ZiMUNDA FARMING

HOT TOPIC

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Wheat Grain Fill Management and Harvesting

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Proper management of the winter wheat crop is essential as there are many challenges that can be faced from grain filling stage to harvesting.

During the late grain-filling period, ***Quelea birds*** may consume much grain and reduce yields significantly if not addressed. A pesticide molecule called 9,10-Anthraquinone 50% WP (Bird Shield) has been developed, which can be used as a seed dressing or as a foliar spray at the soft dough stage. Efficacy of this pesticide molecule can be enhanced by applying with a sticker and a rain fast period of 4 hours or more. This pesticide molecule will function as a bird repellent. This is the best and the most efficient option. Another option for bird management is bird-scaring using bells, tins, whistles, discs/reflectors, etc. by bird-scaring gangs. Quelea feed on the seeds of ripening and mature annual grasses. Being intensely gregarious birds, they breed and roost in enormous colonies in the vicinity of the ripening wheat. It is a legal requirement that such colonies be reported to the nearest National Parks Officer or Agritex who will organise for spraying to be done.
Ripening wheat in drier areas may sometimes be attacked by ***termites (white ants)*** which bore into and hollow out the stem from the base of the plant. The grain head and stem become prematurely white. The cause of the damage may be confirmed by cutting open the stems of affected plants and finding small termites and earth inside. Control is not exceedingly difficult as one simply has to band spray affected areas.

Diseases such as Leaf rust, Stem rust, Powdery mildew, Fusarium head blight, and Take-all may cause yield reduction. Farmers must seek professional advice on how to control these diseases. The best bet is for farmers to grow resistant varieties. Two preventative fungicide sprays are recommended if farmers are in disease-prone areas and give some form of insurance against climate change that can result in new disease pathotypes. Conditions can change quickly in the field and regular scouting helps to stay on top of what is going on. Favourable conditions can quickly lead to a significant incidence of disease or insect population development.

Wheat Harvesting

The date of the wheat harvest is the annual decisive moment for the wheat grower. No matter how shrewd his choice of variety, how careful the husbandry, or how kind the weather and insects, without the careful choice of harvesting equipment and skilful operation of it, the wheat grower may well lose a high proportion of his crop through poor harvesting techniques. Although the various makes of combine harvesters may differ in certain basic features, (e.g., drum and concave vs axial flow) all machines are capable of satisfactorily harvesting wheat. Most of the machines are self-propelled types but a few are tractor p.t.o. powered machines exist and there is currently renewed interest in these smaller, less expensive models. A generous portion of the crop is harvested by a contractor; it is not essential, therefore, that a new grower obtains his own machine, although the convenience factor of ownership is a major consideration.

Combines are quick and efficient having a minimum labour requirement. The combine can be used on other crops,

including soyabeans, sorghum, and maize if a maize head is available. Transportation of grain to deports can take place directly from the field providing that moisture content is not above 12.5%. Land preparation for the summer crop can begin immediately. The disadvantage of combine harvesters is that they are expensive to own and difficult to justify unless large areas of wheat and other crops are grown or unless contract work is also contemplated. It is necessary to start combining the crop at a moisture content (above 14%) which requires artificial drying. An elevated level of management is required to avoid losses both during the field operations and during the drying and handling process.

Ideally, **wheat in Zimbabwe** should be harvested when dead ripe (i.e., 12-14% moisture content) to minimise operations and achieve the most efficient harvesting. Bulk handling of wheat is the prerogative of those close to bulk depots and saves the problem of bagging. Bagging trailers that are high-sided and have sloping decks have openings cut in the sides of the trailers which can be shut by a sliding shutter. There is an attachment for grain bags at each opening. The grain from the tank on the combine is augured directly into the bagging trailer from which the wheat is bagged off, and six labourers should be able to bag off sufficiently to keep up with the combine: i.e.

- One worker moving grain in the trailer.
- Two workers bagging.
- Two workers weighing, topping up, and transporting.
- One worker sowing.

It should not be necessary to dry wheat if the crop has been planted at the correct time and the correct variety chosen, then combining should be completed before the rains. However, owing to combine shortages, etc. it is often necessary to combine wheat at a higher moisture content than normally desired and then artificially dry the crop. It should be remembered that wheat should not be dried using a temperature higher than 450 C.

The majority of **combine operating problems** can be traced to improper adjustment. Always refer to the operators' manual of the combine for specific adjusting procedures and settings. The following remedies should be applied with caution. Every effort should be made to understand the combine and why adjustments are necessary. When solving a problem, make sure that its source does not come from somewhere other than the apparent cause. For example, a plugged cylinder may result from improper feeding at the feeder house, rather than an improperly adjusted cylinder. For many problems, specific attachments are available to meet various ground and crop conditions. When experiencing difficulties, make every effort to correct the problem before purchasing extra attachments. If the combine is correctly adjusted, any special attachments will not eliminate the problem.

A Guide to Field Losses

There are approximately 25 700 grains of wheat per kilogram. A 50 kg/ha loss spread over the field would show as a count of 128 gains per m2, approximately 13 grains in a 0.1 m2 measuring frame. Losses may be assessed in this way. When using a combine fitted with a chopper and/or spreader a rough assessment of losses may also be made with a measuring frame randomly placed in the stubble. When using a combine that is not fitted with a spreading device the measuring frame may be used in the straw windrow when a count of approximately 50-60 grains (per 0.1 m) will indicate a loss of 50 kg/ha.While the combine is working place the measuring frame on the ground (or stubble) under the combine ahead of the straw and chaff discharge. Any grains collected in the frame are counted as cleaning or separating losses. Any grains found under the frame will be cutter bar and pre-harvest losses. Unthreshed heads are drum or threshing losses. In general, a total crop loss in the field greater than 1 to 1.5% requires remedial action. Repeat the collections from the frame two or three times before making any adjustments.

Happy Harvesting!!!!!

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