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Seed marketing recommendations

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FarmSeedOpportunities

Opportunities for farm seed conservation, breeding and production

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1	SUMMARY	4
2	SEED MARKETING	5
	MARKETING IN MAIN STREAM AGRICULTURE.....	5
	MARKETING IN FARMERS’ SYSTEMS.....	6
3	THE CURRENT STATE OF SEED PRODUCTION AND MARKETING – RESULTS OF THE QUESTIONNAIRES AND DISCUSSIONS WITH FARMERS	7
	<i>Conclusions on Production</i>	9
	<i>Conclusions on Marketing</i>	9
4	ELEMENTS OF MARKETING RELEVANT TO THE DEVELOPMENT OF NEW DIRECTIVES AND REGULATIONS	10
	REGION OF ORIGIN	10
	RESTRICTED QUANTITIES	10
5	RECOMMENDATIONS FOR SAMPLING	11
6	PACKAGING AND DISTRIBUTION	14
	LABEL REQUIREMENTS.....	14
	PACKAGING AND DISTRIBUTION.....	15
7	REFERENCES AND REMARKS	18



1 Summary

This document describes the characteristics of the marketing systems of the ‘formal system’ in comparison with the farmers’ system, also called the ‘informal system’.

Conclusions are made based on discussions with farmers and questionnaires that have been prepared and used during field visits by the various WP partners.

It is explained why the requirement to restrict seed production to the ‘Region of origin’ will be counter-productive. Similarly it is explained that the restriction in terms of quantity or area are per definition restricting the development of diversity. It is noted that the ‘farmers’ system’ and the formal system can peacefully co-exist and be of mutual benefit.

The document ends by giving recommendations on sampling, packaging and distribution.



A collection varieties and farmer’s selections of wheat



Marketing in main stream agriculture

Marketing in the sense of EU directives comprises a small part of what is normally considered marketing.

“Marketing is one of the most important, yet misunderstood, business activities and frequently means different things to different people. To the retailer in the agricultural sector, for example, it is selling seed along with other inputs to the farmer. To the farmer it is simply selling what he produces on his farm. However, whatever the circumstances, a well-defined sequence of events has to take place to promote the product and to put it in the right place, at the right time and at the right price for a sale to be made. Too many people think of marketing solely in terms of the advertising and selling of goods, whereas in reality marketing starts long before the goods exist and continues long after they are sold. Therefore, for the marketing process to be successful: the farmer consumer's needs must be satisfied and the seed company's objectives must be realised.”^[1].

In the sense of regulations, marketing means the release of a variety and the commercialisation of the seed of such a variety.

In the following however, we will also include some of the other elements of marketing, in order to be able to compare the farmer's system with the conventional, mainstream system. It will enable to identify elements that are specific to the farmer's system and form the basis of its uniqueness and its place in the farming world.

1. In the mainstream seed production company, seed company, there is no direct contact between the producer and the user of the seed. Large-scale seed production requires the hiring of contract farmers who will have a uniquely one-way relation with the company. The seed lot he or she produces will be processed, often mixed with others, to obtain the desired quality. The ultimate customer will therefore not have this one-to-one relationship with the original producer.

In order to compensate for this lack of feedback and information, the companies will appoint certain persons as sales representatives-cum-extension workers. These persons go to the farmer, tell about the (new) varieties that can be obtained, and in ideal situations will support the farmer during his cultivation.

Supporting material like brochures will be produced to convince the farmer of the benefits.

The combination of this contact with the representative and the brand image, or experiences obtained by the farmer in previous years with this company, will help the farmer to decide to try the material or not.

There is no exchange of goods or services. All transactions are via money.

There exists no social network, but nevertheless companies will try to generate such a feeling; for instance with free company magazines.

Marketing in farmers' systems

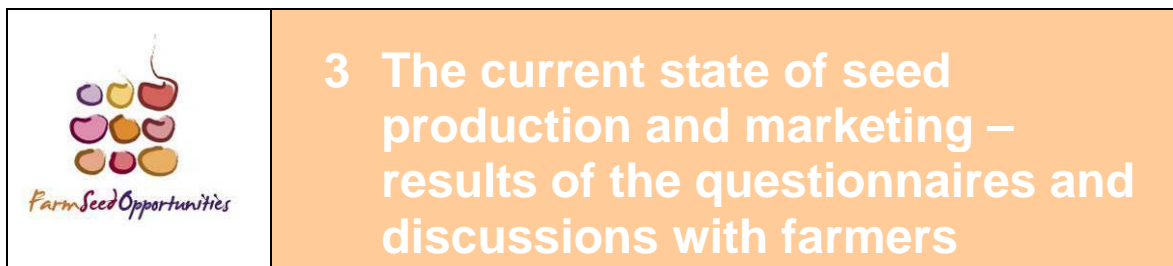
At present seed exchange between farmers is done in direct contact between producer and recipient, the 'customer'.

As a consequence of this, the 'marketing' of the seed happens in a different way.

1. Personal contact. An essential element is the personal contact between producer and recipient, resulting in exchange of experience, specific instructions on how to treat the seed (*e.g.* information about the presence of ergot and how to treat it), and instructions for crop management. The producer will also be able to tell about the crop's behaviour under the varying conditions of the last few years.
2. Shown experience. Trust of the buyer is based on a producer's shown experience in seed production, rather than trust in a particular seed house.
3. Own observation. Often, the buyer has observed the farmer and his crops over several years. He may also have obtained experiences of others with the same producer. This has generated the wish to obtain some of the material himself.
4. Experimentation. Usually the farmer will not change over to a new variety without trying it out on a smaller plot.
5. Remuneration. In a more developed farmer's system a segmentation of the market will occur, in which some farmers specialise in grain production or raising cattle, others will be more successful in milling and bread making, and still others will produce seed. This means that each of them has a unique product that may be exchanged for another. So it may happen that a farmer will provide seed in exchange for manure or labour; money not necessarily being an essential element.
6. Non-traditional elements. In such a system, farmers do not live and work very far apart, and they belong more or less to a sort of community, in which similar values are maintained. This includes the attitude towards nature and the environment, and a certain way of life. This adds to a good-feeling which encourages farmers to continue on the chosen way of farming and to further improve.
7. Special clubs and societies are being established to exchange ideas and experiences, to assist each other with advice and material support. An example is the French group 'Triptolème' which gathers annually, organises a seed fair, discuss issues of biodiversity, and jointly process (part of) their harvests on small harvesters.



Project leader (left) and WP3 leader discussing a poster at a meeting of the Triptolème Group of farmers in Bretagne, France.



In the first and second year many farmers have been interviewed and their comments laid down in questionnaires. The questionnaire is copied here below (FSO working document 3).



FSO Working Document 3

Protocol for farmer's interviews on Seed Production and Marketing in the framework of EU FarmSeedOpportunities

All project partners will visit and interview farmer's during the project. It is proposed to have them at least ask a number of standard questions, so that the answers may be analysed properly.

Introductory remarks

- ♥ Tell the farmer the purpose of your visit
- ♥ Explain about the FSO project and how he may benefit from it
- ♥ Explain what you want from him: an interview and a look around

Production

- ♥ Is the farmer producing seed exclusively for himself
- ♥ How many years of experience is grain & seed growing
- ♥ What crop & variety or varieties does he grow for grain and seed
- ♥ Why this variety for seed production
- ♥ Area grown for seed, yield
- ♥ Does he manage isolation; if yes, how
- ♥ How does he select the seed (mother) plants
- ♥ How does he dry, clean, store and package the seed
- ♥ Indicate difference with how he treats grain
- ♥ Is there any form of quality management by himself
- ♥ Is there any relation with the formal seed certification agency



- ♥ Is he accredited; if yes, by whom
- ♥ Can he indicate problems concerning producing high quality

Marketing

- ♥ If not, would he be interested to sell seeds to others outside his community
- ♥ Does he know of other farmers producing seed for colleagues
- ♥ Does he work in a group or consortium
- ♥ Where does the grain for consumption go
- ♥ Where does the seed go
- ♥ Prices as compared with 'normal' grain & seed
- ♥ How does he see the future
- ♥ How important is this activity as percentage of his entire business

Conclusion

- ♥ Ask whether you can get some seed
- ♥ Explain what you are going to do with it: testing for quality
- ♥ Explain that the material will not be given or sold to anyone else outside the project
- ♥ Assist in drawing representative samples; or explain how to do it when the seed is not available yet
- ♥ Give the sampling instructions (WD1) translated in his own language
- ♥ Make appointment to collect the seed later on
- ♥ Ask whether he needs any compensation for the seed; if so, pay

Reporting

- ♥ Write down all the answers during or directly after the visit.
- ♥ Use this same form with an extra line between all questions to type the answers
- ♥ Send report to WP3 leader

Joost van der Burg and Steven Groot, Plant Research International, Wageningen, 23 February 2007, Version 1





Interviewing a farmer in Parma, Italy.

Most interviews were carried out in France and Italy. From the answers the following conclusions can be drawn:

Conclusions on Production

- ‘On-farm breeding’ consists of on-farm variety selection and (negative) mass selection (cereals), individual plants selection (vegetables) and sometimes a ‘good corner’ in the field (wheat); sometimes expressly growing different varieties side-by-side
- Most farmers started this type of activity fairly recently
- Many produce seed only for themselves; some also for others
- Groups, clubs are formed to make the exchange of materials possible
- Most are working with old formal varieties
- Most are organic farmers
- Cleaning and storage technologies are generally quite poor
- There is no linkage with the formal certification agency
- Many are accredited for organic production
- Their main problem is lack of time to do things properly

Conclusions on Marketing

- Some would be interested to become seed producers
- All of them know farmers who produce for others
- Many are organised in groups for improvement and sales
- Many see a bright future for their seed and grain production



In the following some elements of marketing and the directives and regulations regarding marketing will be treated in the light of the maintenance or increase of agro-biodiversity.

Region of origin

The requirement that seed should be produced in the region of origin, though sympathetic at first sight, has serious drawbacks and will prove to be counter-productive because of the following reasons.

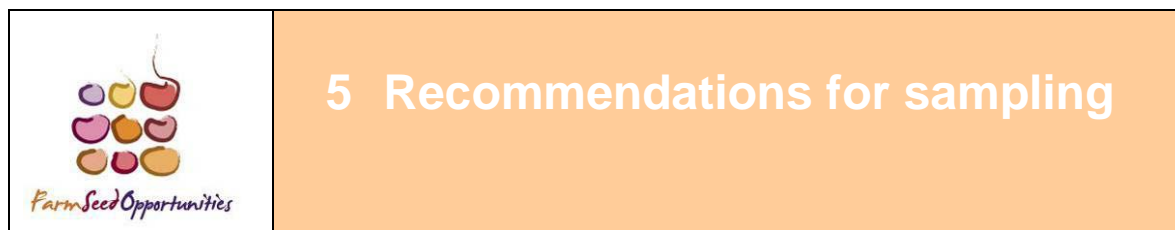
1. The fact that agro-ecological zones are moving northward will result in the need for varieties to move northward as well. Fixing a variety to a certain 'terroir' (or 'place' in English) will therefore prove to be a dead-end, unless one allows the variety to adapt to the new conditions.
2. Because many varieties are now being used and maintained outside their region of origin, the requirement would create an artificial situation if the production has to shift back to the original region of origin.
3. Moreover, what is the region of origin? Almost no crop grown in Europe originates from Europe itself. The vast majority have their origin in the Middle East or the Americas.
4. Maintenance and use of varieties outside the region of origin has created great diversity, like for instance the many cabbage or wheat varieties. The most essential diversity was created under farmer's management, like the different types of cabbage, almost no essentially new types have been developed since by modern breeding. The new varieties are mostly variations on the established themes, with useful new characteristics like resistances and production, but not changing the crops essentially.

It is therefore important that the farmer's possibilities are enlarged rather than restricted. S(h)e should be allowed to use material from any legal source, such as from other countries and gene banks, and bring it back to those areas. A dynamic system of exchange should be encouraged rather than restricted.^[1]

Restricted quantities

The restrictions in terms of quantity or area are per definition restricting the development of diversity. These restrictions are based on the fear that farmer's varieties would one day become a commercial success. This is not based on any evidence, nor is it realistic. Historically, the success of mainstream breeding is essentially based on improvement of local varieties, by selecting more uniform and healthy seeds. By doing so, they created another type of agriculture, at the cost of the farmers' own system, one which is based on high inputs and mechanisation, thus creating a sector separate from the farmers system. For these mainstream markets very uniform and high quality seeds are required, to minimize field labour and to allow mechanical harvesting, for instance.

Farmers' varieties will never fit in such systems, because of their variability and diversity. They also target different markets, like organic and regional denomination. In conclusion: the two systems are inherently different and can co-exist without real competition.



Sampling is an essential element of testing: only if the sampling is done in a representative way, the test results can be relied upon. During the first year guidelines for sampling have therefore been developed. They are reproduced below.



FSO Working Document 1

Protocol for preparing samples for comparative tests in the framework of EU FarmSeedOpportunities

Introduction

Sampling is a most essential step in testing, but often carried improperly, leading to irregular and unreliable results. This document describes the preferred procedure for sampling seeds at farmer's premises and trial field conditions. It assumes absence of much of the professional equipment needed for sampling according to the ISTA (International Seed Testing Association)^[1] requirements.

Procedure

1. Take the time to prepare the samples. Do not do it in a hurry. Time is needed to do the sampling action and the administration properly.
2. Always take many subsamples from a seed lot: use the sampling intensities that ISTA prescribes (Rule 2.5.1.2 Sampling intensity):

Number of containers	Minimum number of primary samples to be taken
1 - 4	3 from each container
5 - 8	2 from each container
9 - 15	1 from each container
16 - 30	15 in total from the lot
31 - 59	20 in total from the lot
60 or more	30 in total from the lot

"container" means a box or bag; if loose in

bulk, take at least 10 subsamples !

These small samples coming from a sampling device (stick) or by hand we call the **primary samples**. Take samples from the top the middle and the bottom.

3. Put all primary samples in a container in which you can mix the seed mass well: preferable a wide and relatively shallow container.

4. Check (see) if the primary samples do not differ in colour or texture. If so, make a note that the primary samples seem to be heterogeneous (IMPORTANT: in seed trade the procedure normally stops when heterogeneity is observed. The official sampler will refuse to go on. We however may have heterogeneity in our material more often and need to develop acceptable procedures for it. That is why we need to note the fact, but will go on with the procedure.)

5. Thoroughly mix the seeds: this is the **composite sample**. (Some can perhaps avail of a sample divider: pass the entire sample through the device at least two times before subdividing.)

6. Take scoops or handfuls of seed from the composite sample and prepare all replicates at the same time: put a handful of seed in bag 1, bag 2, etc. Then again in bag 1, bag 2, etc., so that they are all getting seed from the top and the bottom as well. One (smaller) bag should be of tough plastic: this will contain the moisture sample. (see scheme)

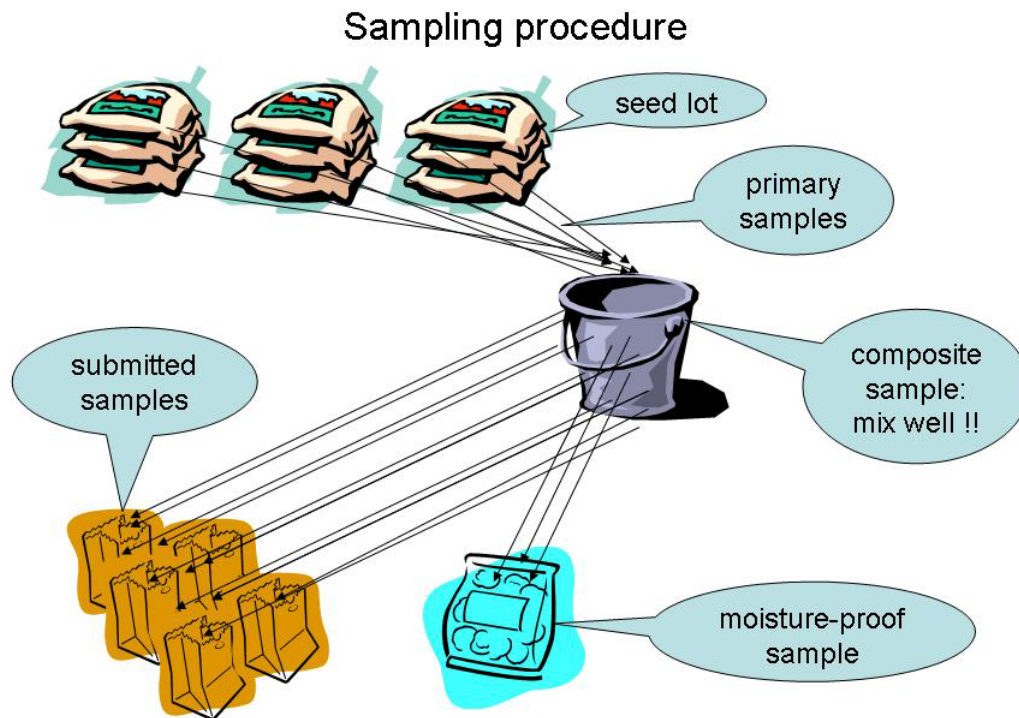


Figure: Sampling procedure and terminology

7. Put a label inside the bag and attach a label firmly at the outside of the bag. A lot goes wrong here as well, labels get lost and then we don't know what is what. So please, put more information on the label than is strictly needed: at least put lot identification, sample number, species and variety, origin (producer, city), date of sampling, name of sampler. On both labels.

8. Close the bag in such a way that it can withstand handling and postage. Make sure the seed is dry enough. Do not put it in plastic bags, but use paper or linen bags. These are the **submitted samples** to be sent to our colleagues and labs.

9. There is one exception: together with the submitted samples we also prepare a separate **moisture-proof sample**. This is packed air-tight in a solid plastic bag or bottle.

10. Do we need to attach phytosanitary certificates? In that case prepare the procedure as much as possible before the sampling if possible, e.g. by contacting the agency and making an appointment for their visit.

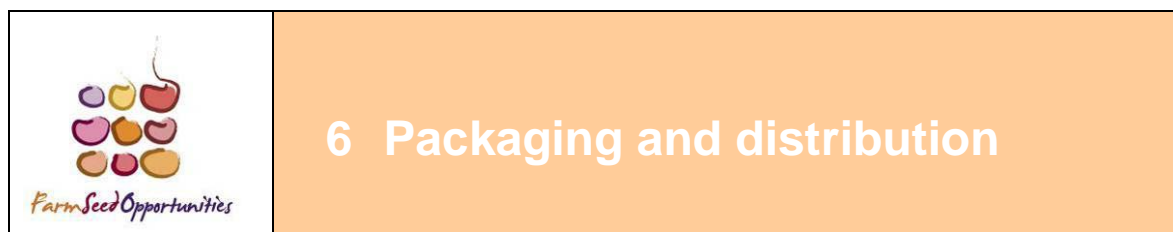
11. Dispatch as soon as possible.

References

^[1] ISTA 2007. International Rules for Seed Testing. International Seed Testing Association. Bassersdorf, Switzerland.

Joost van der Burg, Plant Research International
Wageningen, 22 February 2007
Version 3





According to the new directives Commission Directive 2009/62/EC of 20 June 2008 (agricultural crops) and Commission Directive 2009/145/EC of 26 November 2009 (vegetables) the following shall be mentioned on the packages.

Label requirements

Member States shall ensure that packages or containers of seed of conservation varieties bear a supplier's label or a printed or stamped notice including the following information: (Differences are underlined)

Agriculture	Vegetables
(a) the words 'EC rules and standards'	ibid
(b) the name and address of the person responsible for affixing the labels or his identification mark	ibid
(c) the year of sealing expressed as: 'sealed...' (year), or, <u>except for seed potatoes</u> , the year of the last sampling for the purposes of the last testing of germination expressed as: 'sampled...' (year)	the year of sealing expressed as: 'sealed...' (year), or the year of the last sampling for the purposes of the last testing of germination expressed as: 'sampled...' (year)
(d) the species	ibid
(e) the denomination of the <u>conservation</u> variety	the denomination of the variety
(f) the words "conservation variety"	the words 'variety developed for growing under particular conditions'
(g) the region of origin	not applicable
(h) where the region of seed production is different from the region of origin, the indication of the region of seed production	not applicable
(i) the reference number of the lot given by the person responsible for affixing the labels	ibid
(j) the declared net or gross weight, or, <u>except for seed potato</u> , declared number of seeds	the declared net or gross weight, or declared number of seeds
(k) where weight is indicated and granulated pesticides, pelleting substances or other solid additives are used, the nature of the chemical treatment or additive and the approximate ratio between the weight of clusters of pure seeds and the total weight, <u>except for seed potatoes</u>	where weight is indicated and granulated pesticides, pelleting substances or other solid additives are used, the nature of the chemical treatment or additive and the approximate ratio between the weight of clusters <u>or</u> pure seeds and the total weight

So, with the exception of seed potatoes there are essentially no differences between the label requirements for agricultural species and vegetables. In vegetables the initial distinction between Certified and Standard Seed has been replaced by ‘variety developed for growing under particular conditions’.

Another distinction is the absence of the requirement for a region of origin.

Finally, under (g), apart from a typographical ambiguity (it is not clear now whether one talks about ‘clusters of pure seed’ or of ‘clusters or pure seed’) the term ‘clusters’ is being erroneously used here, and should be deleted. ‘Pure Seed’, *i.e.* the fraction determining the analytical purity of a seed lot, covers all types of ‘seed’. Under the definitions of ISTA^[3] the fraction ‘Pure Seed’ may contain (true) seeds, achenes, clusters, florets, spikelets, multiple seed units, etc. So the first version is a typographical error, the second a conceptual one and both make no sense.

Packaging and distribution

Apart from the required printed or written information, a number of technical issues shall be borne in mind when preparing seeds for others.

First it makes a difference whether one exchanges seed direct from person to person, ‘over the fence’, or indirectly via third persons. In the first case one has a personal contact with the recipient (buyer), in which specific experiences with and requirements of the material can be transferred verbally to the recipient. Information can be given on the condition of originating seed crop, users can also tell about their experiences with the same variety during previous years, like for instance a small trial he has performed, etc. In other words, apart from the package there is much more exchange possible, and the intensity of it depends on mutual relations and trust. This is the normal situation with exchanging farmer’s own seed.

As soon as this direct link is no longer there, which may also apply to farmer’s seed, for instance if the seed is being sold by others on the regional market or seed fair, then we have a different type of relationship. Then the recipient is more exclusively dependent on the information on the package, while a second element becomes more important: the fame of a certain seed farmer or seed house. In a further developmental step this is being represented by the fame of a certain brand.

Therefore, in many countries it is an accepted custom or even a requirement to mention elements of quality on the package. These typically include percentage purity, germination and expiry date. In certain countries also country or region of production, as well as date of sampling and testing is mentioned. Moisture content is usually missing. On packages for amateur growing, this quality information is usually accompanied by growing instructions. For professional growers, where the sold quantities (and hence the packages) are larger, usually sales representatives with good knowledge of the crop and the specific characteristics and requirements of their varieties give support to the farmer throughout the growing season. This interaction with sales representatives replaces the one-to-one person exchange between farmer seed producer and consumer, and proved an essential element of success in mainstream agriculture.

When the sales of farmer’s seed is not directly to the consumer, then this may result in unpredictable delays between harvest and sales and between sales and sowing. This necessitates precautions for seed deterioration. Most farmers know that seed should be ‘sufficiently’ dry, but how dry this would be is 1. not known, and 2. not easy to determine. Table 1 gives some examples of maximum seed moisture contents. The most practical way is to buy an electronic moisture meter (make sure it can measure your kinds of seed!), which



usually measures the relative humidity of the air between the seed or the conductivity of the seed. As a general rule, seed should preferably be in equilibrium with a surrounding air of 30-40% RH (relative humidity). This results in different absolute moisture contents, caused by the different chemical composition of the various kinds of seed. Oil containing seeds, such as of *Brassica*, have lower absolute moisture contents at the same equilibrium air compared to starch-containing seed such as wheat. But both will be adequately dry if at equilibrium of 30-40% RH for storage for one or two seasons.

Table 1 - Maximum moisture content levels for seeds*

Crop	Maximum moisture content
* Percentage wet weight basis (Canadian Grain Commission 2005) ^[5]	
Barley	14.8
Canola/rapeseed	10.0
Corn/maize	15.5
Buckwheat	16.0
Mustard	9.5
Faba beans	16.0
Flax seed, linseed	10.0
Lentils	14.0
Oats	13.5
Peas	16.0
Rye	14.0
Safflower	9.5
Soybean	14.0
Sunflower	9.5
Triticale	14.0
Wheat	14.5

Storability of seed however does not only depend on the moisture content: also temperature has its influence. A rule-of-thumb ('Harrington's rule')^[4] says that storability doubles with each percent of (absolute) moisture content or each 5 degrees of cooling. This applies to seed with moisture contents between 5 and 13%. If seed is more wet one is in the danger zone. This means in practice that seed stored at temperatures above 30 degrees (hot attics!) should be in equilibrium with air of 30%RH, while at lower temperatures air of 40%RH could be acceptable, while below 20 degrees seed may still store well under 50% RH (But this is more risky and it should be cool all season! Cool and 30%RH is much better of course.).

If such an apparatus is considered too expensive, then there are two options: the cheapest is using a 'hair' hygrometer: a clock-type of hygrometer with a hand that moves by the contraction/lengthening of a human hair. Don't forget to regenerate the meter every few months: store for a few hours in a wet cloth and readjust the hand to 100%.



Hair hygrometer



Twin wet/dry bulb hygrometer

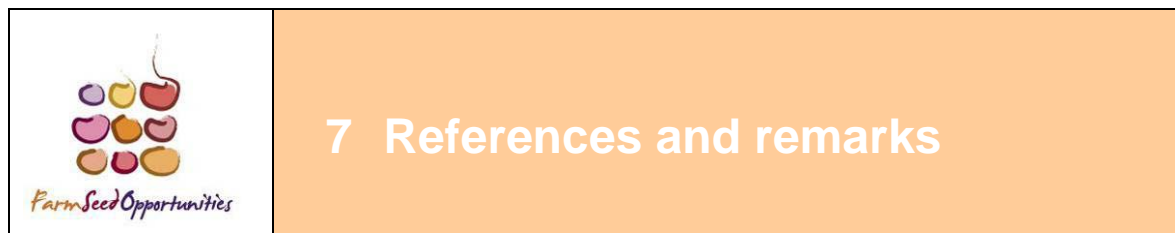
A perhaps more accurate measurement can be done with a 'wet/dry bulb' hygrometer. A twin thermometer of which one bulb is kept wet with a wet cloth. The temperature difference

between the two thermometers is a measure of RH and can be read from a chart delivered with the meter. These apparatus are available from any agricultural supply company.

It is therefore recommended to:

1. Store the seed under dry, airy, dark and cool conditions;
2. Package the seed adequately so that it retains its quality from the moment of sales until sowing;
3. Provide as much information on the package or with the seed as possible, either verbally or in writing;
4. Visit your customers during the crop season to hear their experiences and provide support.





[¹] Mumby, G. 1994. Seed marketing. FAO.

<http://www.fao.org/docrep/v4450e/V4450E00.htm>

[²] See also D1.4 Matches and mismatches, the comments below Article 11

[³] ISTA 2010. International Rules for Seed Testing. International Seed Testing Association, Bassersdorf, Switzerland.

[⁴] Harrington, J.F. 1972. Seed storage and longevity. *In*: Kozlowski, T.T., Seed Biology 3: 145-245. NY.

[⁵] <http://grainscanada.gc.ca/storage-entrepose/jmills/shsap-depae-2-eng.htm>