If we have learnt anything living through a pandemic, it is that resilience is imperative for survival. Resilience in nature is just as fundamental to the future of our food systems. Tumultuous weather patterns, urban growth and political instability all create challenges for the small-scale farmers who continue to produce a third of our food today.

Good food begins with farmers. It starts with those working on the frontlines of our food systems and the climate crisis, often under difficult conditions.

These men and women have been custodians of our seeds for centuries, cultivating the best plants for specific environments all over the world as an insurance policy for both farmer and nature. Our culinary approaches need to highlight these varieties, which will help us achieve so much more than just flavour. We can save ecosystems and cultural heritage while having the privilege of working with the most flavourful ingredients, quite literally, on earth.
Perhaps it is because the potato – a comforting staple found on restaurant menus and in home kitchens – is so ubiquitous, that it is often seen as a highly versatile ingredient. We've dried it in oil and hot air, fried it with butter, mixed it with wheat and even made it into powder. The image conjured up by the word ‘potato’ might be the common, smooth-skinned, white-fleshed tuber available to many. That tuber, however, is just one of an astonishing 4'000 varieties that have been cultivated, with even more wild species. The prolific potato has one of the richest genetic diversities of any cultivated plant, and just as rich a range of flavours to be used in a variety of dishes. The diversity of potatoes offers chefs an array of textures, colours, shapes and, of course, flavours. As chefs, we want the best flavour we can get our hands on, and this plant is a great example of how flavour and diversity go hand in hand.

This commonplace tuber is one of the four most important crops in the world in terms of consumption, feeding over a billion people globally. Many varieties of potato are highly nutritious and have been deemed ‘superfoods’ because of their role in food security throughout sub-Saharan Africa and Asia. Given the massive global production (over 300 million tons) of potatoes, it is alarming that we rely on so few varieties in our kitchens and on our plates. The diversity of potatoes is crucial – proven by the blight that caused the Irish potato famine in the mid 19th century. Conserving potato genetic diversity is essential to its future, by providing resilience during climate and production stresses.

The Crop Trust is an international organisation based in Bonn, Germany with the unique global mission to ensure the conservation of crop diversity in genebanks, forever. The Crop Trust, the United Nations Food and Agriculture Organization (FAO) and other partners started the Food Forever Initiative in 2017 to raise awareness on the importance of safeguarding agrobiodiversity to build resilient food systems.
JANICE CASEY BRAKEN

Region
County Wexford, Ireland

Favourite way to use potato diversity
Potato starch is an unusual way of using up veg that might otherwise go to waste. We press potatoes much like you press apples for juice, and the liquid extracted is then dehydrated to form a powder. This versatile starch powder can be used to thicken dishes and even as a kind of scaffolding for souffles, helping them hold for longer!

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My story using biodiversity in potatoes

Dunbrody House is the first restaurant kitchen I was trained in ten years ago, and I consider myself lucky to still be in this kitchen today. During my previous career in finance, I was intrigued by nutrition and the effect that the food we choose has on our health. After personal circumstances piqued my curiosity, I decided to move into a career that nourished a good food system through cooking. Dunbrody had, and still has today, a menu that is dictated by what is available in our gardens and from our producers. Every morning starts with a walk through the gardens to see what has changed and what nature has on offer for us. Of course, being Irish, we are serious about our potatoes! Some of us don’t count it as a meal if our plate does not feature a variety of potatoes – the potato is a part of our culture and something we cherish. We are incredibly lucky to grow a variety of potatoes here in our kitchen garden as well as have links to creative potato farmers close by.

These farmers face unimaginable challenges with changing weather systems. Many chefs often feel a great amount of pressure, but it doesn’t compare to the pressure these farmers are under to create beautiful produce for our kitchens! Treating ingredients with great respect and maintaining relationships with the producers really helps create awareness, from the kitchen through to the diners. I encourage our waiting staff to talk about the potato varieties we use and explain where they come from. If they came from our garden, for example, I let the diners know that we only dug them up a few hours ago. All of this involves the diners in the eating experience and narrative of the food on their plate, and I believe makes them a little more courageous to try out different things.

CALL FOR ACTION!

Every week on my day off, I sit down to a meal with my family. We have at least three different potato dishes on the table. Although it is some effort to get them there, I want to encourage my children to learn about different potatoes and the variety we can get from our gardens. They get to know these ‘weird’ and wonderful varieties and will carry this knowledge forward into the future of cooking. Variety is what we need for survival in the future: the potato famine might be behind us, but we need to protect biodiversity for future generations. What better way to teach this than through a plate of delicious, nutritious food.

“...
My story using biodiversity in potatoes

Born and raised in Lima, I am a third-generation Peruvian from a Japanese family. My first-hand experience in cross-cultural cooking has spanned both Japanese and Peruvian cuisine early on in my life, and I have since also discovered the ingredients of Mexico, Colombia and the USA, where I live. The flavours of Peru are the cultural highlight of my restaurant menus today, and – naturally – a big part of this heritage experience is exploring potatoes. Growing up, we ate all the traditional Peruvian dishes at home, with an interesting Japanese twist. Peru has a large community of Japanese, and the mixture of culture and cuisine is fascinating and inspirational. I think the many influences and blends of cultures, which have all come together, are part of the beauty of Peruvian food and make it one of the world’s most exciting cuisines.

Our potato dishes are much loved and treasured by everyone, and they in themselves are very diverse. The varied preparations of potato dishes are full of flavour but also practical, even extending to preserving the potato. Papa Seca is the creative process of sun-drying potatoes to form hard, dried chunks. These are then stored and used to get people through the hunger season. For a chef, they are a great product, because they have such a wonderful texture when rehydrated, with an intensity of flavour from being perfectly parched by the sun. Due to the huge range of potato varieties, there is almost a different potato for all uses in the kitchen. Shapes, sizes, colours and textures – it is a playground of creativity for chefs!

The Peruvian food markets are an excellent example of biodiversity. Even a basic supermarket will have at least ten varieties of potato, and a food market will have up to one hundred, at least! The options are endless. Here in Miami, sourcing is slightly different given our local producers and land. As a result, I have to import a small amount and get creative with what I have instead. I guess this is the beauty of the challenge for me, in cooking. The journey also entails finding potential under your feet, appreciating the local range of flavour and using your culinary creativity to expand and create something new.

CALL FOR ACTION!

Each chef is unique and has a different ambition. If you can keep it simple and respect your producers and surroundings, you are already doing a lot to help food systems. Local produce is there to be championed. Even for us – an international restaurant chain with Peruvian roots – it is possible to celebrate the Peruvian culture and identity while, at the same time, sourcing food locally and responsibly.
Most diversity in crops and livestock is still found in the regions where they have been around longest, adapting to climatic extremes, pests, and diseases through millennia. Known as primary regions of crop and livestock diversity, these places are central to the present and future viability of food systems.

The potential is clear in the direct connections that indigenous communities are making with chefs, civil society, and companies to create market opportunities for agriculturally resilient and nutritious local foods. It is encouraging that consumers are increasingly showing a willingness to try diverse foods, while recognising the work of farming communities.

I draw hope and excitement from seeing indigenous communities achieve recognition in local, national, and international policy arenas, and watching them strengthen their work by seeking out collaborations based on mutual respect. This kind of collaboration can reach across dramatically different scales, from farmers’ fields, homes and tables, to community spaces like local seed banks to the large, international genebanks that make crop conservation a global effort, and a widely available global common good.
The CIP
International Potato Centre

based in Lima, is the guardian of native, wild and improved potato genes and supports farmers to maintain this diversity and grow as many of them as possible. They work with the 10'000 hectare Potato Park (Parque de la Papa), established by six indigenous communities, where farmers plant, harvest and store living diversity in communal genebanks. The CIP has partnered with these farmers since 2002, returning more than 400 disease-free cultivars to the fields. The Potato Park is currently growing more than 1'300 varieties of potato. The CIP is part of CGIAR, an international organisation made up of 15 centers engaged in research for a food secure future. This global agriculture research partnership is dedicated to reducing rural poverty, increasing food security, improving human health and nutrition, and ensuring more sustainable management of natural resources.

The CIP has assisted more than two million smallholder farmers in Africa and Asia to increase yields and incomes by planting quality seed potatoes and improved varieties.

Late blight (which caused Ireland's potato famine in the 1840s) causes around seven billion euros worth of potato losses every year in the developing world, where the majority of potato farmers live.

The top four producers of potato are China, India, Russia and Ukraine. The top five importers of potato are the USA, the Netherlands, Belgium, Russia and the UK.

More than 7'000 samples of potato are held in the genebank at the CIP in Lima, Peru, containing enormous amounts of genetic variety and potential.

The CIP is currently exploring whether potatoes can be grown on Mars.