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#### **Extend Prize List**

Marty Lyons, Llanerch CC (Phila. dist.) pro, urges pros and club tournament committees to make year's prize for "most improved golfer" one of the features of the awards of the season. Marty also advises that pros spread their shop stock to provide more than golf equipment and apparel prizes. He says that by having a larger variety the pro gets most of the prize business and doesn't diminish golf item sales. He also reminds pros and committees that many members want prizes on which there is an inscribed record of the event and winner as a pleasant and proper ad of how good—or how lucky the winner was.

### How Phosphorus Function in Turf Production By DALE H. SIELING Head, Agronomy Dept., Univ. of Mass.

Growers of grasses have fewer problems with phosphate deficiencies than almost any other group of persons growing plants. It is true that the grass crop requires phosphate just like any crop but the nature of the golf course crop makes it one that conserves phosphate effectively and uses phosphate efficiently.

Plants require phosphate for their es-

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sential functions, such as: reproduction, protein formation, fat synthesis, carbohydrate or sugar utilization and metabolic processes. All living cells require phosphates, therefore there is intensive competition between plants and the lower forms of life for the phosphate of soils. Under ideal conditions, plants obtain a fair share of the soil phosphate unless the soils are so run-down that the phosphates are made unavailable by a chemical process called phosphate fixation.

When grasses are established on highly fertile soil, the soil particles which contain the phosphate in chemical combination are held in place by the network of roots. Old roots die and along with the clippings are attacked by soil bacteria, fungi, and other low forms of life. The minerals, including phosphate, which the dead materials contained, are made available to other plants or lower forms of life.

A resulting residue of organic matter is produced which is dark colored and which serves many useful purposes in the soil. This important organic matter called humus, serves as a physical conditioner of soils by holding the soil particles in desirable aggregates and thus contributes materially to the physical condition of the soil. This humus makes the soil hold more water and at the same time allows more air to get into the soil. Since both air and water within the root zone are desirable for good plant growth, grass keeps improving because of the more desirable conditions it creates itself.

All these fine features of grass are based upon the presence of a desirable level of nutrients for establishing a good sod when the grass is planted. Rundown soils with little organic matter or available phosphate make the problem of establishing grass a difficult one. It is therefore necessary in establishing grass to prepare a good seedbed to which has been added sufficient phosphatic fertilizer to create conditions desirable for good grass growth before this soil building effect of grass can become operative.

Within the soil are some vulture substances that have great phosphate consuming power. These substances, compounds of iron and aluminum, combine chemically with phosphate and "fix" it in a condition which is extremely difficult for the plant to obtain. Keeping the phosphate from coming into contact with these elements, iron and aluminum, will increase the effectiveness of added phosphates. This is achieved by banding of the fertilizer or by pelleting the fertilizer so that large concentrations will be localized in the soil.

Once the grass has been established,

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nature has provided a means for keeping the phosphate available. Around the roots of grasses and other plants is a zone called the rhizosphere which is literally teeming with bacteria. When properly nourished these active minute living cells produce organic substances for which the iron and aluminum have a greater affinity than they have for phosphate. Thus phosphate which has been "fixed" by iron and aluminum is freed and made available for plant use. The cycle goes on and on with little loss of phosphate; however, most soils in the East and South are so low in native phosphates that periodic additions of phosphates are necessary to get the level of soil phosphates high enough to get this grass-phosphate system into its highest effectiveness.

Phosphate is necessary for good grass and good grass makes the use of phosphates produce better grass.

(NGSA convention paper)

## Jaycees Add Course Building To Tournament Promotion

Continuing to expand their golf activities throughout the country the United States Junior Chamber of Commerce released early in December a 15 minute, 16 mm sound, color film "Golf for Youth." The production was jointly produced by the USJCC and the National Golf Foundation.

Hugh Egan, Jr., Jaycee sports and recreation director, reports the film has been enthusiastically received by junior chambers, golf associations and country club groups in various parts of the nation and pointed out that the film is available from his office at no cost.

In addition to bringing to the screen a complete history of the growth of the National Jaycee Junior golf program the film also includes shots from Jaycee-sponsored PGA tourneys. "However," Egan said, "one of the most important messages in the film is the need for increased golf facilities across the nation. We have found Jaycee groups coming to the front in this field and accordingly have filmed actual work at Zanesville, Ohio and Springfield, Illinois where municipal installations are now underway sparked by the local Junior Chamber of Commerce."

Another portion of the film alerts the nation's junior golfers to the 5th Annual National Jaycee Junior championship which will be played on the Iowa State College course August 13 to 19th. Over a short span of five years the Jaycee Junior has risen to the largest organized golf program in the nation. Working through a systematized series of playoffs on a local, state and national layout the Jaycee junior golf program last year en-