



## SEEDHEADS TRANSCRIPT

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### Episode 14: TELSING ANDREWS & MAXIME DUFRESNE-GAGNON English

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**Steph Benoit:** Hello and welcome to SeedHeads, the cross-pollinating podcast where our Canadian seed heroes tell their stories, share their how-to tips, and talk about the seeds they love. I'm your host Steph Benoit, coming to you from Ottawa, Ontario on the traditional unceded territory of the Algonquin Anishinaabe people.

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Today, I had the joy of welcoming two esteemed guests onto the show, Telsing Andrews and Maxime Dufresne. Telsing Andrews is a grassroots seed grower and former owner of Aster Lane Edibles. She joined us for this episode from Valencia, Spain, but can typically be found in the Ottawa Valley on the territory of the Algonquin Anishinaabe people.

Maxime Dufresne is a plant breeding enthusiast and self-proclaimed renaissance man who has spent his most recent growing seasons at Patrick Farm. He joined us from his home in Saint-Augustin, Quebec, on the territory of the Wabanaki Confederacy and the Huron-Wendat peoples.

In this episode, we talked about the love for rare and perennial vegetables that Maxime and Telsing share, democratizing plant breeding, different

selection lenses, dealing with failure, and passing the torch between multiple generations of seed growers. I hope you enjoy.

**Telsing Andrews:** Well, I'm Telsing and I used to run a company called Astra Lane Edibles. It was a seed company and I would grow all of the seeds that I sold. That's not always the case with small local seed companies. They often grow in concert with other people, or they import in larger packages of seeds that they have trialed, and know will work well in the area and split those into smaller packages. I did none of that. I was a glutton for punishment is what I'm trying to say.

Everything that I sold, I grew and I selected. I always say that every instance of seed saving is an instance of plant selection. It's just whether or not you have intention there. I think that Maxime and I crossed paths, oh, gosh, at some point in the seed collector's world, maybe in regard we were talking about this, maybe in regards to beach breeding, but Maxime, maybe you could clarify that for me.

**Maxime Dufresne:** I think we've met through Moore, which is another plant, enthusiastic rarities, and **[audio unclear]** seed saver and collector, which is more like my background. I had the chance to work in rooftops of Montreal after my graduation as a **[audio unclear]**. Then I worked with Chef closely. It was the biggest kitchen of North America there. It's totally huge, so I could never fulfill a single meal for them, so what I was doing is trying to find stuff that they couldn't buy on the shelves and work it from small groups because I always had the interest of rare plants and perennials and ornamentals that are edible because the garden was also was a showcase **[audio unclear]**.

Working in those fields that are less traveled let's say, I found somehow another enthusiast in my region, and somehow they pointed me to Telsing and said, "Well, I guess you're into beats, you're into perennials." Then we went to the OSA in Oregon together where we actually got to meet and spend time and get to know each other. That's how I met Telsing, and then we were like, "Well, we're a little bit too much alike." [chuckles] I learned a lot from Telsing, I still have a lot to learn from her.

**Telsing:** Yes, that's right. Yes, I'm remembering now. That was probably something like oca breeding and selection in the North. Which brings us

to one of my favorite topics of tubers. I'm pretty sure that Moore would have been growing oca, and other rare Indian crops, which connects to another plant breeder in the States, William Whitson, who's a tuber enthusiast, and he's been trying to catalog all the unusual potato species that are found in various catalogs, but he also selects for unusual tubers, which currently don't grow well under daylight hours that we have around here so that they are tuber rising far too late in the season.

I think Moore got a hold of some of the material for that, and me as well. Was it over oca? Oh, I think it was over tubers because I think it would have been into growing out true seeds. Just a note, we're talking almost exclusively about growing out things from true seed, when it comes from talking about international trade, true seed of tuber plants. Unlike propagating a plant from a vegetative part, such as the potato, we will be growing it from the seed that came from the flower of the plant. That's an important distinction.

**Steph:** [audio unclear] complicated

**Maxime:** Absolutely. Yes, it's a big project going forwards, let's say with oca. I had the chance to order some oca seeds from Cultivariable a few years back, and the germination rate is very low. You need a few seasons just to evaluate if it's going to be something interesting working with or not. For any amount of work that's going to be, I want to say profitable, it's not the word I'm looking for, meaningful is going to take a few years of your life. It's kind of the time I have to make something that's going to be worthwhile, and that's going to be shared with other enthusiasts.

**Telsing:** It's definitely a patience game. Well, oca has an interesting one, just when we were talking about chefs because it is kind of like a potato, but it has a lemony flavor. If you're interested in rare plants, then that's definitely one that pops up quite a few times, especially because you could see it as an analogue for nightshade potatoes, in the sense that originally nightshade potatoes would not have had the right day length tuberization that we would need here, or maybe not the dormancy to hold from season to season, or potentially alkaloid or other issues with them as food crops.

Oca has slightly different criteria you have to look for, but it's a super beautiful plant. It comes in all kinds of colors, like crimson and gold, and

rose. It's really pretty and it's an attractive plant as well. Just drawing back to what Maxime was saying about patience and high chance of failure with this crop, [chuckles] it's really hard to grow. I think one of the things that Maxime and I share in common is a willingness to keep trying. In terms of germination rates of oca seedlings, I don't know, perhaps I see plants as puzzles. They don't have super high germination rates, but one of the great things about Cultivariable which is William Whitson, just to be clear, is that he is producing decent crosses.

The material that you're starting with is good, and he knows where you're from. I don't know if he's selling anymore to Canada, but if he knows where you're from he would have provided you with genetic material that he thinks would potentially be able to work for your area or has some chance. I think Moore have actually managed to produce something with a shorter tuberization period, and it worked pretty well for her and it went back to William Whitson in order to be able to continue to work on that plant. That was fun and interesting. Yes, the germination rate for oca seeds are tricky because you had to soak them. They're also incredibly small seeds, so they have to have good soil contact. I love these kind of mysteries. I love trying to work with plants that are really difficult because they're obligate-out breeders or they need large populations or they're impossible to overwinter in Ottawa If you say that a plant has many of these characteristics or they're wild, but they have some interesting quality that you want to sort from all the wild, I'll be like, "Yes. [inaudible]" I don't know why?

[laughter]

**Maxime:** That's it. It's like a dare. Everyone on the internet said, "You can't do that." Challenge is accepted. Looking forward to the failure of this project, but maybe once in a thousand, I will prove you wrong. That's hard-headed.

**Telsing:** Yes, I was just going to say and if you get any taste of success at all, that's like the end, that's the end of you because I managed-- When I first heard about growing sweet potatoes just in the "north by the north" and that strip of Canada along the border, I was like, "Okay, cool. I want to totally grow sweet potatoes." Then when I found out that there was only a certain variety or they're really hard to breed, et cetera, I just went for it

and produced things which I had never seen before, never tasted before, techniques that I had learned. The plants are fascinating to work with and so that really spurred me forward to continue to work with sweet potato selection in Ottawa.

**Steph:** Nice.

**Maxime:** You got super amazing results on those because sometimes you work for years and years and you have nothing to show up. Like the oca, she's in love. She managed to select an oca that is very- flowering a lot and that's close to- it's less than very long day tuberizer, but it never sets seeds because she lives such in a mountainy region. It's so cold, and so cold early. Yes, unfortunately, we cannot get seeds from Cultivariable anymore in Canada.

I'd really be looking forward to start back this project if we do get some good material like that because let's say for us, there's no chance we can amount to any good results from the stock we have in Canada compared to what Billwitz, as in the Pacific Northwest, is there such a huge collection that is so widely genetically variable and he's an awesome collector. If we try to achieve any success here, it would take us so many times to just work on his past successes.

Basically, we're just like custodians of the work of people before us. That's for me, the essence of breeding is just respecting those who came and just continuing their work and going some other directions too.

**Telsing:** Yes, no, absolutely. It's this broad thinking about time, that which was before, that which is now, and that which will be in the future. Yes, absolutely. I'm just going to say though, that by saying that stuff with oca, you just recognize that you're challenging me again. [laughs] I suspect there are people in our Pacific Northwest that still have reasonably good oca collections. One of the things, and of course there are techniques or tips and tricks to play with plants in such a way that you can induce flowering and it's tricky though.

Sweet potato, what really surprised me about sweet potato was that once you went past the varieties that were just common, more commercial varieties, which I don't know if they had the flowering tendency bred out

of them or it was just the replication after various so many cloning events of propagating those sweet potatoes that's flowering there was some degradation in the capacity to flower. Once they started producing- once they had a few varieties which were a little bit more wild and I got some seed from a couple of people, sweet potatoes. This is, again, is the true seed from flower that my population was, I would say, prolifically flowering. That gave me lots of genetic material to work with.

**Steph:** I think even just from talking to you both for a few minutes, it's clear that you do a lot of collaborating with other plant breeders. It seems that you have an interest in the democratization of seed and breeding populations and an interest for sharing and collaborating with other farmers. What I'm curious about is why does this feel important to you both and how has it informed your work? Maybe, Maxime, you can start.

**Maxime:** We're just like a little grain of sand in this universe. I enjoy the concept of leaving something that's going to be positive behind. For me, plants is the most precious element of human life because **[audio unclear]** it keeps us living. Sometimes we forget that we have to eat to live. It's just the joy of cooking and eating because I enjoy that a lot. It all matches down to curiosity and being custodians, I was saying.

Yes, absolutely, Stephanie you've really put it out in a very good fashion because what I usually do is I test weird plants that are super hard to get and I grow them a few seasons. If they set seeds and the plant is tasty and it looks good and there's potential for it, then I just get the seeds and I just give it to some seed producer. Because I think that job is- because I've done that packaging and cleaning seeds and going to seed festivals and selling that on the little booth and all that. I found that job very difficult and time-consuming.

It's super rewarding but it's still, a lot of job for someone who has a full-time job on top of that. I found it way easier to just say, "Hey, you never heard of that plant? Here's the seed. Grow it out, try it out, see if your customers like it, and just thank me later, or not, basically." For the fun of it. Then it just creates links with people who received, you don't do it for money or for other motives. Just for pure fun and curiosity and getting to know more people and know more plants and get to learn about breeding, because it's hard to learn.

It's a little empirical, too if you don't have some background, [inaudible] you don't do much research. When you learn someone who's done more than you, like Telsing does, it's super fun to just ask questions and see where would you go with that type of crop or going towards direction to select some traits or how do you cook different plants. It's very interesting.

**Telsing:** I think I'm really interested in the democratization of plant breeding because I feel like it's something that's, in reality always existed. We've always interacted with plants, and our interaction with them and their interaction with us has formed a natural ecological symbiosis. People are, I don't know, perhaps they've forgotten a little bit or they're a little bit afraid when it's couched in all these scientific terms and when they think about what must have gone into the work of some crop stable, harvest ready tomato or whatever.

If you take it back to just the joy of, say, taking some seeds off of a flower because you thought it was pretty and then putting it in your garden, then it becomes much more friendly and much more intuitive. I have no formal training whatsoever in plant breeding and I managed to produce really tasty, interesting, reliable varieties that were resilient for my family and community and environment. Since I started working with plants and my business has gone through a couple or had gone through a couple of incarnations, including initially, I started doing edible landscaping which is why I became interested in perennials because I would be designing full yards for people and they'd say, "I want to eat as much of this as possible." I did loads of research and stuff like that and collected all things so that I could realize these dreams of people. Then what I encountered was the fact that I couldn't source anything except from my own garden which is why I ended up moving towards a seed company.

Also, the more and more I learned about food and things like that, it just made sense to start doing more and more selection and moving across a full spectrum of different types of food plants from what I call calorie crops. The meat and potatoes, literally potatoes of crops right up to your vitamins and minerals. The more salad greens and things like that but from the beginning, I think because of the way I entered it and I think a lot of people who are interested in seeds enter this way through the sharing

community, is that it was weird for me initially to even sell seeds because I was so used to giving them away.

I was so used to babbling on and on about my favorite vegetable varieties or whatever. I just wanted everyone to be potentially as excited as I was about this stuff. People used to be often quite worried or hesitant. They'd be like, "I don't know, I tried this thing some time and the squirrel ate it or whatever." I'm like, "Try again. Trust me, it might work. It'll be fun." That teaching and sharing about seeds saving really work quite naturally into plant breeding to the point where I produced a variety and I can't really say I, but it's the people that were involved produced a variety of butternut squash which ended up being called One Penny butternut squash.

The original name was not anywhere near a **[inaudible]**. Oh, gosh. What was it? It was the **[inaudible]** Eastern Ontario participatory breeding, butternut landrace or something like that. It was really long. It was one of these titles that--

**Steph:** It'd be hard to put on a package. [chuckles] Hard to fit in a package.

**Telsing:** I think they used to label it, they would. I would joke about it every time I did a talk or something and then I had started recording who was getting these seeds because the project essentially was because people typically grow not too many varieties of butternut in Eastern Ontario, Western Quebec was that they would just grow. I would send out seeds, they would grow them, they'd send me them back if they worked. I would mix them in a big bowl after I made sure they seem clean and that kind of thing. I would mix them over a couple of years and then I'd redistribute them for free. This was just a free project where people would be doing this and I was just curious to see what would happen. I would record these instances of giving out this seed as one with just one penny.

I wouldn't actually charge them the penny and so it ended up being called One Penny squash because of that.

**Steph:** Yes, very cool.

**Telsing:** Yes, it was fun. I would explain that in this way I would give some very limited instructions and I would help them think about things like the



different species of squash that grow in the garden because Cucurbita moschata is one of three typical ones that people grow, including maxima and pepo and that they don't typically cross though there are all kinds of exciting exceptions to that. Nature is always exciting about breaking the rules that we set out for them and it would also say that you can not only do seed saving but also selection. Just to repeat myself, that every instance of seed saving is an instance of plant selection and it worked really well.

When I tell people this, I often wonder if they think, "Oh my gosh, what kind of monstrosity did you get back," but I didn't get a monstrosity. I got a generally shelf-stable storage squash so you could just keep it on the shelf because most people store their squash that way. That grew medium-sized and was roughly butternut shaped and had tasty flesh and grew well in the geographical area that it was designed for, that's it. That was the big surprise, exactly the intention--

**Steph:** A monster.

**Telsing:** Yes. It was **[inaudible]** and that was regular gardeners at different scales doing that.

**Steph:** Yes. Did you have to rename once the penny went out of fashion?

**Telsing:** No, and then it's cute.

[laughter]

**Steph:** The one nickels.

**Telsing:** Yes. One nickel squash.

**Maxime:** That's such a great story, Telsing. I forgot all about that squash. I've never tried it myself.

**Telsing:** I still don't see.

**Maxime:** Really? Wow, that's interesting. Now, I have plenty of space now that I have a new land. Also, Telsing, Stephanie she did an awesome project on cabbage and I got thousands of those seeds in my refrigerator at the moment and now I have--

**Steph:** Very excited **[inaudible]**

**Maxime:** Yes, I was very lucky to have those. Now that I have a good amount of space, I really want to try to start back or let's say continue on where that project I guess stopped. Did it stop, Telsing or the people are keeping me going on the tracks.

**Telsing:** Here's the thing. [laughs] I just to link back to, actually, it's both the squash and cabbage. I know various of my projects have been taken up by other seed companies. The One Penny Squash was grown up for a while by **[audio unclear]** in Ottawa though that seed company I think has closed doors. They were also attempting to grow the cabbage. The cabbage is a bit tricky because it requires some thoughtful for wintering techniques that aren't always easy if you have a lot of different plant material that you are trying to keep going.

I'm not sure about the cabbage, so gosh, darn it should that cabbage project keep going? It was one of these serendipitous things with me in my very, very, very early days of growing up seed and a couple of cabbage plants that managed to survive. One was a savoy, just a green savoy with a little bit of blush in the center and the other one was a Red Rock Mammoth and the original seed source of that came from Cottage Garden, another seed company that no longer exists.

Both of them, the genetics of both these varieties were sufficiently restricted that when my singles, it was San Michele savoy produced flowers, and the Red Rock Mammoth around it pollinated it. It happened to be a one-way pollinator. All the F1, that's the first generation, the plants were perfectly uniform. Boom, boom, boom, boom they look like a classic hybrid but beautiful. What this coloration of this particular cabbage looks like it's got a purple veining with a greenish lilacy in between. It's a multicolored cabbage and it's midway between savoy and red cabbage in texture.

The taste is like a lovely nutty cabbage which tastes great in salad. It's a really good cook. It has a relatively small footprint for a cabbage plant which is useful compared to its head size which is relatively large for that footprint. I kept working with it but the first couple of years was just absolute failure with the original seat that I got. Starting with me, I just say

that one San Michele plant that had those flowers which I knew most likely from the literature would've been crossed was snapped almost in half by some passerby. [laughs]

**Steph:** Oh, my gosh.

**Telsing:** It's okay, it survived. [chuckles] I learned a lot of different techniques about how to propagate cabbage and also overwinter it in a very low tech. I'm very low tech by the way. Never owned a tractor. It was hard work but very low-tech ways of overwintering this cabbage but also doing wacky things. I learned that cabbage root cutting similar to Sea-kale which is a distantly related perennial relative can grow vegetative, grow leaves from root cuttings. I'm still experimenting with that.

The **[audio unclear]** cabbage could be rooted, brought indoors after fall, and induced a flower. They just do it naturally and you can cross them and get seeds a very small amount compared to then replanting them outside, blah, blah, blah but there's so many exciting things to discover when something is really, really hard to do.

**Steph:** Nice. Yes, I love that you see that as this great challenge instead of something that discourages you and I guess on that note, working with these very rare and sometimes hard-to-grow, hard-to-find populations and taking on so many diverse projects you've both had to deal with failure if you want to call it that, in its different forms. I think when I talked to Maxime, earlier he called himself the master of failure. How do you both deal with that? Maybe Maxime, you can start us here.

**Maxime:** Yes, I'll go ahead. It's a numbers game, so I always say one in a million is going to cut it, and then you get it so you have to be lucky. When you fail, it's just an opportunity to have learned something to mean more than discouragement. It's I'm started back in the summer, or I learned something, I'll try it the other way or I'll-- Sometimes it's always not in our control. Let's say just for oca, basically, I've let myself been a little discouraged, but I'd start again any day with good material. It's just that you have to realize sometimes that your project is, even though you spend a few years on it, it is not going, no, it's not going the direction you want to go so then you have to pick.

There's so many others. There's one less project is not the end of the world, so you focus more on those that are going forwards than those that are going backwards, actually. Sometimes you just get really lucky. Like Telsing's leek, which is one of my favorite crop I grow in the western part of Montreal. It just recedes itself and then I get to do more selection and then with my onion collections, I let nature basically do the job and point me in the direction and if I'm lucky and if I also observe enough, because it's up to me to figure out what nature is doing the work. If I see something I could have just walked past by it and not recognize it. It's all on me to see and to recognize and to work and to have the timing but sometimes it's just like a gopher problem or false, and then they just ate all your project, and then you're like, "Wow, that was not expected," but it's always fun.

**Steph:** Yes.

**Telsing:** Yes. I don't know if you speak often with Owen in the UK, but he was doing a public participatory breeding project of oca there, which that climate is much more encouraging for oca, and I think his biggest reasons for participants failing was things like deer and bulls. [laughs] a lot of oca-flavored bulls out there.

[laughter]

What was I going to say? Oh gosh. I agree with Maxime about being gracious with failure. It's just, it always happens. It's like you're inevitably-- You wouldn't really be moving in any direction if everything always worked. I think that there'd just be too much. It's nice that--

**Steph:** Very true.

**Telsing:** It's nice that the constraints and difficulties give you a path forward. I always see it that way.

**Steph:** Yes.

**Telsing:** I have to tell you, if it were easy for me to do half the things that I attempted to do, I would've learned so much less. Like with carrots and oh, a lot of the perennials it just wouldn't have even occurred to me, and one of the things that you always want to avoid, I think in learning

anything and researching or trying anything is this stasis thinking like, a potato can only be growing this way. Gosh, there are, I think there may be as many potato-growing techniques as there are varieties of potatoes.

**Steph:** Which is so many.

**Telsing:** Yes. They vary in their productivity, but it's really very dependent on the context in which they're growing. When people ask me for gardening advice and they say something that I'm like, "I'm not so sure about that." I might give my 2 cents, but at the same time, I'm like, "Try it. Maybe I'm wrong. Maybe it'll work." I've done all sorts of things that people looked at me kind of sideways [laughs] and it often wasn't as much of a disaster as you would imagine so.

**Steph:** Yes. Oh, that's nice, that humility in just acknowledging that there's so many different ways to do things and we can have ways that work for us and someone else may discover another way that works for them and yes, I really, I really appreciate that.

**Telsing:** Absolutely, and Maxime, I heard that you were just alongside that because we, both of us are interested in plants that are multifunction, I would say that are both tasty, tasty being paramount for me, at any rate, for edible plants. Also, just that can grow without too much babying because I generally have too much to grow to be babying them, but also that are beautiful. I think that, and maybe Maxime could respond to this, but for me having a landscape which is luscious for myself, the creatures I share it with a feast for more than just when I bring it indoors has always been important to me. I think that you were working on a- or working with potato varieties that were pretty, is that correct, Maxime?

**Maxime:** Yes, my dream was to have a potato leaf a potato plant that was purple leaf or blue leaf, and then that beautiful big colored flower either purple or [inaudible], like purple leaf with blue flower or blue leaf with purple flower or something like that or double colored flowers, a little white in there. It's always been a dream of mine and I like to enjoy purple plants. Not the trees and shrub mostly, but edible plants that are not green because it gets a little boring at some point. I like all the purple things you can eat and I said, "Well, a potato is a very beautiful plant and we don't use

it much in ornamental fashion, but it could be really bread for ornamental value and the easy--"

I figured out quick going into breeding is that two bud crops is very much more easy to multiply once you have a stable variety so you don't have to go through seven, eight or more generations. If you're lucky and you find something and it's easily-- Well, it's way easier to propagate and to spread and share with other people than other type of seed crop. That was a project that you can see it in the foreseeable future and I succeeded here weirdly. I got really nice purple leaf potato but the flowers weren't so big and it got diseased because we had some stem rot big issue at their farm, and it was perennial at some level. It withstand the frost of the winter and it grew back from the few potatoes that I left in the ground, just forgot about it.

We'll see next spring if I still have them but I really I'm shy of taking those potatoes in my new field because I don't want to bring the stem rot bacteria with it and then contaminate my new field and then ruin all my future potato project and others because it doesn't affect only potato. I would have to maybe try to cross it with some other potato maybe. Also, the point was to get potatoes to eat from that plant, not just to make it pretty, but actually, have harvest-size potato which that was a failure.

They were super small and they were super late tuberizers, but still, they were tasty. There was some amount of it, but nothing comparable to a real potato. There was a part failure and part success so that tells you you're going towards the right direction. You need to find a potato with the leaf you want maybe and that's compatible and that's a big issue with potato too. That's a little unknown, so maybe, yes. If they survive the- if I still have a few of them that's a project that's going to be ongoing.

**Telsing:** Yes. It was one of those ones with long stolons then so that underground horizons and little tiny diffuse tubers?

**Maxime:** Yes, exactly. Is like Canada-- It's like a diploid type potato, but they didn't have like crazy stolons, no, but very super long day tuberizer but pretty frost resistant.

**Telsing:** Yes, that's probably partly the tuber size too. I find that smaller vegetative material over winter is better under the snow. **[inaudible]**

**Maxime:** Absolutely. It's not interesting as much for **[audio unclear]** or golfers then let's say or beets or even onions and other type of perennials that most of them get eaten. If there's a good snow coverage. If it's full of ice sheet, then they less- they don't have access as much, but then the ice damages the plants. It's always we're very vulnerable to the weather in the season. It's hard not to make rash decisions also in breeding because you're like, "Well, this all died out, but maybe that was very odd winter." We are getting really odd weather since a few years and it's hard to find out this affects our projects and to keep it going, I think.

**Telsing:** That's the trick because there's often especially- ideally if you're developing a cropping system to feed people, you want to have sufficient diversity in single variety crops. Say a type of carrot with sufficient diversity twist add, a range of different conditions that's appropriate for edible uses and storage facilities that are available but also then you want a diversity within that crop type. You want more than one carrot that's going to be able to cope with a broader range of conditions and then you want another redundancy built in, which is more than one type of thing that can provide those sorts of nutrients. That you can cover an even broader spectrum of diverse conditions.

That's something that's really fascinated me is the poly crop selection within systems, but you also bring up this idea of the aesthetic and the tuber and how we do selection always makes me think of the fact that, for example, I think it's in Sweden they're breeding Dahlia varieties. There was an institute that was breeding Dahlia varieties for the red edible tubers. People think Dahlia, they think, "Oh yes, that's pretty," but it also theoretically has an edible tuber.

You'd have to start I think selecting more for taste, also canna lily for example, has potential for edibility. There is a *Canna edulis*, which is a particular, I'm not sure if it's a full species or a subspecies that was traditionally used and is used currently as an edible tuber, but Common garden Canna which can produce a ton of tubers also has a potential for edibility. Again, that's another way of re-building in redundancy into the system

**Steph:** Telsing, before we move on too far from that, I wanted to come back to what you were saying about poly crop selection and looking at your plants from a system perspective. Can you elaborate a little bit on that and how that's informed your selection and what type of landscape you're looking to grow?

**Telsing:** Oh, absolutely. Yes, for sure. I think that pretty much from the beginning because I initially got into growing because I'd like to eat and I like to cook and also I was feeding my family. I was not selecting for let's say market garden varieties that would be super popular amongst the baby greens or market for restaurants and stuff like that. That wasn't my initial focus and I was always trying to figure out how am I going to feed my family as a stand-in for the greater community and then later on, how am I going to contribute to the resiliency of the food system in the area. I never approached a selection project as a standalone plant. I always saw it as one plant amongst a series of plants that I grew.

It would have to have value as a plant that provided a particular set of nutrients and nourishing meals but also would have to grow within cultivation within my other plants. Now, I didn't typically grow multi plants together. That's a style of sometimes people use, let's say they grow, I don't know, it's been a while since I've done this, but let's say radishes and parsnips, but I did use to have my own cultural techniques where I would plant one crop after another crop and those two crops would have to have been selected so that could function.

Not only that, but I grew in the landscape where there was a perennial periphery. The periphery of the annually or more input-intensive crops was ringed with all kinds of hedgerow-type plants, which provided vitamins and minerals, I like to call them self-fruits and greens that were either perennial or self-replicating or self-propagating.

Then in amongst that was then the annual-- For me, it was really big. It wasn't a garden you would see in some **[inaudible]**. We were talking fields in there as well and I saw the entire year as having different windows of opportunity for different plants. In the spring, that's where- the very early spring, that hunger gap time was when my perennial vegetables really **[inaudible]**. Things like patience dock and the perennial leek that Maxime was talking about and other onions and stuff like that.



Some of the roots that could overwinter in soil. Those were available and fresh and delicious and exciting because you're bored of [audio unclear] stored food and then you move on to more of the early berries in the summer crops, you get into more of an annual intensive period of time than the height, hot summer is when there was some of the more heat tolerant greens and what I used to call the harvesting or the weed harvesting. That used to make up a big amount of the food that we actually ate in our household, especially when there was drought. We experienced a couple of severe droughts and I had no irrigation. Like I told you, I like to take things the hard way.

That wild amaranth and some other greens like that, which I would allow to grow in row for crop failure, not outcompeting, just as a secondary potential harvest source was what we would eat a lot of. Then as you moved out of that very time of year, you're really back into heavy fruit and then a second reflash of all those perennial greens. There's this movement through space and time for these different crops and their windows and opportunities to select them so they would grow well together in this system.

**Steph:** That really resonates with me just thinking about things as the emergent property that comes out of all of these different things, interacting all the different factors, biotic and abiotic and there's something about that just feels such a nice homage to the way that nature naturally does selection and making sure that there's something that's happening through every little window of the year. Telsing, you've closed up shop with your seed business and are taking on new projects. What's coming next for you?

**Telsing:** Oh gosh. In terms of plants, that's an interesting question. When I had initially closed up the seed company, it was a very bittersweet time. I had passed on my projects to those that were interested in them. Some people are doing an amazing job with some of them still and I'm super grateful the Heartbeat Farm has taken on the sweet potato breeding. I recommend everybody follow her and see what's happening there because it's really fun, but I had partly thought and maybe this is just burned out that I was done. That's it no more but of course, that's not possible. The pandemic hit, oh I think immediately afterwards. I think my company

might have shut down in the spring of 2019 and we moved to the city from the farm.

We moved in the late fall of 2019 and of course, COVID was in the winter of 2020 and I ended up working with just food to do some projects with them in Ottawa. Then I ended up actually being the head gardener at the Children's Garden in Ottawa too, which was a very different scale for me.

Given what I was used to working with by hand, even though it is a big garden, it felt like a great place to play because it was small and I was able to interact within the constraints of COVID the community there. That was lots of fun, but in terms of projects moving forward, one of my daughters has said she'd like to do a few breeding projects with me. This is my 17-year-old daughter. That's always really exciting and I know I'll continue to work with the community such as Maxime. In fact, Maxime and I were talking about **[audio unclear]** *Cyperus esculentus*, also known as Tiger nut, is a super, very exciting crop. I'm sure I will continue to work with people in the community in a much lighter capacity, and also with my daughter who would like to try her hand at temperate dryland rice growing, so there you go.

**Steph:** There you go.

**Maxime:** I want to do that too, Telsing.

**Telsing:** Great.

**Maxime:** I have a very natural inclination towards and think that's Asian because it's my favorite cuisine. I used to give basically rare veggies to my favorite Japanese restaurant in town. When you collaborated together, they were like, "Well, who are you?" Like, [chuckles] "How do you come to get to those?" I was like, "Well, just tell me what you want", and they were like, "Well, I want some Sichuan pepper and some Udo, and they're like, "Well, see you in four years or more."

**Steph:** I love that.

**Maxime:** Actually, four years later, I was like, "Well, there you go." [chuckles]

**Steph:** That's awesome.

**Telsing:** Udo?

**Maxime:** Yes, that's a very fun part. I have not yet gone into soy and rice, but definitely would be super interested to doing that because it's just the basis of everything that's transform into what makes their cuisine like **[audio unclear]** soy sauce mirin, Mizo, and all of that. That would be my greatest joy. I see some people having success with that.

**Steph:** Well, I guess, to wrap up here as we come towards the end of an hour, I was wondering, what would you love to see in the seed movement in Canada?

**Telsing:** I think that perhaps more support for seed growers. It's a low-profit business. In fact, I would say that most small-scale agriculture is, and if we really want to do things local, and there's an incredible benefit to doing that, because landscapes vary, that we have to look to what those people need. It's fine to want to encourage individual entrepreneurs, but you end up with people having to do it part-time and having a job. This is quite intensive work, or you have somebody like me, who puts all the money they make back into what they're doing. One of the reasons I actually shut down my business was because my seed company was growing in popularity, but I was at a scale where I really need to hire employees.

To hire employees, I'd have to pay myself nothing and tell my family I had to spend less time with them because I had to now do even more business work and that seemed unfair to them. I think that maybe more support and certainly working cooperatives like **[audio unclear]** is a great idea. It's a model for people who are looking to get into it, to look into. Also, don't be afraid of trying new things, and don't be afraid of plant breeding. If you have a little side project you want to do alongside.

**Steph:** Maxime.

**Maxime:** On a consumer point of view, I think people in the next 10 to 20 years, since we're always 10, 20 years late than the US, we have a fair idea of what might be more interesting in this. That is basically the start or the halt of the heirloom myth as I call it, and as Telsing is going to explain it

better than me. Usually, heirlooms are very not the worst varieties and they have certain aura because of the name heirloom, but what they are actually is breeding materials that are very interesting, but sometimes they're very prone to disease or they're not good for your climate. It's fun to have very old varieties to it.

**[audio unclear]** not saying throw them away, we have to keep them as breeding material, but as we found out there's more interest in the landrace and the diverse populations to add a resilient act- its resiliency in growing our crops. If everything fails a year, it's a bummer [chuckles]. If you have a diverse population, then a few plants die out, then it's way more interesting, and then you get to select from that. I think that seed saving in itself is going to be more and more widely practiced amongst people and the fact that they are going to make their own little landraces and population.

**Steph:** Thank you so, so much for both joining me today. I really, really appreciate it. It's been wonderful to hear how you two have worked together, how you've followed these individual passion projects, and I'm excited to hear what comes next for you both. Thank you so much again.

SeedHeads is produced by the Bauta Family Initiative on Canadian Seed Security. A program of seed change, whose main office is located on the traditional unceded territory of the Algonquin Anishinaabe people. To find episodes, transcripts and learn more about seed work in Canada, please visit [seedsecurity.ca](http://seedsecurity.ca).

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