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Spotlighting Excellence

David McCalley, Department of Biology, University of Northern Iowa

Six Iowa teachers were honored by the Iowa Academy of Science during the annual meeting held at Coe College in Cedar Rapids last spring. They had been nominated by either administrators or by fellow teachers and selected by committees working with the director of the Academy's Excellence in Science Teaching Awards program. This issue will spotlight the biology and chemistry recipients. In subsequent issues, the earth science and elementary science recipients and the junior high science and physics recipients will be spotlighted.

Excellence in Biology Teaching

Peggy Steffen was the 1981 recipient of the Excellence in Biology Teaching Award. Peggy teaches in the Fremont Community Schools. Besides teaching biology and advanced biology, Peggy teaches physical science, physics, environmental science and oceanography-astronomy. Advanced biology and oceanography-astronomy are each one-semester courses. In addition she finds time to sponsor cheerleading, organize the Fremont Science Fair and heads CPR training in the district. She has been actively involved in broader professional activities as president and vice president of the Fremont Education Association and has served on the negotiations committee.

Peggy states that "science is the controlling force in today's world, and I believe its role will increase in the future. Students should not be afraid of science as the domain of a gifted few." She indicates that she feels the need to instill students with the "need to know." To do this she bases her teaching upon activity. She uses thinking games, role playing, labs, outdoor activities, creative art projects and group work to create an atmosphere conducive to learning.

The most important thing that students need today, in Peggy's mind, is love. She expresses a concern for the difficulty we have in our culture expressing feelings openly. She feels teachers should be an example of a loving way of life. Through this behavior, she believes a secure environment is provided. "Learning happens more easily in a secure environment."

Excellence in Chemistry Teaching

Henry Veldhuis, 1981 recipient of the Excellence in Chemistry Teaching Award, holds a rare position in that he was also a recipient of the Excellence in Physics Teaching Award in 1972. To date, only one other science teacher has had this honor. In 1968, Milbert Krohn of Spirit Lake received the award in chemistry and, in 1974, a special posthumous award was made to Milbert's widow.

Henry has taught in the Sheldon Community Schools since 1961. His teaching assignment includes chemistry and physics classes. In addi-

tion, he teaches classes in physics at Northwestern College. Henry considers the laboratory to be so important that the entire week's work may often center around the experiment of the week. He states his teaching objectives to include a sound preparation for the science-career oriented student, the development of scientific literacy necessary to contribute as a citizen in a science-based democratic society, and the appreciation for science as an integral component of the beauty of the culture. "As I work with my students I recognize that sense of human dignity is an absolute requirement for an individual as he/she deals with the enlarging community . . . I believe that the human dignity . . . is enhanced when competence increases, understood interrelationships allow for common ownership of communal characteristics, and beauty becomes a component of everyday existence."

Henry is a professionally active teacher, serving both the science teaching profession and the larger teaching profession. He has presented papers to the Science Teaching Section of the Iowa Academy of Science, and has served as treasurer and regional director for the section and vice chairperson for the Iowa Section of the AAPT. Henry has served on several NCA evaluation teams.

Congratulations to both winners.

* * *

Watered-down Facts

It takes:

- 136 gallons of water to produce one pound of bread.
- 23 gallons of water to produce one pound of potatoes.
- 125 gallons of water to produce one pound of tomatoes.
- 2,500 gallons of water to produce one pound of steak.
- 932 gallons of water to produce one gallon of milk.

97% of the world's water is in the oceans.

2.2% of the world's water is in the polar ice caps.

.3% of the world's water is deep underground.

.5% of the world's water is necessary to sustain life.

One inch of rainfall on 160 acres of land is equal to 4,356,000 gallons of water, to evaporate this much water from the ocean requires 1,000,000 horsepower of energy.

Question

A one-inch rainfall on one square mile of Iowa land will produce how much bread, potatoes, tomatoes, steak and milk? (Assume all rainfall is converted to food.) How many quarter-pound hamburgers could be produced in Iowa?