Bringing farmers, traders and plant breeders together to develop better suited varieties

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Approach
A better understanding of organic farming and the needs of farmers and market parties may stimulate conventional plant breeders to develop better adapted varieties. First steps in our approach to facilitate communication between these different parties are:

- Developing a variety ideotype
  During field visits farmers and traders are invited to evaluate existing varieties. Discussion on the evaluations leads to a list of desired plant traits. In a second meeting the characteristics are further elaborated and priorities are set. Table 1 gives an example of a spring wheat variety ideotype.

- Feeding the ideotype back to breeders
  The ideotype is presented to seed companies with a request to send in seeds for a variety trial. The latter is important because it moves the discussions from a paper list to real seeds and plants.

- Setting up variety trials in farmers’ fields
  The varieties which according to breeders fit the ideotype are evaluated in the field.

- Inviting farmers, traders and breeders to assess the trials
  These visits form a lively platform for discussions as breeders are confronted with the performance of their own varieties and seeds of their colleagues.

Application of Approach
The first steps are similar for all crops and user groups, but how we continue is specific for each situation. Factors influencing variety choice and availability are crucial. Examples of wheat and carrot make this clear.

- For wheat (and other arable crops) official regulation on variety release determines which type of varieties make it to the market. Adaptation of official variety release procedures is essential to stimulate the development of varieties which are better adapted to organic farming. We used the ideotype to re-design official variety testing.

- For carrot (and other horticultural crops) we do not work on official procedures because these do not influence variety release. Market parties limit farmers’ options to choose varieties for farmers who produce for supermarkets. Therefore these parties should be involved in the process. Farmers and breeders were aware of that, but our approach helped to put the involvement of traders in improving variety choice high on the agenda (see box).

Different types of farmers need different solutions. Small user groups with specific demands can not be served by big seed companies. Therefore, these farmers should seek alliances with small breeding companies or start their own selection schemes. Also, here the ideotype helps to set breeding priorities (see box).

Conclusion
This approach has proved to be useful for farmers and traders to formulate their demands to breeders and for the latter to better understand, what kind of varieties are needed to optimise the organic sector. The discussions stimulated by this approach also give insight on the following steps. These should be tailored to the specific characteristics of the crop and user group.