

Adult Essay 2nd Place

Glen Johnson

Seeds For The Future

When most of us think of seeds, we probably think of corn, beans, carrots, flowers and such. However, seeds are also ideas, kernels of inspiration, concepts to be considered, like when old man Calhoun came to this region and saw a possibility, a seed of an idea was born.

“See here fellas, this forested flatland is perfect for logging, these trees will soon become houses for settlers of the west, then we can pull the stumps and plant some seeds, so the settlers will have something to eat”. Oat seeds were planted to many thousands of acres here, destination Seattle area horses used to pull heavy wagons up the city streets that were initially “too high and too steep”. Heah, more seeds soon sprouted from the fertile Skagit delta, from pasture grasses for the cows, to wheat and corn, to carrots, cabbages, beets, turnips, beans and berries. Really, all seeds, whether for crops, or ideas for consideration are for the future.

Throughout the history of this beautiful place, seed production has been a front and center enterprise, with vegetable seed at the forefront. We became world famous for our cabbage, beets, spinach, turnips, mustard, grains and even things like hops, ginseng, peas and spuds.

Seeds of inspiration popped up continually for now more than a hundred years. One seed of an idea was how do we pull all the stumps, how do we best build these dikes and levees, was another. How do we rebuild the once great salmon runs of the Swinomish Channel, was another “seed”. Sometimes it can be difficult to get seeds to germinate.

Yeah, seeds for the future is a huge subject. I’ve played a huge role myself. I had an Uncle John, who had a “seed of an idea” about how to powder lime rock, making it fine enough to buffer the slowly acidifying ag soils. Yeah, he blasted rock at the quarry, hauled huge blocks down to the crushing plant that his brother Claude and my dad helped him design and build. The seeds of this idea came about in the forties when our military practiced shooting at enemy watercraft in Padilla Bay. High calcium oyster shells were made into roads across the farm fields, to the gun emplacements on the dikes. After the war, when the oyster shells were tilled into the soil, it became obvious that the calcium helped crops grow, especially peas and spinach; seeds for the future, both.

Yeah, research became the norm. We researched how best to grow ginseng and what varieties of peas, corn and carrots grow best. Seed and plant breeders called this region their home. Dr Hugh Dobney created the best of the best strawberries and raspberries this part of the world has ever known. He was stationed in Canada, near Chilliwack just across the border. Shukson, Rainier, Meeker, Shuswap, Tulameen, Willamette, Comox; he created some of the best berries ever eaten.

Jay Schafer, what a vegetable breeder; carrots, spinach and cruciferous crops were his specialties. Visiting with him was always a hoot. I had to put my thinking cap on. Margaret, what a microbiologist, she had to continually create new resistant strains of spinach seeds, yeah, micro-spores of mildew had to be continually adapted too. Lindsey, she lives for the farmers that pay her wage. Yeah, seeds for the future are being worked on years before they arrive. Back before a serious levee system was devised, farms used to build small dikes around individual fields, and before the seeds of flood control fully sprouted, snow melt floods were a way too common reality. Seeds for the future are just as much about ideas, as the crops that keep us nourished and fed. Where's the best place to put this or that dam, so we can keep the cabbage, spinach and peas from drowning down in the flat silty delta? How high should the levees be? Seeds of ideas are usually late at night born, in a shop or a fire station somewhere.

Dang, is this really the case? Does spinach really produce a huge flush of fusarium fungi that keeps spinach from being planted for seed again in that field for "25 years"? Wow, talk about a challenge. Keeping track of such a long rotation is not for the faint farmer, or seed company either for that matter. You nearly had to have a photographic memory there for a few decades. It created seeds of inspiration for soil scientists, plant pathologists, seed breeders, and chemists. Yeah, it may have one of the most interesting histories of any vegetable seed out there. One of the craziest things about spinach is that in nature, spinach has both male and female parts, which is a nightmare when hybridization came into vogue.

Pollen from male plants floats off in the wind, hoping to land on the flower of a different variety planted nearby. This different variety would be complete with male plants of its own, so all the male plants would have to be identified, hand pulled and destroyed, before they could spread their pollen. Early in the growth cycle, the male and female plants look alike and when the male plants start to show their sex, it might only be a day or two until its pollen is on the wind! It was always a struggle to get half of the plants in a field destroyed in time. With twenty forty and eighty acre fields scattered all over the region, it was a logistical nightmare to keep up with several thousand acres in production. It inspired some seed breeders to study ways to get the female lines of spinach stock seed, to produce a higher percentage of female plants. Yeah, the labor costs of having all these male plants removed, was making profit difficult to achieve, for anyone. I just happened to be in the right place at the right time to observe. As a budding soil scientist myself, I was working on a seed of inspiration too. You see, the fusarium fungus that attacked the roots of spinach, lays dormant in the soil for those twenty five years, waiting for the next exudate from spinach roots to wake them up. Well, a similar fungus also attacked pea roots. Yeah, I was thinking of a cultural strategy to control the fungal pathogens, rather than a breeding /chemical strategy.

Heck, nature has an interesting way of sorting itself out, yeah, down at the microbial level, bacteria and fungi consume each other. If there's enough organic matter for them to eat, a sort of equilibrium is met. When organic matter in the soil falls to critically low level, bacteria and fungi can adapt and become pathogenic, disease causing, root consuming, not a good thing if you're trying to grow "seeds for the future". Most of us are seeded with ideas at some point along our life's path. I was seeded with many ideas by observation, easily as many as came by books, teachers, peers, employers and such. Sometimes if you just look long enough at something, you can see something that even though it had been there all along, its been outside your ability to see. Sometimes epiphanies come slowly, some come as quick as a flash. Some ideas get stewed on for years in obscurity, and some seeds of ideas never get out of the brain to the drawing board.

As a young student in college, I loved learning about soils, how to grow those succulent peas, but the peas prime time too, become a part of the past. The breeders bred resistance into the different varieties and the chemists created seed treatments to further combat the pathogens. To add insult to injury, the summer of the

eighties were wetter than normal, 'seeds for the future' were born once again. "Let's move our pea production to eastern Washington, it'll be easier".

Our Skagit farmers had to think about a different strategy. What are we going to replace all those acres of peas with? Twenty five thousand acres of something new, yeah, that can cause a farm's blood to turn blue! We couldn't increase seed crops any, so grain and spuds filled the land. We had a Steve and Stephen bring us new grains to grow. Dick and Dale developed a diversity of spuds for our future. Heck, some of our farms even went to Eastern Washington to grow peas, carrots, corn, alfalfa, and cattle. They ended up bringing some dry beans back to grow here, yeah, some ideas not only are thought of, they are acted upon too.

We've had weather in recent years that could have grown peas better than back when they were here. Wetter springs with dryer summers, perfect peas can happen here. In the eighties we had a year when the weather cooperated and two of the highest yields ever occurred, right next to each other; a pea field and a swiss chard field for seed. Five point two tons per acre of green peas, it was off the charts, difficult for anyone to believe. The swiss chard yield was similarly unbelievable. The organic matter was what had done the trick, but it was passed off as a fluke happening, some folks didn't like me trying to get them interested in applying compost.

Sometimes if you're out of the box, your seed of inspiration gets thrown under the bus, even if you've done your homework, and your science is sound. Yep, I happened to know the soil situation of the record breaking yields. John Misich was a dairy farmer along the Snohomish River, and he'd applied significant manure solids to these fields, they got the most because they were closer to the cows and their bedding.

My passion and "seeds for the future" came when the first of the pea fusarium problem happened, I worked as a young teenager preparing the eighty acres for planting, planting the fields and boy did they grow. It was looking about as perfect as possible but looks can be deceiving. Under the beautiful green carpet, the fusarium was apparently adapting to a critically low level of organic matter, and went crazy, eating the pea roots! By the time the dwindling crops were ready to harvest, only about 3% was harvestable. I was only 14, and the sight of it was seared indelibly in my mind. I realized right then and there that I would someday figure out a strategy to help keep peas as a viable crop. Spending years in the Army helped prepare me to be a better college student. I still wasn't the brightest bulb in the pack, so it took nearly a decade for me to really wrap my mind around how I could create a natural control for the dastardly disease. It was in the late 70's when I stumbled on to the notion that some well made compost might play a part.

Yeah, one set of circumstances after another, would be seeds germinating somewhere between my left and right ears. There were a few years in my twenties, thirties, and forties, when if I was awake, I was learning at high speed. You see, I was a planter of many of the seed crops. It was my job to learn how to read, not just about lab analysis, but soil tilth and structure also. I learned to see what others didn't.

Yeah, seeds for the future, whether they're seeds of inspiration, or seeds of spinach, cabbage, peas, carrots or corn, they're all worth some contemplation.

