



# Seed Production Contract Guidelines

## 1. Introduction

The Gaia Foundation's Seed Sovereignty Programme has been supporting the locally produced open-pollinated seed movement in the UK and Ireland since 2017. Included in this diverse and vibrant network are a number of well-respected, established seed companies as well as an ever-growing number of qualified seed producers who have been trained through the Seed Sovereignty Programme and are keen to explore connections to these seed companies. This work came about through discussions from our seed networks in the UK and Ireland and the need for clarity around contracting for seed. Both seed producers and seed companies were eager to learn what a fair contract might look like, how to ensure both sides of the equation are getting a good deal, and how to develop benchmark standards and pricing in the locally produced open-pollinated seed market.

It is important to note that this is just a starting point for discussion. The basis of every healthy relationship is clear, open communication and relationships between seed growers and companies will flourish if they can develop a foundation of trust and transparency. Going forward, we would welcome additional thoughts/case studies/challenges from our network in the area of contracting; we are also keen to help develop baseline costs for seed pricing. While there are so many variables to be taken into account, the more data we have from the network the easier it will be to begin developing a picture of fair pricing models. If you're interested in being involved with this, please contact us at [seedsovereignty@gaianet.org](mailto:seedsovereignty@gaianet.org).

The following document originates from the Seed Worker Organizing Group. This is a group of seed growers based in the US and Canada that formed after the Organic Seed Alliance's 2022 conference. Their insight, experience, and wisdom has been vital in the development of this toolkit to suit a UK & Irish context, and we acknowledge all their hard work, and generosity in sharing, with gratitude! Their document was rich and insightful, and it became a case of not reinventing the wheel. We have underlined text where we have added our local/network/legal context to their document; otherwise, the content is theirs.

Huge thanks also to the Contracting Working Group, which comprises members of the Seed Sovereignty Programme team and external consultants David Price and Gesina Dybdahl-Ovesen. We also consulted

with a focus group composed of seed producers and companies in our network to ensure that this document and the accompanying template contract is as useful and relevant as possible, and in the hope of providing resources that are equally fair to both parties. Much gratitude to that group for generously sharing their time and experience.

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## **1. Compensation and Risk Sharing**

- We recommend all parties become familiar with the most common existing seed contract models, and be willing to imagine new forms. Some common seed contract models are as follows:
- **Balloon Payment:** Any and all payment to the seed grower is made after delivery of seed and quality assessment. In some cases, the seed grower extends their land base, infrastructure costs, capital, and labour expenditures for a prolonged term. This model can be paired or unpaired with risk assurances like guaranteed minimum payments, and quality incentives.
  - Currently many seed producers of open pollinated seed in the UK and Ireland do so on a small scale as part of their growing rotation, so infrastructure/capital costs may be minimal. However, as the network and the size of seed production increases, outlay is something to keep in mind in terms of risk.
- **Segmented Payment:** Utilises partial payments through the seed crop cycle to offset seed grower land base, infrastructure costs, capital, and labor expenditures. Example: 1/3 payments made through the seed crop cycle, tied to assessments of planting/establishment, seed crop grown to harvest, and seed crops cleaned/dried/conditioned and delivered to spec. Biennial seed contracts can benefit from this model. This model can be paired or unpaired with risk assurances like

guaranteed minimum payments, as well as quality based incentives.

- **Fully Guaranteed Payment (AKA Per-Project Compensation):** Payment is not linked to yield or quality outcomes. These types of contracts are useful for supporting beginner growers, as well as rewarding experienced seed growers fulfilling seed productions such as pilot productions, hybrid seed production, inbred line increases, proprietary varieties, flowers and herbs or other difficult and risky crop types and varieties, or research-related productions. This can be useful in very particular cases, but good payment for good seed is also an incentive for seed growers to prioritise and look after the seed crops.
- **Consignment or Retail Price Sharing:** The seed grower and seed company agree to compensation based upon a percentage of the retail price of a seed packet. 25% to 50% of a retail packet price are compensation rates we know of in use. This arrangement is predicated upon the seed grower extending their capital outlay and any return of full compensation over potentially multiple years until the seed lot packets are fully sold OR until the legal germination falls below saleable level for the seed lot. The potential compensation could be greater than normal contract, but is spread out over time with payments made yearly. The seed company usually keeps track of packet sales and reports these to the seed grower at the end of each season.
  - It's important to note that the mark up for different species can vary significantly, so pricing/markup would need to be species-specific. The state of the seed when it arrives to the seed company must also be considered (eg, cleaned vs unprocessed) and this should be discussed and agreed beforehand before a price range is given.

Hybrid models can exist across the contract and compensation models named above. For example, a seed company and seed grower (or seed steward or plant breeder) might agree that a seed volume-based compensation will be paid as well as a commission based on retail packet sales.

Segmented and fully guaranteed payment models are often contingent upon excellent communication and record keeping from the seed grower. Soil tests, crop plan, reporting and recording crop benchmarks, and phone, email, text access and response may be required by the Seed Buyer.

All of the above seed contract models could be **Exclusive, Non-Exclusive**, or a **First Refusal Mixed Model**:

- An **Exclusive Contract** means that the variety and seed volume grown can only be sold to one specific seed company. This makes most sense for special varieties that are specific to the seed company.
  - We recommend these Exclusive agreements be fully guaranteed. The seed company should agree to purchase the entire seed crop, which is predicated upon the *Adjusted Plant Population*. (see Section 3: Communication and Information Exchange)
  - It's important to note that some Plant Health Seed Inspectors state the agreement between grower and company needs to be exclusive or the grower would need to be licensed for the marketing of seeds. In addition, the seed company should be providing the initial seed, so that the grower is effectively multiplying seed on behalf of the seed company. This may vary from region to region so it is best to clarify with your PHSI before proceeding.
  
- A **Non-Exclusive Contract** means that a seed grower is growing a variety for multiple seed companies, and that the target seed volume is a combined total of separate contracts.
  - We recommend letting each company involved know of this intent, and getting contract agreements from each potential buyer/company.
  - We recommend getting explicit permission from the seed company providing the stockseed if that stockseed will result in a seed harvest that will benefit other seed companies. In some cases, each seed company may want their own stockseed to be used, even if the same variety is being grown. In other cases the seed grower may be providing stockseed. (see Section 5: Stockseed Considerations for more detail on this topic)
  - We recommend that the percentage of the crop that each company is intended to receive be used as the guide for how much they should receive if the seed harvest is lower OR higher than the target volume. We also recommend ensuring a priority in percentage to the seed company that provided the stock seed for such a shared production, if that was the case.
  - An issue to consider with non-exclusive contracts is the potential for it to limit genetic diversity. For example, if a larger seed producer provides all the seed of a particular variety to most of the seed companies in the UK, this introduces vulnerability to the market. Diversity of seed producers should be considered

alongside diversity of seed stock itself when looking at the wider market context.

- A **First Refusal Mixed Model Contract** means that the seed grower and seed company have agreed upon a target seed volume (ideally based upon an *Adjusted Plant Population*), and that the seed company agrees to purchase a certain amount of overage beyond the target seed volume. The overage purchases are often graduated in price. For example, an agreement may detail the purchase of 125% of target seed volume at full price, with an additional 25% beyond target seed volume purchased at 75% of the regular pound price. A seed grower can sell overage that is not claimed by the original contracted seed buyer to any other seed company at any price the seed grower negotiates with that third party.
  - We recommend that all seed volume harvested from an agreed upon *Adjusted Plant Population* be purchased at full contract price. Graduated pricing linked to a seed yield from a larger plant population than agreed upon is acceptable and understandable.
    - As above, check with your PHSI whether the grower would need to be licensed to market seed if offering the overage to another seed company.
  - We also recommend consideration of graduated pricing when some instances of under productions occur. Good growers can encounter a poor crop and lose money due to no fault of their own. “Breaking even” is a bare metric which keeps seed growers working long term, and using innovation to learn how to grow difficult varieties. If under production occurs due to weather, or the under performance of the variety even when given good culture, graduated pricing could be applied in the following type of equation: *if the target volume was X with price of £Y per pound, under production that is reduced below X minus 25% would be paid at the rate of £Y plus 25%. And so on....*

## **Contract Variations and Considerations**

- Agreements between seed growers and seed buyers are not always in a formatted contract with signatures. Many agreements have been verbal or via email, and these have been honoured as often as formatted contracts. Whether or not agreements are discussed verbally or via written letter or via email, we recommend a final email or written exchange that details the overall and understood terms. Each party should affirm in writing that they

concur and consent with these terms. If further negotiations occur, remember to capture those thoughts in another written exchange.

- Be aware of inadvertently accepting terms by conduct (e.g delivery of seeds). The suggested approach ensures certainty that you are contracting on the same terms. If growers and buyers have T&Cs on their webpages, be aware of which ones apply. T&Cs can be for example accepted by conduct.
- It could be useful to consider a general agreement document (Schedule 1 of the Precedent Template) as well as a separate document that is specific to the year and includes the agreed varieties and season-specific information (Schedule 2 of the Precedent Template).
  
- Varieties bred and also grown for a seed crop by a breeder/seed grower, OR that have been stewarded over multiple years by a farmer/seed grower, are often sold with a royalty-type agreement based upon gross packet sales per year of that seed lot in addition to an initial price per pound or seed. A 10% royalty-type compensation is common, but greater or lesser percentages are also used. The original breeder or steward in some cases may continue to receive such payments even as other seed growers continue to grow that variety for a seed company.
  
- If growing on Consignment or in Retail Price Sharing, we encourage the following considerations:
  - If the seed grower still has equity/ownership in the seed lot during consignment sales, we recommend that the terms and retail price for the packet be created & agreed upon by both parties, including any future price changes.
  - This consignment arrangement is not widely used but appears to be gaining in popularity, and we expect there will be several issues to work out - for example, how to address multiple packet sizes. In learning about the specifics of various consignment models, we found the BC Eco Seed Co-op shares 75% of the retail price with the seed grower when selling “farmer” packet sizes of seed in their consignment structure.
    - It was noted by our focus group that 75% consignment would be unlikely to be seen as a mutually beneficial arrangement and it’s likely that this would be less in a UK or Irish context. 50% of a 1kg pack is a figure that has been used in some contexts, although this will vary widely depending on the seed, eg broad beans vs thyme seed.

## **Contract Recommendations and Values**

- As a broad concept, risk should not be disproportionate between parties. eg: carrying capital, weather events, cost of production, seed quality thresholds, meeting key timing points (receipt of stockseed, delivery of seed crop, payment schedule).
  - It's important to note that in the UK & Ireland, many companies selling locally produced OP seed buy their seed from a relatively small geographical area and also produce their own seed to sell. Because of this, weather events would effect both parties equally.
  
- Seed Contract Final Payment should be submitted to the seed grower no later than 60 days from receipt of seed by the seed company/buyer.
  - This length needs to be discussed between the company and grower: shortened payment conditions would be beneficial to the producer's liquidity, however the timescale would be dependent on when the seed crop is received and in what condition. At busy times it may take small to medium seed companies some time to process and clean the seed, and germination testing can take up to one month, all of which can affect payment terms.
  
- Seed contract models could incorporate a guaranteed minimum payment to the seed grower, reflecting the capital outlay and risks undertaken by the seed grower. Guaranteed minimum payment models in current practice use a range between 25% to 33% of the assumed full/final contract value. Some payment models (eg. segmented payment model and fully guaranteed payment model) already provide for this.
  - Another consideration here is plant passporting. A grower can only grow under a seed company plant passport registration if they are located within 10 miles of the seed company. Producers would need to have their own plant passports for high risk seeds (eg beans, tomatoes, peppers, onions, etc) if they are to be grown outwith this 10 mile radius.
  
- Contracting parties should incorporate *at least* a baseline of a guaranteed minimum payment to the seed grower whenever a **Pilot Production** is under negotiation. These productions carry numerous variables, many of them unknown to both the seed company/buyer and seed grower, and compensation should reflect this high risk. (A Pilot Production is a seed production of a variety or crop type that has never been produced by or for the seed company/buyer in a wholesale volume; or a variety or crop type that has not been grown previously by the seed grower.)
  
- Very few seed productions meet the intended seed volume exactly. Overage, under productions, and total crop failures are part of seed growing even when *Adjusted Plant Populations* are determined and skilled seed growing is applied. It is important to work through all these eventualities with a seed buyer, and to name clearly how each will be addressed. Don't assume it will all work out!
  
- We recommend that contracted seed productions that lack data or are based upon inaccurate data in regards to stockseed health, true-to-typeness, accurate stockseed

germination, variety habit, disease resistance and special cultural needs, crop seed yield and other crucial information should be offset by higher compensation rates and/or fully guaranteed compensation.

- This also acts as a guideline for what a seed company should be supplying to a contracted seed producer, in addition to variety description.
- Sharing all known crop data is best practice for both parties (how to best grow the crop, normal seed yield, disease resistance/susceptibility, unique crop traits/lifecycle, etc). If this data does not exist, we recommend that additional compensation be written into the contract for the grower to collect and submit data on the crop they are growing.

## **2. Communication and Information Exchange**

- Contracts should be developed by both parties, with each participant having leverage in negotiation of terms. Contracts should be seen as documents where amendments and terms can be proposed by either the seed company or the grower before an agreement is finalised.
- Seed companies/buyers should make initial contact with potential seed growers in November/December for seed production beginning in the following year, and it is important to determine a timeline at this point. This initial contact should establish which specific crop type(s) and/or specific varieties are agreed to be grown. Exact volume or target plant population details can evolve through mid-Winter. This timing of initial contact allows the seed grower to plan healthy crop rotations and required isolations. We recommend that most contracts be finalised in February, with the understanding that occasionally some grow-out needs aren't apparent until later.
- Both parties should determine and agree on the variety-specific **Adjusted Plant Population** required to result in a successful contract seed production. The Adjusted Plant Population is an estimate of the number of plants needed to produce the desired amount of seed, usually with 10-20% extra as a buffer (hence the term *adjusted*). We recommend that the contracting party agree to buy the entire resulting seed crop at full price (not including seed from any additional plants the seed grower may have decided to grow for whatever reason). For some crops it may be more appropriate to agree on area planted rather than number of plants, but the same principles apply.
  - That said, it is important to recognise that from the seed company's perspective, if on a good year yields are significantly higher without any additional work involved for the grower, it isn't fair for the seed company to buy all at full price and then need to manage an overabundance of stock without lowering the base price – a fair middle ground needs to be determined.



- Regular seed crop status check-ins are highly recommended.
  - Indeed, for some crops this may now be a regulatory requirement.
  - Information covenants should be agreed in a written contract to allow for transparency and regularity. This would be the responsibility of the grower, and could also serve the data log.
- The grower should immediately notify the seed company of adverse conditions or events that could negatively impact the seed crop.
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- Reciprocation of communication and sharing of all relevant crop data should be an expectation held by all parties involved in seed contract negotiations, and in fulfilling an agreed upon seed contract. This includes growing data from previous years from the seed company and data from the current year from the grower. This is very useful for both parties in planning future seed crops.
- We recommend against any and all contracts that restrict the sharing of crop data and experiential learning between seed growers. Public sharing of seed growing experiences and data by seed companies and seed growers is a recommended best practice, supporting ongoing skill growth in the seed growing community. We acknowledge situations where special breeding work or proprietary breeding lines may require limited privacy agreements.
  - This is especially important given the stage of the seed network in the UK and Ireland – we have much to learn from each other!
- We recommend that contracts do not restrict the sharing of their content, such as terms and pricing. This freedom to share allows seed growers to educate and organize against unfair and unethical conditions, and to refer other growers to preferred seed buyers with proven good practices.
  - Where certain information may be considered commercially sensitive, the information can be anonymised and shared by submitting to a third party, eg the Seed Sovereignty Programme, which is gathering overall data on species payments, contract contents, etc.

### **3. Pricing Considerations**

- Good profitable & long term collaborations between seed growers and seed buyers are based upon transparency and ethical intent by both parties.
- Profitability is often predicated upon long term trusting business relationships. Short- range exchanges and contracts are often not as beneficial to either party. Familiarity with varieties and mutual capacities allows better mutual decision making.

- Prices for Contract Seed should consider Cost of Production, Cost of Living increases, Inflationary Conditions, as well as a reasonable profit for the seed grower.
  - Where contracts are entered for more than a growing season, a price adjustment mechanism in line with the underlying price fluctuations would be important, particularly in the current economic climate.
- The comparative ratio of the retail seller price (across different sizes) versus wholesale compensation to the seed grower should be transparently communicated and considered. ie: what percentage of seed sales revenue goes to the grower.
  - The cost of extra requirements (eg inspection for plant passport for certain species) needs to be discussed in advance.

#### **4. Stockseed Considerations**

This section deals both with issues of grower compensation related to stockseed quality (especially in the event of problems), and with strategies for successfully managing and compensating labour done selecting and working with stockseed.

*A note on the definitions of “seed stocks” and “stockseed”: Stockseed refers to the seeds that reflect a grower’s best selections, (or sometimes more loosely - whatever seeds a seed company sends you to plant a grow-out), while Seed Stocks represent distinct stewardship efforts for the same variety.*

#### **Risks Related to Stockseed Supplied to Growers**

We recommend the following practices regarding stockseed supplied to growers by a seed company for contract grow-outs. Some of these may not be necessary if using a Fully Guaranteed Payment model. As always, long-term constructive engagement and mutual understanding should be established in order to overcome issues. Currently, the contracts in our network usually represent tens or hundreds of pounds of crop values rather than thousands, so open communication established early will go a long way to creating a mutually respectful relationship that will last as these crop values increase in the future.

- The seed company supplying the stockseed for the seed production should provide information in writing about the health, true-to-type-ness, average expected seed yield (per area or per plant), and an accurate germination rate.

- The seed company supplying the stockseed should agree to bear responsibility and to compensate the grower for negative outcomes related to stockseed quality/condition. eg: undesirable off-type traits in resultant crop, seedborne disease, poor germination. We recommend paying the grower 50-100% of the contract value if the crop is planted but not harvested due to such problems, depending on the timing and the particulars of the crop.
- The time and cost implications of roguing should be considered. While in most cases roguing is considered a natural part of the seed production process and growers should plan their original population sizes accordingly, if the roguing takes more work and attention than it would have taken to harvest the seed, the grower should be compensated.
- There are often situations where a seed grower could supply seed to multiple companies from a single seed production. These usually occur when multiple companies communicate with a seed grower separately, and overlap is discovered as discussions unfold. If the stockseed used for such a multi-recipient production is from one company, be sure that company has granted permission for their stockseed to be the source for the other recipient companies. Moreover, the company supplying the stockseed can only be expected to assume responsibility for the outcomes on their portion of the production. We recommend getting clear affirmation from other recipient companies that they are willing to assume responsibility for negative outcomes that could arise due to stockseed problems.
- If the stockseed for such a production is supplied by the seed grower, discussion will need to be had with recipient seed companies regarding any shared stockseed risk and responsibility. Usually, self-supplied stockseed means risk is assumed fully by the seed grower, but it should also result in a higher price for the seed or unique compensation for the value of the stockseed used.
  - If seed is from an unattributable source, eg not from a 'known' seedlot with provenance data, seed borne disease may be a concern and this should be discussed. If the resulting crop turns out to have a seed-borne disease after sales to customers, the liability rests with the seed company so this is an additional risk.

Sometimes multiple companies approach a seed grower to produce seed for them all, in a combined contract. If stockseed is supplied by this combined buyer group, a seed grower must make very clear who out of the various seed companies will be financially responsible for shared stockseed risks.

#### **A brief explanation of the difference between stockseed selection and roguing:**

Roguing takes out the worst plants, while stockseed selection picks out the best. There are often plants in a third middle category that produce seeds that are suitable for sale but not to

use as stockseed. Where there is no middle category, roguing and stockseed selection may be one and the same.

## **Compensation for Stockseed Management**

Here we offer thoughts on how to approach stockseed work as a contract seed grower. Some companies may manage most of their stockseed in house or separately from production of seed for sale, some may rely more on contract growers for stockseed management, and some may just not have robust stockseed management programs.

The following are recommendations for different stockseed management scenarios. These could apply to intensive roguing work as well as stockseed work.

Note: this is similar to our 'Variety Maintenance', a form of plant breeding. For varieties on the National List there are 'registered maintainers', who often sit within seed companies.

*A seed company asks you to do stockseed selection while you're doing a production grow-out.*

The seed company should recognise and compensate for the work, as well as provide guidance about the particular selection needs for the variety (or in any case engage in detailed discussion with the grower about selection).

Payment should not be tied to stockseed weight - it should either be a flat fee based on the time, thought and expertise going into the stockseed selection, or the entire contract should follow the Fully Guaranteed Payment model. Keep in mind that it may not be until the second year of growing a variety that you have enough information to do in-depth selection at the right time. We recommend that the work be seen as a multi-year process where the seed company pays the grower for each year of stockseed selection.

The seed company should continue to assume the risks related to stockseed quality, based on thorough information from and communication with the grower. It is also important to reach an agreement about use and ownership of the stockseed selections. The company may want exclusive rights to the stockseed moving forward, or they may agree to share the rights with the grower. Compensation should be higher in the first case. We recommend the second case when possible because it creates more empowerment for the seed grower moving forward.

*In the course of a contract seed grow-out it becomes clear that stockseed work is needed or is desirable for the variety, even though the seed company didn't ask for your help.*

Ask the seed company if they want to work with and compensate you for doing stockseed work; hopefully they do. If they don't, you may want to embark on selection work anyway, with the goal of developing an improved strain of the variety. If you grow that variety again for the same seed company, it will be necessary to reach agreement about stockseed risk and responsibility in subsequent years.

If the seed company is not willing to assume risks related to stockseed quality, we recommend either not growing for that company or charging a higher baseline price. Doing this work has the potential to create a return for your investment of work over time, as you become known and respected for doing quality selection and stewardship. This may take quite a while however, and may be difficult to achieve without having a seed sales and outreach platform of your own.

*You've bred a new variety from a cross between two or more parents, and you're engaging with a seed company that wants to offer it.*

In our experience, seed companies tend to recognize and reward this kind of new plant breeding work when they choose to offer such varieties. You will probably be able to set your price, and not worry too much about the seed company taking the variety without your blessing. That being said, we recommend all royalty and propagation/production agreements be formalized in written, signed contracts.

You should decide whether you want to do the seed production for the variety or whether you'd rather someone else does it, with you receiving a royalty (10% has become a standard in the movement). If you're doing seed production you could cover your costs with the price you set, or cover it with a combination of a price plus a royalty. You'll also want to consider how the variety will be maintained and selected moving forward if you're not doing it yourself.

*You've stewarded a variety for several years, improving and adapting it to your conditions, perhaps cleaning up and eliminating off-types. Now you want to offer it for sale through a seed company.*

This can be an important and fruitful way to do plant breeding, but it is also much more of a grey area compared to new varieties bred from a cross.

We recommend being clear with the seed company that you are entering into a working relationship around the variety in question whereby you fully participate in setting the terms, and are able to withdraw at which point they will stop selling the variety. The agreement could include royalties, or it could be focused on a negotiation of price for the special seeds you produce.

Seed companies should expect to pay more for this kind of seed than the going seed production contract rates. These arrangements may fall outside of normal seed contract procedures, and it may be important to ask for a special contract that commits the seed company to buying the seeds you grow for them.

## **5. Seed Source Transparency and Attribution**

In the interest of both fairness and quality, we strongly recommend that seed sellers and distributors of any scale take immediate efforts to become transparent regarding the sources of the seeds they sell and the origins of the varieties and seed stocks. This will improve the utility and quality of seeds for end users, and is conducive to better recognition and fairer treatment of the seed growers, farming communities, and plant breeders worldwide who are the origins of the seed supply. In the absence of legislation and regulation growers should clearly communicate at the beginning of the negotiation and make the publication of seed provenance a condition of selling/working together with the seed companies. Recognising the provenance of seed is a fundamental element to seed sovereignty.

*A note on the definitions of “seed stocks” and “stockseed”: Stockseed refers to the seeds that reflect a grower’s best selections, (or sometimes more loosely - whatever seeds a seed company sends you to plant a grow-out), while Seed Stocks represent distinct stewardship efforts for the same variety.*

In the seed industry (small regional-focused organic seed companies included) it is common to source seeds grown all over the world, often from places with lower labour costs. It is also often the case that customers aren’t aware of this. Marketing may focus on regionality while effectively obscuring the prevalent global sourcing model.

In addressing these issues we take a nuanced approach of both embracing international collaboration around seeds and seed work, and challenging commodity-based models that simply seek workers who will produce seeds for less pay. Sourcing in seeds mirrors dynamics that are present in many other industries, where companies seek cheaper labour to lower costs. In seeds however, there is the added issue of the role regional adaptation and regional feedback loops play in seed quality. The act of sourcing seeds from other parts of the world in

and of itself affects the suitability of seeds for a given region. Additionally, many international sourcing models run counter to the values of communication between seed companies and seed growers about variety stewardship, stockseed management, and fair compensation. Moreover, it is a seed system quality issue when end users are not able to maintain or verify consistent origin sourcing. Where transparency is not standard, it may not even be possible to know that two seed lots from the same industry source share stockseed lineage.

On the other hand, there are good reasons to sustain collaboration between seed workers in different parts of the world and to source seeds internationally. Especially in this time of climate change, and when global trade patterns readily spread plant pests and diseases, it can be important or essential to seek pest, disease and climate adaptation across regions, to trial and adopt seed stocks from other parts of the world, and for there to be all kinds of international exchanges and collaboration. Potential problems around regional adaptation of seeds grown far away can be mitigated by robust trialling programs that test many seed stocks for performance in the region of the target market.

Seed Source Transparency values and supports the growth of relationships around seeds, and the quality elements that go along with these relationships. We want to help create a culture and an expectation around seed source transparency that supports this. In contrast, many current models treat seeds more like commodities, at the expense of seed system quality, grower empowerment, and mutually beneficial relationships.

### **We offer the following recommendations for Seed Source Transparency:**

- Seed Source Transparency should be defined as clearly and visibly naming the grower of a seed lot, and the region and country where it was produced. If the name of the grower and region is not known, at minimum the country of origin should be stated.
  - A fine example of this in Europe is the [Bingenheimer Seeds catalogue](#), which devotes several pages to the growers and where they farm.
  - It should also be noted that for some seed companies it might be unrealistic to tie each variety with a grower and seed lot as the company may source smaller volumes from multiple growers. However, highlighting the growers and the varieties they have grown is a way to still honour this visibility.
- The statement should be visible at the point of sale. This could be a website, a printed catalogue variety description, or individual seed packets.
- We encourage all seed growers who have websites, social media etc. to list the varieties they grow and have grown for seed, and to which specific companies that seed is/was sold to.

**In addition to transparency in seed production, we recommend attribution for skilled seed work. This can include plant breeding, stockseed work, or variety stewardship over time, and should recognize the following:**

- The grower and their location if they have contributed ongoing or multiple years of selection (or provided the selected stockseed) for a given seed lot.
- The plant breeder(s) and their location if they have bred the variety for sale. This could be an individual, a group, a community, or a combination of these.
- Be mindful that in some cases, there are original breeders, an ongoing steward, and a “bulk” or “increase” production seed grower. All should receive mention. In the case of community stewardship, wherever possible permission should be requested and the community’s story shared.

It is our intention that these recommendations around seed source transparency and attribution apply not only to seed companies, but also to seed growers and plant breeders as well. Seed growers and breeders should adhere to the same model of attribution, recognising from whom and where their seed comes from. Acknowledging who has selected, stewarded, or iterated before us is what gives our immediate requests for attribution validity. To ask but not also offer would undermine the ethics and validity of attribution.

We are working to promote the overall understanding and acknowledgement that we as seed growers, plant breeders and variety stewards are the current links in long, long chains of seed stewards. Even when we breed an innovative new variety or spend years adapting a seed stock to our region, the bulk of the work such a variety represents is still creditable to the many generations of peasant and indigenous farmers and communities that grew the ancestors of the seeds we save today. It is an honour to be a part of this chain, and something to be proud of and take seriously, because if the work isn’t done in the present the chain can end. We believe that it is more fulfilling to understand ourselves as part of work that unfolds over millennia and over these many generations, rather than to take disproportionate credit as individual inventors.

Finally, we also recommend a practice of acknowledging origins that go back further, to the extent that origins are known - even if details are few. This could include recognizing place origins of parent varieties or foundation seed stocks, and recognising individuals or communities that worked on them.

## **6. Understanding and Advocacy for Good Seed Quality**

All engaged in seed work have an opportunity and a choice to actively pursue good seed quality as a goal, as well as to educate gardeners and farmers about the factors that contribute to seed



quality. There are also common misconceptions around seed quality that we can have a role in dispelling.

For example, contrary to public perception, the age of seed is not always a reflection of better or lesser quality. New seed lots can be of poor quality, while an older seed lot can have higher germination and overall better quality. Handled and stored correctly, a good quality seed lot can have a multi-year usage life. But some customers are avid that “new” or “fresh” seed is all they want.

Customers may also find certain seed quality attributes can be overemphasized in the marketplace, without speaking to a host of other quality elements. For instance, seed that is certified organic or high germination could be poorly selected and stewarded, not regionally evaluated or adapted, not seed source transparent, not disease free, and not stored well.

We’ve named key seed quality factors below, but we do not claim this list is complete. If our seed community has shared understandings around good seed quality, we can work together to further scale-appropriate research and best practices. If one seed producer or seller has a seed quality problem, it can impact the market trust that we all rely upon for our livelihoods. Supporting each other when problems arise, as well as understanding the responsibilities inherent in seed work, is a collective and individual commitment.

- Well-selected and/or well-stewarded varieties resulting in true-to-type phenotypes and genotypes, as well as regionally adapted varieties.
- Seed production and handling without crossing, contamination or mixing with what are commonly understood in agriculture as “Genetically Modified Organisms”. Testing is recommended for seed productions of “at risk” crop types.
- Seed source transparency and attribution, as described in Section 6.
- Evolving and applying best practices to produce and process seed free of known diseases, with testing as needed by crop type/species.
- Storing seed lots in appropriate containers/bags in a climate controlled area with temperature and humidity conditions ideal for seeds long term viability.
- Cyclical seed germination testing of varieties offered for sale, with vigor and other types of testing as needed.
- Familiarity with, and application of, the best practices, seed laws, rules and regulations that apply to each seed workers’ area, region, or country. We must also be willing to advocate for scale-appropriate regulations that support seed worker livelihoods while ensuring good quality seed in the marketplace.

- Another way to think about assessing seed quality is by looking at the whole seed system(s) the seeds are part of - including trials, selection, stockseed work, regional adaptation efforts, and relationships between seed growers and seed sellers. These elements can be obscured if we just think about individual seed lots instead of the systems that surround them.