Factors Affecting A Spray Application

by O. W. (RED) KROMER

To have a successful spray application, a number of factors must be considered. Controlling these factors is more important for a herbicide application than for applying insecticides or fungicides. These factors are:

1. Nozzle spray pattern and discharge rate.
2. Boom and hose capacity.
3. Accurate pressure control.
4. Speed of travel.
5. Chemical and water mixtures.
6. Spray swath overlap or skip.
7. Boom stability and boom height above the target area.
8. Wind and climatic conditions.
9. Timing.

The first five subjects were briefly covered in my first two articles. However, it must be considered that with use, nozzles wear which increases their discharge rate and narrows their spray fan. This can happen quite quickly with the old style fan nozzle with a sharp oval shaped orifice. The flooding type fan nozzle will retain its accuracy and fan width much longer. It also produces larger droplets which are less affected by wind. The larger droplets also give better control of broad leafed weeds by actual University tests.

The boom and hoses should be of sufficient size and smoothness so that all nozzles will discharge the same quantity of fluid. This becomes increasingly critical for higher gallonage applications. For low pressure spraying, 30 to 60 lbs., a low pressure regulator must be used. A high pressure regulator is not sensitive enough for low pressure work. If the sprayer has the pump and hose capacity for high pressure use (500 to 600 lbs.) then both high and low pressure regulators should be used in the system with valving, so either system can be used. A sprayer of this type with a piston pump is useful for cleaning machinery, tree spraying, fire fighting, etc.

Accurate travel speed is essential for a herbicide application. A good slow speed

continued on Page 6

continued from Page 5

speedometer (0-10 M.P.H.) would be very helpful. This speedometer can be obtained as a sprayer accessory and is equipped with a small rubber tired wheel which can be mounted against any wheel that rolls on the ground - even cleated tractor tires - and will register accurate ground travel speeds.

Chemical and water mixing must be done accurately especially when topping off a partially filled tank. Spray swath skip or overlap is especially difficult to control. For accurate application, the outer nozzle on the boom on the return trip would have to be held 20 inches over from its previous position - for a boom with 20 inch nozzle spacing, this is impractical under field conditions. For agricultural spraying, with sensitive grain crops, a die marker is used. However, for golf course use this would be objectionable. Therefore, as grass is not as sensitive to the spray chemical as grains it is better to overlap the spray swath.

The boom should be held rigid when spraying. It should not be free to swing. Also it should be held above the spray target at least 20 inches so the nozzle pattern can spread to give a uniform coverage.

Wind and climatic conditions can have a detrimental effect on a spray application. For weed control, a clear, warm, sunshine day with no prospect of an immediate shower are ideal conditions. Timing refers to the growth stage of the weed when the spray application will be most effective.

A word on the use of a hand gun for spraying greens or other broadcast applications. For an accurate application, a hand spray boom should be used and be at least 20 inches above the spray target unless 10 inch nozzle spacing is used. Then the boom could be 12 inches

continued on Page 7

GCSAA NAMES NEW DIRECTOR

James E. McLoughlin has been named Executive Director of the Golf Course Superintendents' Association of America. The announcement was made by GCSAA President Melvin B. Lucas, Jr., CGCS. McLoughlin is well known in the national golf community, having served as Executive Director of the prestigious Metropolitan Golf Association since 1966. He will begin his duties with GCSAA this September.

In making the announcement, Lucas stated, "GCSAA recognizes there are many new challenges facing the golf club industry in the 1980's and the Association's continued goal is to be a responsible contributor within this forum. The future welfare of the golf, club and turf industries will require greater communications among all golf related organizations in the years ahead, and, often, a common effort. Jim McLoughlin's diversified background will facilitate GCSAA's support of this concept."

The Metropolitan Golf Association is the nation's oldest and largest district golf association and serves more than 225 private and public clubs within the tri-state metropolitan New York area providing programs and services to member clubs and the local golf community. These services include a computerized handicapping service, a course rating and measuring program, an active tournament program, rules service and tournament counseling, junior golf program and numerous programs designed to help individual clubs in areas of taxation, finance, management and liaison among club officials.

McLoughlin is a graduate of Holy Cross College. He holds a law degree from Fordham University and a Master's in physics from Syracuse University. He was a high school physics teacher and coach for six years before taking over as Executive Director for the Metropolitan Golf Association in 1966.

President Lucas added, "GCSAA is confident that the choice of Jim McLoughlin as Executive Director is one that will bring new dimensions to GCSAA and the golf world. He brings extensive golf association management and administrative experience with him. He has a keen respect for our profession and this association. He is sensitive to what needs to be done in order for the golf course superintendent to meet his responsibility to himself, his club and his industry. His feel for the new technology of the 1980's, communications, educational program development, membership development and fiscal management, will benefit all of us."

In accepting the position, McLoughlin stated, "it is important to recognize that the superintendent works within a challenging club environment where the game of golf is intended to be played in a very special way. Accordingly, the superintendent will be faced with new responsibility and abundant opportunity in the years ahead. It is the GCSAA's role to prepare its members for these eventualities and to support the game of golf and the industry within which it exists."

continued from Page 6

above the target. The support wheels for the spray boom should be 1/2 the spray nozzle spacing beyond each end nozzle. Then you can use the wheel tracks as a guide on the return trip. A pressure gauge should be on the hand spray boom to indicate the pressure there.

If you have any questions on sprayers or equipment, I will be happy to work with you.