Upper Atmosphere Invaded By Army's Research Rockets

Valuable Information Is Gained From Recent Program

The Army has test-fired 70 V-2 rockets at the White Sands, N. M., proving grounds during the past six years.

The first test firing at White Sands was a check run of a V-2 rocket motor. It was mounted on a static test stand set into the side of a mountain, with a concrete flame pit below to receive the jet blast of the 56,000-pound thrust motor. Thirty days later, the first V-2 to take to the air in America roared into the atmosphere.

From early in 1946 until July 1, 1951, the actual work of building and launching V-2 rockets was accomplished at White Sands Proving Ground by close co-ordination between Army Ordnance missile technicians, officers and men of the First Guided Missile Battalion stationed at Fort Bliss, Texas, and the General Electric Company.

In July, 1951, GE transferred all V-2 material to the Army Ordnance Corps which then assumed responsibility for completing the V-2 program.

In the next year, the Army V-2 project successfully conducted nine static firings of V-2 propulsion units and fired five missiles for high altitude research, one of which rose to a height of 132 miles. That was in August, 1951.

The program which ended in October, 1952, provided valuable information on:

1. How to fire a two-stage rocket.
2. Aerodynamic data.
3. Atmospheric properities and temperature effects.
4. Atmospheric composition at high altitudes.
5. Atmospheric ionization and the propagation of radio waves.
6. Radiation phenomena including cosmic ray and X-ray measurements.
7. Earth's magnetic field.
8. Parachute design.
9. Atmospheric meteor content and bombardment by meteoric dust.
10. Photography.
11. Television transmission.
12. Speed of sound and shock wave measurements.
13. Spectroscopical analysis.
14. Rocket turbine design.

While the purpose of the V-2 firing program was primarily upper atmosphere research, the firing also served many other useful purposes. Valuable experience was gained in assembly, pre-flight test, launching and handling, and firing of large liquid-fueled missiles. American-manufactured steering control systems and other guided missile components were tested. The behavior of the missile in flight—its yaw, roll and pitch—provided significant data for subsequent missile firings. The firings also were used to test ground control guidance of the rockets by radar and to test radars on detection and tracking of supersonic missiles in flight.

To protect the complicated research equipment from landing shock, instruments and containers were packed carefully and braced to prevent or minimize damage on impact. Some rockets were constructed so that the nose or the tail section, or both, could be blown off on the downward leg of the flight by explosive charges. Then, after severance, the rocket descended in a flat spin instead of nose first. This served to lessen the force of impact.

Upper atmosphere research with rockets in the United States dates from the close of World War II. In October, 1945, the Wac Corporal—one of the first "All-American" missiles—was launched successfully as a part of the Army's missile research program.

Let the mind's sweetness have its operation upon thy body, thy clothes, and thy habitation. —Herbert.

Edenton College Student Sails Abroad

MISS ELIZABETH WOOD

Above is pictured Miss Elizabeth Wood, daughter of Mrs. Fred P. Wood, as she posed for the photographer aboard the Holland-America line Veendam just before sailing on June 19 from New York harbor on a summer vacation tour of Europe. Miss Wood is a student at the University of North Carolina and is accompanied on the tour by three of her classmates.—(Photo courtesy of Holland-America Lines).

Ample Water For Hogs Means Added Revenue

This is the season of the year when North Carolina hog producers get the greatest values from good watering systems for their herds. Hogs use a great deal more water in hot weather than in cold and the job of providing at least two gallons per day per hog can be a laborious one where modern equipment is lacking.

Hogs cannot make efficient gains traveling long distances to get water. Recent observations by livestock specialists indicate that waterers should be located within 300 feet of self-feeding equipment. If they are separated by greater distances, less feed and water are consumed and lower gains result.

The best method of supplying water to hogs is through automatic drinkers attached to a constant supply of water piped to the field. But since many pastures are too far removed from the farmstead to make this practical, a majority of producers have to haul water to their herds. In this case the use of wagon tanks that carry enough for several capacity fountains or large stock tanks with drinker attachments is desirable. Big tanks necessitate fewer trips back and forth. A good management practice is to haul the water in connection with other farming operations in the same area.

Use of labor saving chore time equipment such as good watering equipment and self-feeders will help overcome labor shortages and harvest time rush in the care of hogs. North Carolina pork producers are trying to keep costs low this year. Numbers of hogs going to market this fall and winter will likely be plentiful enough to lower prices from present levels. Lost cost hogs are always the most profitable.

TRY A HERALD CLASSIFIED AD

Little Change Seen In N. C. Feed Prices

Prices paid by North Carolina farmers for most feed items were unchanged to slightly lower during the month ended June 15, according to the Federal-State Crop Reporting Service.

Farmers were paying an average of $4.10 per hundred for all mixed dairy feeds, the same as a month ago. Prices paid for the 16 per cent protein mixture were up a nickel, but this advance was offset by slight declines in prices of 20 and 29 per cent protein mixtures.

Soybean and cottonseed meal were both down 5 cents, averaging $4.70 and $4.00 per hundred, respectively, on June 15. On the other hand, farmers were paying $4.95 per hundred for meat scraps, a nickel increase over the May 15 average.

All feeds in the grain-by-products group registered price declines during the period. Farmers were paying an average of $3.95 per hundred for bran, compared with $4.00 a month earlier. Middlings and corn meal were off 10 cents, averaging $4.05 and $4.80 per hunddred, respectively at mid-June

Poultry feed prices were unchanged with farmers paying an average of $5.30 per hundred for laying mash, $4.65 per hundred for scratch grains and $5.40 per hundred for broiler growing mash.

This Week's Poem

By WILBORNE HARRELL

LOVE'S LABOR LOST

Love knocked upon my lone heart's door
And bade me let him in.
Poor fool, I bade sweet Love begone,
Knowing not who sought within.
Now Love I seek to bid return
And knock again upon my door—
Alas! I fear me Love has fled,
In vain I've sought the wide world o'er.

Beauties in vain their pretty eyes may roll;
Charm strikes the sight, but merit wins the soul. —Pope.