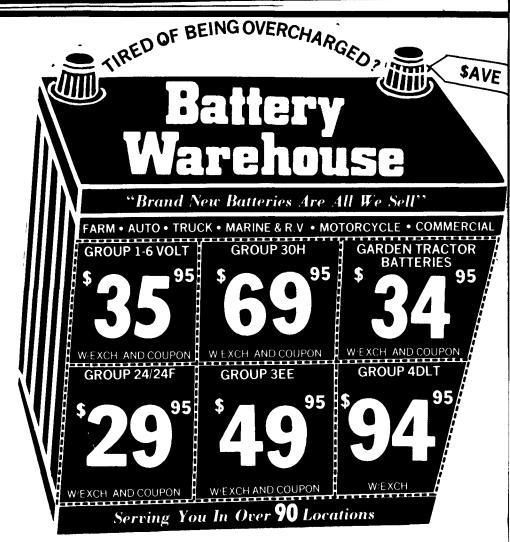
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