

the Bulletin Board

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MEMORIAL DAY HOLIDAY

Memorial Day, Monday, May 30, 1960 and Tuesday, May 31, 1960 will be observed as Laboratory Holidays.

The Peoples National Bank facility on site will be closed on Monday, May 30. It will be open for business on Tuesday, May 31, during its regular hours. Monthly and weekly paychecks will be distributed on Friday, May 27.

All weekly time cards must be delivered to Payroll by 10 a.m. on Wednesday, June 1, 1960, in order to have the weekly checks ready by Friday, June 3, 1960. Please do not use the interoffice mail to send any time cards this week.

Due to the short work week it will not be possible to have checks ready for shift workers who regularly receive their checks before Friday. These shift workers may have their checks mailed to their homes on Friday, if they will leave their name, life number and address with the Cashier on or before June 1.

JAPANESE SCIENCE WRITERS AND PHI BETA KAPPA CHAPTER VISIT BNL

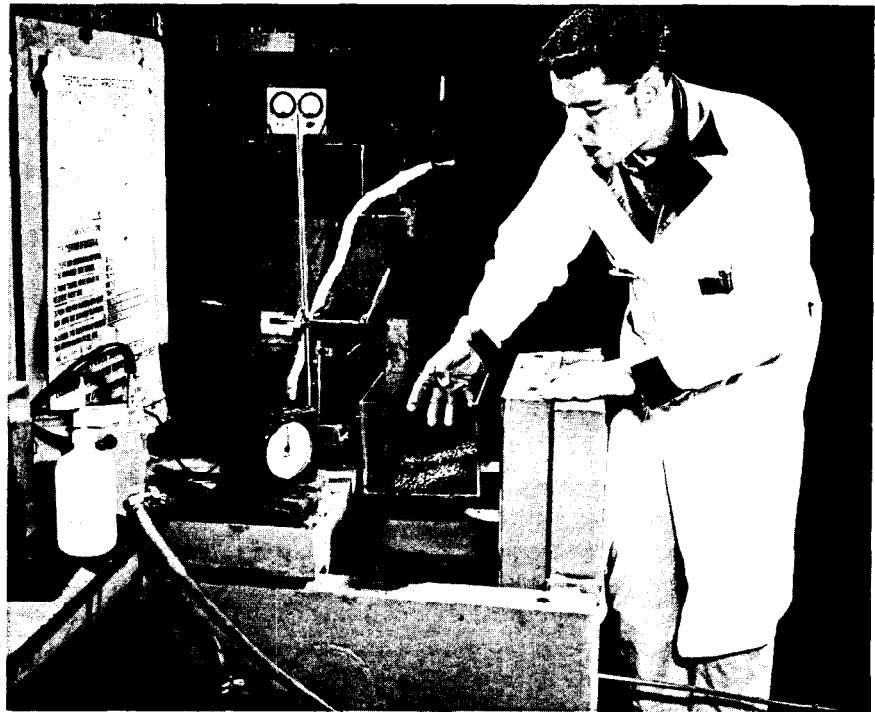
On Monday, May 23, eight Japanese science writers arrived for a two day visit at the Laboratory. The writers, who represent some of the major newspapers in Japan, are taking a course at Columbia University. They will see all the major installations at BNL and will have an opportunity to talk with staff scientists on subjects of interest to them, including Health Physics, air pollution, Biology, and Medicine. Two interpreters will accompany the group.

On Wednesday, May 25, the Long Island Chapter of Phi Beta Kappa will hold a meeting at BNL. An afternoon tour of the major Laboratory installations will be followed by dinner at the Brookhaven Center. Dr. L.J. Haworth will be the main speaker at the dinner.

DU BRIDGE BOOKS WILL BE IN NEXT WEEK

The group order of "Introduction to Space", by Dr. Lee A. DuBridges, will be delivered to Personnel Services at the end of next week. Please bring payment when you come to Personnel Services, 58 Brookhaven Avenue, to pick up your book.

COOPERATIVE RADIATION MUTATIONS PROGRAM



Laboratory assistant is placing seed in the thermal column to be irradiated as part of the BNL Cooperative Radiation Mutations Program.

One of the most important properties of ionizing radiation, from the biologist's viewpoint, is its ability to induce mutations, which can be defined as sudden structural alterations in the hereditary material located within the nucleus of the cell. These alterations are reflected in a sharp change in the pattern of inheritance of some specific characteristic of the individual, be it plant or animal. Such changes occur spontaneously, but only infrequently, as a natural process and they have been of great interest to the geneticist and plant breeder. The former has long been interested in mutations because they represent a drastic alteration in the basic, orderly mechanism of inheritance; the latter because occasional natural-occurring mutations have possessed new properties of economic importance. When it became evident that radiation could very considerably increase the rate of production of mutations, both groups seized upon this new tool with great avidity. Brookhaven's Biology Department has several geneticists working on the theoretical problems and mechanisms of mutation production by ionizing radiation and has also established the Cooperative Radiation Mutations Program as a means by which plant breeders throughout the world can make use of the unique radiation facilities available here as an adjunct to their normal breeding procedures.

The program was started in 1953 and more than two hundred scientists from all over the United States and twenty-four foreign countries have participated. Some seventy different crops are under study. (Continued on Page 2)

MUTATION PROGRAMS—Cont'd

Breeders consult with Brookhaven about their special problems and needs in any given crop and, if it seems likely that radiation may be successfully employed to produce a recognizable mutation for a desired character, seeds, cuttings, or even plants are shipped to us for treatment. Seed and cuttings are generally exposed to thermal neutron exposure in the thermal column at the reactor, and also to X rays. Growing plants are exposed for periods from one day through several months or even years, in the gamma radiation field or in the greenhouse. In past years about one half of the planted area of the ten acre gamma field has been devoted to plants submitted by our cooperators. The material is then returned to the cooperating plant breeder who grows the material and carefully screens it for the sought after change. Brookhaven is kept informed of the progress of the work and furnishes advice as required.

When a mutation takes place it occurs in a single cell. This cell generally must divide a large number of times to produce enough tissue for the mutation to be recognized. If the plant is propagated by seed, the mutated tissue must extend into the flower and reproductive structures if it is to be detected and used. In plants propagated by cuttings, the altered tissue must reach into a bud from which it can then be propagated and increased. Thus, only a few seed or a few buds first display the mutation. These must be increased in number, either sexually (for seed crops) or asexually (fruit trees, ornamentals, etc.) until a large enough population is built up to permit critical evaluation of the change. One item of great interest to emerge from this work is the fact that in some instances radiation is able to produce new types by causing a rearrangement of the cells of the plant without the need for a mutation to take place in the genetic mechanism of any single cell. Such changes occur in much higher frequency than do true mutations and these may be an important source of new material in horticultural and especially ornamental plants.

Most of the alterations produced are harmful and it is necessary to irradiate large populations and analyze these very carefully to discover the occasional one which may be beneficial. A number of useful changes have been found and these are now undergoing extensive testing before they can be considered as possible new varieties. One must determine whether the new type is changed only in the single desired character, or whether this change is associated with other alterations that might be disadvantageous. In seed propagated species the new character must be studied for several generations to determine its mode of inheritance. In some instances the mutation will not be used in the variety in which it was produced but must be introduced into a different variety by appropriate methods of hybridization. This testing and evaluation period is a long one and it is estimated that a minimum of five years and as long as ten years may be required before one can release a new variety with complete assurance that it constitutes a distinct benefit over existing varieties. Among the beneficial changes which have been reported, some due to mutation and others to cellular rearrangement, are resistance to disease in certain cereal crops (wheat, rice, soybeans, peanuts); a Kentucky blue grass that is resistant to stem rust; shorter and stiffer stalked cereals with greater resistance to wind damage (rice, oats, barley); earlier and later ripening peaches and blueberries; and color and form changes in a variety of ornamentals such as carnations, geraniums, roses and chrysanthemums. In the carnation, for example, changes from white and pink flowers to red occur frequently. Plants with greater and fewer numbers of petals and with different petal form have also been found. Three new promising types have reached the stage of final testing and may soon be released as new varieties. Red roses, to cite another example, have formed branches with near white, pink, dark red and even variegated white, pink and red flowers, all of which seem to be stable and can be perpetuated by cuttings.

**SUPERVISORY SEMINARS
CONCLUDE**

Session III, the last in the current series of Supervisory Seminars, will be held this week. At this session, the Health Physics Division and Safety Office will suggest ways to use their services most efficiently. There will also be a round-table discussion of the handling of supervisory problems.

Session III will be conducted in four separate groups, Tuesday, May 24, through Friday, May 27, from one to three in the afternoons at the Recreation Building. About 130 supervisors have attended the sessions in this series of Supervisory Seminars.

**WESTBURY MUSIC FAIR
DISCOUNT TICKETS**

The 1960 summer season of the Westbury Music Fair is about to get under way. As in previous years, you may purchase tickets to the Music Fair at a 20% discount at Personnel Services, 58 Brookhaven Avenue. It is expected that tickets will be available on Friday, May 27. Employees have found this service particularly convenient in the past, since seat reservations and payment are made directly through Personnel Services.

Starting the season will be TEAHOUSE OF THE AUGUST MOON with Red Buttons, from June 7 to June 12. The other productions this year will be: SOUTH PACIFIC (June 14-19), GIRL CRAZY (June 21-July 3); MEET ME IN ST. LOUIS (July 5-17), PAINT YOUR WAGON (July 19-24), REDHEAD (July 26 - August 7), CAROUSEL (August 9-21), STUDENT PRINCE (August 23-28), GUYS & DOLLS (August 30-September 4), and WEST SIDE STORY (September 6-18).

BNL SAFETY RECORD**LIFT WITH A SQUAT****...NOT A STOOP**

NATIONAL SAFETY COUNCIL

**19 Days Since Last Disabling Injury
(May 4, 1960 - May 22, 1960)**

BOWLING DANCE SUCCESSFUL

Thanks to George Hardman and several hard working teams the Gym was tastefully decorated and a good time was had by all.

Beer, soda, potato chips, pretzels, good music and dancing was the order of the night. At 9:00 p.m. Mr. G. Tape, Deputy Director, presented the team captains and individual award winners with their trophies and his final presentation went to the Odds and Ends as the BNL Bowling Champions. Mr. Vogt and Mr. G. Sabine assisted with the award presentations. Shortly after the awards were finished the music started.

The Metalliks walked away with the Best Decorated Table Award. Ben Serry (Phoubars) won the door prize, and fourteen other individuals took home cases of beer that were given as prizes.



A trophy presented to the Champions by the Technicians.

ODDS N' ENDS LAB BOWLING CHAMPS

Last Wednesday, the five Bowling League Champions: Fire Department (Green League), Designers (Purple League), Loopers (Red League), Techs (Blue League), and Odds n' Ends (Ladies League), met head on to see who was going to be awarded the Championship Plaque at our first Bowling Party.

The Match was run by the Petersen point system. The first match put the girls against the Designers and Captain Grace Siemen showed that she meant business by starting off with a 201 game. The rest of the girls picked up the momentum and in four games they beat the Designers, Fire Department, Techs and Loopers to accumulate a total of 69 points, three points more than the second place Loopers. Congratulations, girls!

Other games bowled that are worth mentioning: Ed Hein 204, Hildenbrand 201, Strier 196, Peters 191, Malloy 192, Sparacino 198, Scatton 205, and Larsen 200.



Mr. G. Tape and the BNL Bowling Champions.

One of the highlights of the evening, was when the Technicians awarded their table decoration to the BNL Bowling Champs (Odds and Ends). This manikin was fully clothed and dressed to represent a bowler. But after the awards had all been presented, the Technician team removed the clothing and presented the manikin to the Champs, but this time it had a knife in its back.

Other teams that had table decorations were the Bismuth Kings, Frisbees, Odds & Ends, Phoubars, and the Strugglers.



The Best Decorated Table.

ADVICE TO THE LOVE-LAWNS

DOGWOOD: Watch for Dogwood borers at this time. They will usually be found between the ground and first limbs, but may be found higher. Their presence is indicated by minute amounts of sawdust (frass) around a tiny entrance hole. Dig the small, white, brown-headed borer out with a pen knife. Sometimes trees bloom more profusely than usual if they are infected by these pests.

MOLES: Mole activity in a lawn indicates that there are insects (grubs) present. These are the moles' sole source of food; they do not eat bulbs or grass roots. The only sure control is to apply chlordane at the rate of 20 lbs. of 50% wettable powder or its equivalent to one acre. This will kill most of the soil insects and the moles must go elsewhere to survive. Mole traps are effective but complete control is difficult. These traps have to be set with care and may leave one with the frustrated feeling that the mole is a pretty smart animal.

BERA FISHING CONTEST

Now is the time to start fishing. Memorial Day weekend should produce almost all of the eligible fish in the contest.

A few more entries were received this past week. The standing thus far is:

Striped Bass, no entries; Sea Bass, no entries; Blackfish, no entries; Bluefish, 2 lb. 3 oz.; Cod, no entries; Flounder, 1 lb. 4 oz.; Fluke, 2 lb. 4 oz.; Kingfish, no entries; Mackerel, no entries; Porgy, no entries; Tuna, no entries; Weakfish, 1 lb. 8 oz.; Brook Trout, no entries; Brown Trout, 12 oz.; and Large Mouth Bass, no entries.

If you are going fishing this weekend, don't forget to weigh those fish that you catch and enter them. The contest is open to all Brookhaven employees and any weight fish is eligible for entry.

ORDERS BEING TAKEN FOR FIRE EXTINGUISHERS

Don't forget to place your order for a Kidde 2½ pound Dry Chemical Fire Extinguisher at Personnel Services. The deadline for orders is Friday, June 3. List price \$19.75, group purchase price \$12.50. Your order must be accompanied by payment.

This fire extinguisher, approved by the Underwriters' Laboratories and the U.S. Coast Guard, is equivalent in fire killing power to 8 one-quart carbon tetrachloride extinguishers. It is useful on boats and in the home. A sample extinguisher may be seen at Personnel Services, 58 Brookhaven Avenue.

CLASSIFIED ADS**FOR SALE**

1952 BUICK - 4 door sedan, 2 tone, automatic transmission, r&h. Excellent condition. Owner leaving country. Lindner. Ext. 625 or 711.

1954 BUICK CONVERTIBLE - all power. New motor job and transmission. A beautiful car at a very low price. Ext. 423.

1960 KARMANN GHIA CONVERTIBLE - Blue. Only 2,200 miles. Perfect condition. Ext. 604 or SEtauket 6-0631-M evenings.

1956 CHEVROLET - convertible. Black, V8 engine, power glide transmission, good rubber, excellent top (like new). Continental rear bumper. 44,000 miles. Call Ext. 2245 or BELLport 7-0143 after 6 p.m.

HOUSE - white frame. 256 Bayport Ave., Bayport. 3 bedrooms, 1½ baths, living-dining room, modern kitchen, utility room, large attic, and double garage. Oil-steam heat. On 75 ft. by 210 ft. wooded lot in pleasant neighborhood. Less than ¼ mile to stores, schools, church, and RR station. BAypport 8-2015-J for appointment. Asking \$14,500. G.A. Price.

HOUSE - Center Moriches, 10 Shirley St. 3 bedrooms, living room, kitchen, dining area. Oil-hot air, gas-fired hot water. ¼ acre, lovely flower beds and shrubs, brick walkways and patio, final landscaping in process of completion. Taxes are \$219. \$11,500, will haggle. G. Lellouche, Ext. 345. Or ATLantic 4-7350 after 6 p.m.

RUNABOUT - 16 ft. moulded fiberglass runabout. Coast Guard equipped. 30 h.p. Johnson electric starting. \$800. ATLantic 6-8990.

16 FT. THOMPSON LAPSTREAK - custom cushions. Vacuum tank. Steering. Simplex shift. Electric starter. Canvas cover. Oars. 25 h.p. Evinrude. \$500. Call C. Cantera, Ext. 2376 or SAYville 4-1792-W.

SLOOP - Cape Cod 18 ft. with cradle and trailer. Painted this yr. Stainless rigging, outboard bracket, anchor, and other accessories. Johnson outboard 5 h.p. Complete mooring tackle available. Rustad, Ext. 467.

RUNABOUT - 16 ft. moulded mahogany. Controls, steering & running lights. 25 h.p. Johnson electric starting, fine condition. Ready for water. \$595. GRover 5-0813.

5½ H.P. JOHNSON - this motor is in excellent condition, will guarantee for summer season. Completely reconditioned this spring. Remote tank. \$90. Ext. 482 or BELLport 7-1092 Sat., Sun. evenings after 5:30.

CAR LUGGAGE RACK - approximately 3 ft. by 4 ft., with cover. ATLantic 6-8807.

CRIB - hand painted modern crib. Excellent condition. \$20. GRover 5-7591 after 6:00.

FRIGIDAIRE - automatic washing machine and Frididaire 30 in. electric stove. Good condition. Call evenings ATLantic 4-8501.

WATER HEATER - 40 gal. electric. John Wood. New, still in crate. \$75 for quick sale. YAphank 4-6454.

PRAM - 8 ft. fiberglass plastic. Mahogany trim. Excellent condition. \$100. Ext. 2467.

PRAM - 10 ft. sailing pram, nylon sail. \$150. E. Courant, Ext. 374.

BLACK LABRADOR RETRIEVER PUPPIES - dam is a working gun dog; with an excellent field and bench champion blood line. Sire is an English import with a comparable pedigree. A.K.C. registered and will have temporary shots. These puppies are for someone who wants a really fine gun dog and/or pet. Wonderful with children. Call Ext. 2169 or GRover 5-3195 evenings.

REFRIGERATOR - 8 cu. ft. Frigidaire. Excellent condition. \$50. Phone evenings, ATLantic 9-1541.

BICYCLE - Girl's 20 in. Ross bicycle. Used 2 summers. Perfect operating condition, new paint, bell, light, kickstand, carrier and new grips. Cost \$42.50 new plus accessories. Asking \$20. BELLport 7-1232-M.

BICYCLE - 20 in. boys. With training wheels. \$10. J. Weiss. Ext. 2472.

SEWING MACHINE - White rotary. Treadle type. Round bobbin, \$10. J. Weiss, Ext. 2472.

WARDROBE TRUNK - genuine, 4-drawer Oshkosh. Like new. Call Ext. 411, H. Leftwich.

ARGUS 3 CAMERA - like new, with German light meter and flash attachments. Best offer. Call GRover 5-4748 after 6:00 p.m.

ATTENTION HAMS - BC-946 Receiver (.520-1500 KC) with AC power supply speaker. Wired for 6 v. "Hammer tone" grey finish with machine turned panel. Ideal for mobile broadcast receiver or use as an I.F. for converter. \$20. Also Heathkit SG-8 R.F. Signal generator in v.g. condition/with leads. \$10. Ext. 354. P. Buhl, WAZAQL.

FOR RENT

APARTMENT - 4 rm. apartment conveniently located in Bellport. Available for year round occupancy - with garage. R. Nathans, Ext. 398 or 709.

WANTED

HOUSE TRADE - Chalk River scientist would like to trade houses for about 2 wks. this summer with someone interested in a vacation in Chalk River area. 3 bedroom house, 3 minutes from beach, golf-course, close to excellent trout fishing. For further details, call D.R. MacKenzie, Ext. 572.

SMALL REFRIGERATOR - in good condition. ATLantic 6-8807.

SMALL MOTOR SCOOTER - Vespa, etc. Ext. 2316.

USED DRESSER - and a baby stroller. Call Frank, Ext. 2254, or POrt Jefferson 8-2758-W.

CAR POOLS

Driver to join existing car pool from Islip, East Islip area. AI, Ext. 779.

Three man car pool, from West Islip, desires fourth driver. Contact A. Friedman, Ext. 2133.

Would like to join car pool from Blue Point. M. Hillman, Ext. 779.

FOUND

Call Personnel Services, Ext. 2107.

KEY - General Motors, on May 19.

JACKET - found in ball field. Brown fabric with light blue and black pin stripes.