

Mistakes that farmers can't afford to make!

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Agriculture is a risky business. It requires planning and execution of each farm operation in a right/timely manner right from the pre-seeding days. As the saying goes, "To err is human"; we all, including farmers, can err and therefore need to remind each other about it. This note discusses about a couple of mistakes that farmers can't afford to make.

1. Buying cheap seed and selecting a wrong variety: Remember quality has a price! And, cheap seed isn't necessarily the best. It is advisable to use certified seed of all crops from reliable sources. A certified seed has been produced as per set standards by the Government regulations and it documents its genetic purity and physical quality (clean seed relative to chaff, dirt, etc; high germination, and a minimum of other crop and weed seeds). The pedigree of the certified seed can be traced back to its original source/parentage and the seed in the bag is true to the label. On the contrary, the seed from unreliable sources may not be grown as per set standards. As a result, the germination percentage/or the viable seeds may be lower than normal, seeds may not be of a uniform grade and may include shrivelled/uneven seeds, seeds carrying diseases, and weed seeds (beyond the prescribed limits). When the seed grade/size is not uniform, the crop emergence and stand is unlikely to be uniform. Consequently, the heading, especially in cereals, will not be uniform. This will create problems in fungicides spray to control harmful diseases such as Fusarium Head Blight which has a narrow window for spraying. With uneven heading, some of the late heading stems will escape spray and will get infested with the disease and result in low yield of poor quality grains as well as straw. Often the money saved in buying seeds from uncertified sources is much smaller than the losses in the produce yield or quality. A farmer known to me who used spring wheat seed from an uncertified source got less than 1 MT wheat grain yield per acre from his 200 acres wheat seedings. Whereas, others who used seed from a reliable source got at least 1.5 MT wheat grain yield per acre. At a farm gate price of \$250/MT, the farmer who used seed from an uncertified source lost at least 100 MT wheat grains in total, which could be valued at \$25,000. It could be anyone's guess that the saving in dollars invested in seed by him will hardly even be a fraction of \$25,000. When farmers use their own seeds of conventional varieties (not the hybrids), the care should be taken to select a part of the total acreage for seed production in which standard practices for seed production including use of certified seeds, pest control (weeds, insect-pests and diseases), rouging etc. are followed. The seed should be cleaned (to remove chaff, shrivelled grains and weed seeds) and graded to a uniform size before storing at optimum seed moisture that could vary with each crop. Germination percentage of the self grown/kept seed should be tested before seeding and the seed rate should be adjusted as per the germination percentage. A good quality seed should have a germination percentage of 95 % or more. Before selecting a variety for seed production, check the high yielding varieties for your area from the Provincial/Private Companies variety testing programmes as also any other variety testing programme run by a location specific research facility in your area. Remember a high yielding variety in one area may not be the highest yielding in another area. Don't hesitate to consult a crop specialist or a Certified Crop Advisor (CCA) to help making you right decisions. The CCAs sign and follow a code of ethics and will

not misguide farmers. Please keep in mind that all factors of production, including costly fertilizers, are aimed to exploit/attain the genetic potential of a crop variety. If you choose a low yielding variety, you are likely to get low yield despite excellent care given to the other factors of production. Please note that a single seed company, however great it may be, may not be able to give you a top yielding variety in all crops grown by you. Choose the best variety of each crop for your farm! While rotating crops, for example canola and soybean, it is advisable to seed glyphosate resistant soybean after Liberty canola so that volunteer canola in soybean is killed by glyphosate.

2. Considering 19-19-19 a balanced fertilizer/or relying on a single fertilizer blend: Crop varieties in the old days were low yielding and could probably do with a fertilizer blend containing 19 % N, 19 % P₂O₅ and 19 % K₂O (19-19-19) at a relatively lower rate of application. This could be particularly true for garden plants. Today's varieties are yielding a lot higher than the old ones and would require higher amounts of nutrients. Also, the crops don't take N, P and K in equal amounts/proportion. For most field crops, NPK uptake/requirement is in the proportion of 4:2:1 with the exceptions of legumes (that can fix their own N) and tuber crops, such as potatoes, which may need as much K as N. Under these conditions, applying N, P and K in equal proportion (e.g. 1:1:1) will be an imbalance. Balance means applying each nutrient in the right (required) amounts; not necessarily in equal amounts! For spring wheat/barley, N is usually recommended @ 70 kg N/ha, 20 kg P₂O₅/ha will be required for soils testing 16-20 ppm P and 20 kg K₂O/ha will be required for soils testing 101-120 ppm K. If a farmer chooses 19-19-19 to apply 70 kg N/ha to wheat/barley, he would also be applying 70 kg P₂O₅/ha and 70 kg K₂O/ha; the latter two at 3.5 times more than the recommended rates. He will spend more than required dollars without any extra reward. A canola grower last year applied 19-19-19 @ 250 kg/ha to canola. This equalled 47.5 kg each of N, P₂O₅ and K₂O/ha. P and K at such rates will be required only if the P and K soil tests are very low (6-7 ppm). No P and K application is recommended for canola for soils testing in 16-20 ppm P or K. It is obvious that this canola grower applied not even half of the recommended rate of N to canola and applied much more P and K than the crop would need. He could save dollars by choosing different sources of N, P and K fertilizers to apply right quantities of each nutrient and get higher canola seed yields. He didn't get even 1 MT canola seed yield per acre, whereas his peers who used 100-120 kg N/ha and P and K as per soil tests obtained 1.2-1.5 MT canola seed yield per acre. Two prime factors that should govern farmers' decisions on nutrient application are soil tests (capacity of the soil to supply nutrients) and yield goals (which will determine total nutrient removal/and requirement). Go for soil sampling and testing after about every 3 years. High crop yields could continue to remove secondary and micronutrients to the extent that these may become deficient in the soil, if not replenished. Under such situations, application of and investment in primary fertilizer nutrients (N, P and K) alone will not result in maximum economic yields (MEY). Apart from 4 Rs (right source, right amount, right place and right time) of nutrients application, MEY will require all farm operations/decisions to be done in a right manner! I am confident that the enlightened Ontario growers could take care of these things and will not make mistakes.

All the Best for Season 2014 and Always!

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