

GENERAL SCIENCE

Scientists of the Future

Eight girls and 32 boys are selected as winners in annual national Science Talent Search. They will meet in Washington to compete for \$11,000 in scholarships.

► THE 40 most promising young scientists in America's high schools have just been selected in the Fourteenth Annual Science Talent Search. The winners—eight girls and 32 boys—have been invited to Washington for a five-day all-expenses-paid visit Feb. 24 through Feb. 28.

They will participate in the Science Talent Institute and compete for \$11,000 in Westinghouse Science Scholarships in the finals of the Science Talent Search conducted by Science Clubs of America, administered by SCIENCE SERVICE.

Nation-Wide Competition

The 40 trip-winners, 15 to 18 years of age, were chosen by a panel of judges after a nation-wide competition in which top-ranking seniors in all the public, parochial and private schools in continental United States were invited to participate. (See p. 74.)

Entrants, representing every state in the Union and the District of Columbia, totaled 16,033, of whom 2,575 completed the stiff science aptitude examination, submitted recommendations and scholarship records, and wrote a report on "My Scientific Project."

At the end of the winners' five-day stay, Feb. 24 through Feb. 28, the judges will award the scholarships. One boy or girl will receive the \$2,800 Westinghouse Grand Science Scholarship (\$700 per year for four years). The runner-up will receive a \$2,000 Westinghouse Science Scholarship.

Westinghouse Science Scholarships, ranging in size from \$100 to \$400 and bringing the total to \$11,000, will be awarded at the discretion of the judges to the rest of the winners.

The scholarships may be used at any college, university or technical school of the winners' choice so that they may continue their training in science or engineering.

Many Areas Represented

Chosen without regard to geographic distribution, the 40 trip-winners come from 32 cities in 17 states. One of the states represented, North Carolina, never has had a winner in a previous Search. States represented by winners since 1942 now total 43.

Four high schools in the United States have produced more than one winner this year. Evanston (Ill.) Township High School will send two boys. Erasmus Hall High School of Brooklyn and Forest Hills (N.Y.) High School will send one boy and one girl each. Two boys will come from the Fairfield (Conn.) College Preparatory School.

Nineteen of the winners this year come from schools that have never before placed a winner in the annual Science Talent Search. The other 21 added new laurels to schools already honored in the past by having produced winners. Each school having a winner receives a bronze and walnut plaque to add to the school's trophy collection.

The honor of being all-time top-producer of winners goes to Forest Hills (N.Y.) High School. Their 14-year total is 19 winners. Close behind is Stuyvesant High School in New York City with 18 winners—a total that only one other school in the USA can match.

Evanston (Ill.) Township High School, the only school in the country to produce two previous winners of Westinghouse Grand Science Scholarships, adds two winners this year to bring to 10 its total for the 14-year period.

Three Brooklyn (N.Y.) schools have upped their total of winners: Midwood High School to nine; Erasmus Hall High School to eight; and James Madison High School to two.

New Rochelle (N.Y.) High School has brought its total of winners to six for the 14 years; while Bassick High School in Bridgeport, Conn., can now boast of four for the same period.

Schools With 3 Winners

The following schools have been able to place three winners each since 1942 when the Search began: Webb School of California in Claremont; Fairfield (Conn.) College Preparatory School; University High School in Urbana, Ill.; Princeton (N.J.) High School; and South Charleston (W. Va.) High School.

This year's winners also up these schools into the group having placed two winners in the 14 years of the Search: East High School, Denver, Colo.; Newton High School, Newtonville, Mass.; Trenton (N.J.) Central High School; and Allentown (Pa.) High School.

All but one of the winners live at home and attend their local or nearby public, parochial or private secondary schools.

Of the Science Talent Search trip-winners 45% rank first, second or third in their graduating classes, which range in size from 22 to 1,207 students. Exactly 80% of the winners' fathers and 60% of their mothers attended college. A number have parents who were born or educated abroad. Of the winners 31 claim no scientists among their relatives; the others have one or more scientists among their close or distant relatives.

Contrary to a frequent conception about scientists, the winners are not interested in science only. While most of them spend much of their spare time in science pursuits such as science clubs and individual hobbies of a scientific nature, all of them have participated in varied extracurricular interests such as music, athletics, journalism and dramatics, and all belong to social and educational organizations outside their school work.

Many of the top 40 already have chosen the lines of study they wish to pursue. Physics attracts ten, engineering nine. Seven wish to be chemists and six biologists. Five plan careers in medicine, while one each has hopes to be a geologist and guidance counsellor. Only one remains undecided. All expect to do research in their respective fields.

Previous Winners Succeed

Records show that 93% of those chosen in the first six years (1942-1947) of the Science Talent Search are now science trained. Of these 240 a total of 95% have their bachelor's degree; 70% have a master's degree and 48% have a M.D., Ph.D., or D.Sc. degree.

Physical sciences lead in their choice of careers with physics and mathematics outdistancing chemistry. Engineering has attracted another large group. Of those who have chosen biological careers, the largest number is in medicine.

The largest number of the 240 have taken positions in industry, working mostly on research problems. Government and academic positions are also of the research type.

In addition to the 40 trip-winners, who will attend the Science Talent Institute in Washington, an Honorable Mentions list of 260 in the Fourteenth Annual Science Talent Search will be announced Feb. 3. These high ranking contestants will be recommended to colleges and universities for their aptitude in science. If they are as fortunate as those previously included in the Honorable Mentions List, they will receive offers of scholarships from many institutions of higher education seeking students with talent in science.

State Science Talent Searches

Through an arrangement with Science Clubs of America 26 states and the District of Columbia are conducting state Science Talent Searches concurrently with the national competition. Ten of them have produced winners this year. In these 27 areas all entries in the national Science Talent Search will be turned over to state judging committees.

From their entries they will choose state winners and award scholarships to various colleges and universities within the state. Cooperating states are: Alabama, Arkansas, District of Columbia, Georgia, Illinois, Indiana, Iowa, Kansas, Maine, Massachusetts, Michigan, Minnesota, Montana, New Hampshire, New Mexico, North Carolina, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas,

Vermont, Virginia, West Virginia and Wisconsin.

The Annual Science Talent Search is conducted by Science Clubs of America, administered by SCIENCE SERVICE. Scholarships are provided and the Science Talent Search made financially possible by the Westinghouse Educational Foundation, an organization endowed by the Westinghouse Electric Corporation, for the purpose of promoting education and science.

Science Clubs of America, administered by SCIENCE SERVICE, is the international organization for science groups, in schools and out. Today more than 15,000 clubs are affiliated here and abroad, with a membership of more than one-third of a million young people. All are encouraged to participate in the Search and the National Science Fair.

Complete details of the National and the 27 State Science Talent Searches are available from Science Clubs of America, 1719 N St., N.W., Washington 6, D. C.

Science News Letter, January 29, 1955

NUTRITION

Instant Citrus Juice Made From Crystals

► HOUSEWIVES SOMETIME this year will be able to buy "instant" orange and grapefruit juice as well as the canned, frozen concentrate and fresh fruit for home squeezing.

The "instant" juice, cans of crystals that dissolve quickly in cold water, was developed by its manufacturers, Orange Crystals, Inc., of Plant City, Fla.

In color, flavor and aroma, the "instant" juice would be hard to tell from freshly squeezed citrus juice. And tests by the U. S. Department of Agriculture and the Quartermaster Corps showed that the "instant" juice could be stored for six months at 100 degrees Fahrenheit without losing flavor or vitamin value.

Secret of the process seems to lie in a vacuum-drying controlled heat process plus two chemicals. One chemical is a sugary substance called sorbitol which is used to "entrap" the essential oils and esters that carry the citrus fruit flavor and fragrance. The other is a drying chemical in a small envelope inside each can of crystals.

In-package dessication, or drying, using lime for the moisture-absorbing substance was announced in 1945 by Dr. L. B. Howard, formerly with the Department of Agriculture, now at the University of Illinois.

Department of Agriculture scientists as well as scientists in private industry and at the Massachusetts Institute of Technology, Cambridge, Mass., worked during World War II to try to develop citrus fruit crystals or powder that would keep under all climatic conditions, and be saving of shipping space and weight. Although the "instant" citrus juices also save weight and space and have good keeping quality without refrigeration, they are a far cry from the lemon powder used in World War II.

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STS Winners Selected

* Indicates girls

H. S. indicates High School

CALIFORNIA

Fleishhacker, David 17 Webb School of California
Havey, James Halbert Jr. 17 Grant Union H. S.
Briggs, Thomas Stafford 16 Abraham Lincoln H. S.

COLORADO

Aandahl, Vaughan Allan 17 East H. S.

CONNECTICUT

*Hartley, Alice Katherine 17 Bassick H. S.
Buccino, Robert Anthony 17 Fairfield College Preparatory
Foster, Edward John 16 Fairfield College Preparatory

ILLINOIS

Reed, Jack Donald 16 Evanston Township H. S.
Sommerfield, Martin David 17 Evanston Township H. S.
*Tate, Patricia Ann 17 Greenville H. S.
Potter, James Emerson 17 West Rockford Senior H. S.
Webb, Stephen Richard 16 University H. S.

INDIANA

Fassnacht, Robert Earl 18 Central Junior-Senior H. S.

KANSAS

Wilson, Daniel Hughes 17 Sumner H. S.

MASSACHUSETTS

Kalnajs, Agris Janis 17 Newton H. S.

MISSISSIPPI

Penney, David Emory 17 Central H. S.
MacDonald, John Lauchlin 16 University H. S.

NEBRASKA

*Tollman, Janet 17 Benson H. S.

NEW JERSEY

Eichman, Charles Jetter 17 Audubon H. S.
Nergaard, David Karl 18 Princeton H. S.
Webster, Norman Adelbert III 17 Trenton Central H. S.

NEW YORK

*Harman, Mary Ella 16 Erasmus Hall H. S.
Levine, Stephen Samuel 17 Erasmus Hall H. S.
Bachrach, David 16 James Madison H. S.
Rosen, Michael Ira 16 Midwood H. S.
*Myers, Carol Elnora 16 Canastota Central H. S.
*Fishman, Roberta Jane 16 Forest Hills H. S.
Fried, Michael Martin 15 Forest Hills H. S.
Kripke, Bernard Robert 15 New Rochelle H. S.
Barth, Rolf Frederick 17 La Salle Academy
Hoffman, Roald 17 Stuyvesant H. S.

NORTH CAROLINA

Vaughan, Maurice Hamilton Jr. 17 New Hanover H. S.

OHIO

Shilling, A. Gary 17 W. W. Ross H. S.
Williams, Lawrence Ernest 17 East H. S.

PENNSYLVANIA

Greenleaf, Frederick Paul 17 Allentown H. S.

TENNESSEE

Marshall, Winston Stanley 18 Isaac Litton H. S.

WEST VIRGINIA

Stone, John William 17 Stonewall Jackson H. S.
*Hawkins, Carol Irene 17 South Charleston H. S.

WISCONSIN

Harriman, John Edward 18 Appleton Senior H. S.
*Hable, Kathleen Anne 18 Columbus H. S.

Claremont
Del Paso Heights
San Francisco

Denver

Bridgeport
Fairfield

Evanston

Greenville
Rockford
Urbana

South Bend

Kansas City

Newtonville

Jackson
University

Omaha

Audubon
Princeton
Trenton

Brooklyn

Canastota
Forest Hills

New Rochelle
New York

Wilmington

Fremont
Youngstown

Allentown

Nashville

Charleston
South Charleston

Appleton
Marshfield