The attitude of management is the key factor in developing an effective quality control program. It is impossible to establish any sort of quality control program unless management is committed to certain quality standards. And, this commitment must be serious and consistent. All too often, management becomes mighty concerned about quality only when very serious problems arise and complaints are numerous, or when it is otherwise convenient. As things smooth out or as the season ends, the concern vanishes, the problems are forgotten, and the next season gets under way in the same old dubious manner.

A willingness to "just get by" is perhaps the real cause of most seed quality problems and attendant complaints. Getting by is one of the games that seedsmen play. Although, it takes many forms, the seedsman is always the protagonist and the seed analyst, seed control official, and certification inspector are bit players.

One popular game is called SHOPPING (Fig. 1). Samples are sent to various laboratories until the desired results (usually the highest) are obtained. These results are then used as a basis for labeling. Another, is a version of the old shell game NOW YOU SEE IT, NOW YOU DON'T. A sample is sent to a laboratory for both germination and purity analysis. If germination is good and purity is not, then the laboratory never gets another sample for germ. Resamples, however, are sent for purity only until by chance one turns out good. There are many variations of this game depending on which quality factor shows up low. Still another game might be called DIVIDE AND CONQUER. A seedsman has 500 bushels of wheat seed. A sample is sent to the laboratory and the results show good germ and purity but an excessive noxious weed seed. The lot is divided into two 250 bag lots, and two samples are sent for tests. The results of the tests might show that in one of the samples the noxious weed seed is within permissible limits, while in the other it is still excessive. The half of the lot that has the good test is

1/ Based in part on a column originally written for SEEDSMEN'S DIGEST, September, 1969.

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labeled, while the other half with the bad test is divided again, and so on, until as much of the lot "passes" as possible.

Still another game is the "Tolerance Game". When germination of seed lots is somewhat lower than desired, the "tolerance" is added to the germination % and the lot is tagged accordingly.

We have referred to the above procedures used by some seedsmen as "games," but they are not usually intended as such. First, we should recognize that very few seedsmen play the games described. Secondly, the few who sometimes follow such procedures do so in good faith. They have the idea that if any test indicates that the seed are of reasonably good quality then they must be of good quality - regardless of tests results from other labs that indicate variable or low quality. This is a natural reaction - most of us want to believe the best things - even seed. Yet, the variability inherent is sampling and testing must be recognized and appreciated. If 10 germination tests of a lot of seed average 75%, the odds are good that at least one of the 10 tests will show a germ above 80%. And, if enough tests are made, one will probably give a 90% germ. The average germ, however, will still be about 75%.

During the 12 years I've been associated with the Mississippi State Seed Testing Laboratory, nearly 150,000 samples have been tested and I've been taken to task by seedsmen literally hundreds of times for reporting "low" test results. In only one case, however, have I received a complaint about our test results being too high.

This makes me believe that many seedsmen suspect that seed analysts are also addicted to certain games - games such as GERMINATION ROULETTE, GUESSING, and SEED SHUFFLING (Figure 2).

Seed Testing Laboratories do make mistakes and their interpretations do get out of joint with those of other laboratories. Seedsmen should keep them on their toes. However, if two laboratories test different samples from the same lot and one finds 500 dodder seed, while the other finds only 200, the test giving the low count is not always correct. The dodder count is probably somewhere in between. A similar situation might pertain when germination test results differ widely among laboratories.

We have spent some time discussing the philosophy of "getting by" because it is one of the first things that has to go before a quality control program can be effective. Since most seedsmen will have to depend on a seed testing laboratory for the information needed to make the quality control program go, an understanding of the nature of seed testing results is also important. Most laboratories simply report results, they do not comment on or interpret test results. This must be done by the person in the company responsible for quality control.
The quality control program is based primarily on timely and scheduled sampling, testing and interpretations of test results. Managerial decisions relative to disposition of seed lots, over-hauling of physical facilities to minimize quality problems, modification of procedures, etc., can then be taken from an enlightened perspective.
FIG. 1 GAMES SEEDSMEN PLAY

TOLERANCE

75% + 8% = 83%

REPORT
75% GERM

SHELL GAME

NOW YOU SEE IT
NOW YOU DON'T
FIG. 2 GAMES ANALYSTS PLAY

SEND YOUR SAMPLES
TAKE YOUR CHANCES

GERM. ROULETTE

GUES SING
YOU GUESS THIS TIME

SEED SHUFFLE

SAMPLES

WEED
SEED
SEED
SAMPLE