

TRENDS IN TURFGRASS SEED PRODUCTION INDUSTRY

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Turfgrass seed production as we know it today is fast approaching a day of reckoning. The ultimate status will be determined by a blending of factors, both at the basic production level and the ultimate consumer level.

I would like to examine with you today some of the more prominent factors which will be responsible for what I have labeled "The Day of Reckoning."

On the basic production level, four factors are now influencing current and future trends; grass field burning, area shift in bluegrass production; new low level of contract pricing for proprietary varieties, and the loss of long-lived or persistent worm control chemicals.

Most of you have been generally exposed to the problem we in seed production face with the specter of environmental control over grass field burning. Briefly, we burn to increase our grass seed yield by nearly 60%. This is obtained by the prevention of disease, insects, thinning of accumulated thatch, weed control, rodent control, return of minerals to the soil, elimination of an existing fire hazard and probably the most important factor is the development of physiological conditions conducive to increased seed yields.

Alternatives to these effects of burning have not yet been developed, and our time is short, however, I am confident that with sufficient time and the considered effort on the part of seed producers, an alternative will be developed. Increased production costs, brought about by potential solutions, such as straw removal, mobile incineration, and shorter rotations must be borne by both producer and consumer. Don't overlook the fact that seed production of the elite varieties, used extensively by the seed industry, will be affected dramatically by the loss of field burning; for inherent in these lines are the quality turf factors, dense leaf growth, rapid sodding, and general vegetative dominance, all of which require the reproductive stimulation of burning for high seed yield. Fylking, for example, just plain doesn't like to, or won't, produce seed if we don't force it -- it wants to grow vegetatively -- sod and turf.

The demand for uniform control and regulation by the federal environmental protection agency will, we feel, require similar regulation for control of grass field burning, whether in Washington, Idaho, Oregon, North Dakota, or Minnesota.

We are today experiencing a local shift in area of production, more accurately and currently described as increased acres of bluegrass seed production in the dryland Palouse area of Washington and Idaho. This area, previously associated with the production of common Kentucky bluegrass, is now being exposed to low price contracting of the burgeoning bag of proprietary varieties. Most contract prices run just slightly above the break-even range of common Kentucky bluegrass. The obvious enticement

to the grower is a guaranteed minimum for his product, which in this case is five cents greater per pound than the common seed product he has been producing. However, the fallacy of this contract system is several fold:

1. The yields of proprietaries in general are much lower than commons; for example, a Merion yeild of 350 pounds per acre is a good average, while a good average yield for common variety of Kentucky is 800 pounds per acre.
2. Most proprietaries are elite in growth habit, i. e. , more leaf growth, fewer seed stocks, thus necessitating the burn requirement mentioned previously for satisfactory seed yields. We are now experiencing extreme difficulty in obtaining satisfactory burns and subsequent seed yields on dryland acreage of some current proprietaries.
3. A radical change in production technique of the Palouse grower will be required for proprietary production. Most dryland Palouse farms are 1,500 to 3,000 acres of cultivated land and size. Production practices on these sized farms, whether common Kentucky bluegrass or soft white wheat, must be Texas style in nature. Area economics require that operations be done in a big way; big acres, big machines, and big storage.

Attention to the fine detail can cost the grower money. Production of proprietaries on the other hand require just the opposite technique. Attention to fine quality detail is mandatory. The common grower will be required to meet quality standards associated with a genetically distinct elite proprietary bluegrass; roguing of off-type plants, near total elimination of common and secondary weeds, prevention of common Kentucky invasion in a soil already heavily laden with common Kentucky seed and surrounded with common Kentucky seed fields.

I believe that this change cannot be accomplished at the current contract level without drastically reducing the quality of seed produced. After all, the ultimate seed consumer, the sod grower, the homeowner, the institutional user, pays for what he receives and, conversely, receives what he pays for.

The lowering of contract prices will reflect a lower seed price to sod growers as a consumer, thus allowing contractors and seed houses to compete more favorably against Merion or other higher priced proprietaries. In the long run, however, both producer and consumer can be damaged by the spectrum of poor quality. Neither producer or consumer can afford such a misalignment of the ultimate goals of quality and performance.

4. A problem for both existing and potential production areas is the loss of effective long-lived persistent chemical control for sod webworm (*Crambus popiafius*) and Gelechiid (*Chiomodes psiloptera*) worms.

Worm damage, either sod webworm or Gelechiid, manifests itself particularly in elite varieties. A phenomenon of susceptibility is current in elites such as Merion, Fylking, Windsor, and A-34, while immediately adjacent commons, Geary, Park, Delta, and S-21, exhibit low susceptibility. Environmental protection elimination of DDT, Endrin, Heptachlor, and other long-lived hydrocarbons which previously were applied as a standard production practice on elites, pose producers with a dilemma; use highly toxic short-lived organic phosphates, or live with no worm control. Indirect consequences on the new dryland Palouse proprietaries obviously will be quite severe.

I have outlined many problems of the basic production level and now would like to review with you production problems at the consumer level.

There are many new varieties in the Kentucky bluegrass, fine-textured ryegrass, and creeping red fescue divisions which are now being introduced. One of the major fallacies of new varieties, regardless of kind, is introduction without sufficient testing.

Many varieties will be tested in turfgrass plots for two years, then introduced to the public as a "new, improved proprietary variety." We are convinced that a variety must be tested for a minimum of 6 to 8 years. Testing should include both vigorous turf and seed production performance.

Many diseases will not affect a variety until after the 2nd or 3rd year of growth. For example, stripe smut in Merion manifests itself generally after 3 and 1/2 years of planting. This is one reason sod growers seldom observe stripe smut, for the sod is usually lifted in the first or second year.

Expression of area performance is vital to the overall test results of a new variety. A variety may perform well in New Jersey, but poorly in Michigan, Illinois and Wisconsin. Observations from southern areas can give northern areas indicator symptoms. For example, one disease most important in the "transition zone" of the southern area is Fusarium roseum. As a variety is introduced to the transition zone with its high temperature and humidity, Fusarium roseum will quickly weed out unadaptable varieties.

Lets look at some variety characteristics revealed by university test programs and public exposure. Fylking Kentucky bluegrass is resistant to leaf spot, stripe smut, stem rust, leaf rust, and many other diseases; however, its resistance will vary in degree. Under normal conditions, up to 95 percent resistance is usual, but if conditions are ideal for disease attack, physical damage will occur. This last spring some leaf spot was observed on Fylking, apparently due to the warm, wet spring conditions. Although leaf spot lesions could be seen if examined closely, Fylking quickly overgrew the condition in 2 to 3 weeks without damage. Overall, Fylking is rated as having a leaf spot resistance better than any bluegrass other than Merion, which it equals. This "degree of resistance" can also be illustrated when we consider the excellent variety, BARON. New Jersey trials indicate BARON can be susceptible to stripe smut, but again maybe not as highly susceptible as a few other varieties. Again, stripe smut generally does not

express itself until after the 3rd year of planting. This is the reason we stress that every variety must go through at least 6 years of testing before it is released. In the 3rd, 4th, and 5th year many diseases may start expressing themselves.

Nugget Kentucky bluegrass has an excellent dark green summertime color, however, it does green up later in the spring and goes dormant sooner in the fall. Additionally, Fusarium roseum and dollar spot can be very devastating in the East/Atlantic Coast area, as evidenced by the Rutgers plots. The Nugget plants were unable to overgrow the effects of the disease as in the case of other varieties. The Nugget plots were decimated.

We are seeing in the industry today at least 2 well promoted varieties which have not been tested for more than $3\frac{1}{2}$ years, and yet these varieties as proprietaries are being marked today as vast improvements in the Kentucky bluegrass field. Beware of new varieties unless they have a history of from 6 to 8 years testing to back up their performance.

With the present deluge of many new varieties as proprietaries, failures due to inadequate testing and performance will occur. Now a 3rd factor is becoming significantly important to the sod grower. That of inadequate promotion. Many companies simply cannot afford to put forth the high expenditures necessary to promote and market a new Kentucky bluegrass variety. For example, our company has committed to spend over \$110,000 annually to promote Fylking. Even though a variety may perform well in several areas and may, for that matter, received adequate testing for 6 to 8 years, it still may not measure up to the job since it is not adequately or properly promoted and marketed. If it is not promoted there is no place for that variety as a sod producer. One thing we have learned is that when sod growers do not get a call for Fylking, they were not anxious to try it out, other than a small acreage to see how it performed. Even if performances were outstanding and nobody asked for it, then it did not warrant extra expenditure on the sod grower's part to plant it unless he could demand a higher price. The only way he could demand a higher price would be to get inquiries for it. Therefore, promotion of proprietary varieties will be most important in the future.

One of the hazards you as sod growers face with the elite varieties, which includes most of the new proprietary lines, is the consequences of the demand you place on a commodity. Sod growers, golf course superintendents, and the entire professional trade always want a turfgrass with a dense turf. This is fine, however, you must realize that the management requirements for this turf will differ from management requirements for standard common Kentucky bluegrass, or for that matter a Merion turf, particularly in the sodded form. We have found that sod growers will have problems transplanting a dense sod-former like Fylking from the sod field to the installation site due to increased numbers of leaf tillers, root tillers, and rhizomes. Fylking produces a dense turf with many more plant parts, therefore, if the transplanted sod does not receive immediate heavy water to keep all plant parts turgid, there will be dessication and, in some cases, loss of newly sodded lawns.

Sod growers must be sure to recommend to the homeowner that during the first 2 weeks following installation of sod that watering occur at almost twice the rate as would normally be applied to common Kentucky sod.

Whether we concern ourselves with basic production problems or the production problems as related to the consumer, we in the seed and sod industry will be faced with an apparent neverending search for solutions; for we must continue to develop, sample and market new ideas, new methods, and new products.

In summary, I have attempted to convey to you information concerning the problems facing basic production. Potential reduction of the quality of seed sold to the sod grower may result from low contract pricing and local production area shift. Chemical controls, previously a standard practice, now must be altered within a more stressing set of requirements. Burn restrictions will dramatically affect both seed producer and consumer in the form of variety availability and seed prices.

Simultaneous inter-action at the consumer level of inadequate or insufficient testing of new varieties, difference in area response, inability of some companies to adequately finance needed promotional programs, present the sod grower a position of ever greater responsibility and judgement for himself and his customer.