Bennett Jones

Fast Tracks and Green Gaps: The IP Race in Global Agri-Tech Innovation

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PART I

Planting the Future: Why Canada's IP System May Be the Climate Innovation Sleeper Hit

Written by Lorelei Graham

Climate change is driving a surge in agricultural technology (agri-tech) innovations aimed at making farming more resilient and sustainable. From drought-resistant crops to carbon-capturing soil techniques, these climate-focused agri-tech solutions are crucial for global food security. An often-overlooked piece of this puzzle is intellectual property (IP) strategy, namely how patents and other IP rights are used to protect and incentivize innovation.

In this five-part series on *Fast Tracks and Green Gaps: The IP Race in Global Agri-Tech Innovation*, we explore how Canada is supporting climate-resilient agri-tech through IP incentives (and what challenges remain) and compare Canada's approach to developments in the United States and the European Union and the potential impact of these regimes on agri-tech innovators. We will also examine the recent United States Patent and Trademark Office (USPTO) decision to cancel its green tech accelerated patent examination program, analyzing what this policy shift could mean for Canadian strategy (particularly in carbon-capture agri-tech) and for international competitiveness.

Planting the Future with Canada's IP System

Canada has emerged as a proactive supporter of green innovation in agriculture, using its IP system to encourage climate-resilient agri-tech. In fact, Canada consistently ranks among the top ten countries for patent filings related to climate change mitigation and adaptation technologies. This leadership is no accident as it reflects deliberate policies and incentives aimed at helping innovators protect their climate-friendly inventions.

One key initiative is the Canadian Intellectual Property Office (CIPO)'s Green Technologies Program. This program allows patent applications for "green" technologies to be fast-tracked at no additional cost. In practice, that means if a startup develops a new irrigation system that saves water or a soil additive that cuts greenhouse gas emissions, they can request an accelerated examination of their patent. Normally, obtaining a patent can take years, but under the Green Technologies Program a first examination report can be expected in as little as three months, versus the typical 14–24 month wait under the standard process. By speeding up patent grants, Canada's program helps innovators secure IP rights faster, which can be a major advantage for startups looking to raise investment or enter the market quickly.

Importantly, CIPO does not charge the usual fee for expediting a patent and the only requirement is a simple statement explaining how the invention helps the environment. CIPO's criteria are broad and any technology that can reasonably be expected to benefit the environment or mitigate environmental harm is eligible. This means a wide range of agri-tech innovations can qualify, from renewable energy devices for farms to new crop varieties bred for climate resilience. Notably, CIPO does not aggressively police the environmental claim. They will grant the fast-track status as long as the request is made in good faith. This light-touch approach encourages innovators to take advantage of the program.

Why Canada's System Is a Hit

The benefits of Canada's fast-track patent program for agri-tech startups include the ability to attract investors with an issued patent (or at least a favorable early

examination report). An issued patent signals that an innovation is unique and protected, giving investors more confidence, which can facilitate licensing deals and make it easier to raise capital. On the broader level, accelerated patenting can also speed up the spread of knowledge. Once a patent is published and granted, other researchers can learn from it. Interestingly, fast-tracked green patents tend to be cited more than twice as often as regular ones in the first few years, suggesting faster examination accelerates knowledge diffusion in green technology. This is good news for agri-tech research institutions and universities, which often rely on published patents as a source of technical information to build upon.

Patent Support for Green Innovation in Agriculture

Incentive	Canadian Intellectual Property Office	United States Patent and Trademark Office	European Patent Office
Green technology specific patents	Yes	No	No
Fast-tracking	Yes	No	Yes
Additional cost	No	Yes	No

Despite these advantages, there are practical (or strategic) considerations. Surprisingly, only a small percentage (1–2 percent) of eligible Canadian patent applications actually use the green fast-track. Many innovators still opt for the regular route for strategic reasons. Sometimes it's beneficial for a patent application to *not* be granted too quickly. Keeping an application pending allows the inventor to refine claims or delay costs. As global studies show, applicants often accelerate only when it's truly needed (for instance, if a competitor is close on their heels or if they need a granted patent to secure a deal). Another consideration is that agri-tech innovators must decide what form of IP protection best suits their invention. In some cases, a patent is ideal. In others, they might use Plant Breeders' Rights (a form of IP protection tailored for new plant varieties) or trade secrets (for example, if the innovation is a proprietary process or formula kept confidential). Navigating these choices and the costs associated with IP (patent filing fees, attorney fees, etc.) can be challenging for startups. Canada has supportive programs like innovation grants to help small businesses with IP strategy, but integrating those with climate innovation goals is a work in progress.

Summing it Up

Canada's current approach marries a patent-friendly environment with specific green incentives. The accelerated patent examination program is a clear incentive for climate-focused agri-tech, aiming to remove IP hurdles and get innovations to market faster. Next, we'll see how this compares to what's happening in the United States and Europe.

PART II

Innovation Interrupted: What the End of the USPTO's Green Program Means for Agri-Tech

Written by Lorelei Graham

The United States has long been a major player in both agri-tech innovation and the IP landscape. In the past, the USPTO offered its own version of a green patent fast-track to encourage climate-friendly inventions. Notably, in 2009 to 2011 the USPTO ran a Green Technology Pilot Program that prioritized examination for certain eco-friendly patents. The pilot ended in 2012, but more recently the USPTO brought back the idea in June 2022, with the Climate Change Mitigation Pilot Program, which was essentially an accelerated examination program for patent applications directed to fight climate change. Under this program, inventions designed to reduce or monitor greenhouse gas emissions, including many clean energy, sustainability or climate-smart agriculture innovations, could be examined out of turn. Importantly, like Canada's program, the US pilot did not charge the usual petition fee for expediting. The goal was to spur green tech by making it faster and cheaper to secure IP rights.

Policy Shift

However, there has been a significant policy shift in the United States recently. The USPTO's Climate Change Mitigation Pilot Program was suspended on January 28, 2025, and formally terminated in April 2025 and the special "green fast-track" for patent applications is no longer available in the United States. The program was initially supposed to run until 2027 (or until 4,000 applications had been accepted, whichever came first) but it was cut short. The USPTO explained that terminating the program allows them to dedicate resources to reducing patent backlogs for all, allowing examiners to focus on all applications rather than giving special treatment to green ones. This decision came under a new administration's direction and reflects a shift in how the United States balances overall efficiency versus targeted incentives.

Impact on Innovators

What does the end of this program mean for innovators? For US agri-tech startups working on climate solutions, it removes a free tool that could accelerate their patents. Under the pilot, a company developing, say, a novel methane-capturing system for cattle farms could jump to the front of the patent line without extra fees. Without the pilot, the same company now has a couple of options: wait in the normal patent queue (which often takes 1.5–2+ years for a first review) or pay for "Track One" prioritized examination. Track One is the USPTO's general fast-track program open to any technology, but it comes with a hefty fee attached. For small businesses, these fees can be a significant expense. The contrast is clear. The canceled climate program offered fee-free acceleration, whereas now speeding up a US patent requires a financial trade-off.

Patent Support for Green Innovation in Agriculture

It's worth noting that the USPTO's green tech program, while active, saw a fair amount of interest. The United States had the highest number of fast-track requests among major patent offices (over 3,500 green tech petitions in the first iteration). Many of those requests came from renewable energy sectors like wind power, which was the most common technology expedited in the US agri-tech inventions, for example, biofuels or carbon sequestration methods in soil, were also eligible if they had clear climate benefits.

The question remains whether the absence of a dedicated patent fast-track will have a noticeable impact. For an agri-tech startup in the United States, the IP strategy may need to adjust. Companies might file in other countries first to leverage faster patents, or budget for the Track One fees if a quick US patent is critical for their business.

Summing it Up

The United States went from actively promoting green patenting via an accelerated program to reverting to the standard system for all. This development contrasts with Canada's sustained pro-climate patent stance and prompts a closer look at how these policy differences could play out in practice.

PART III

Green Without the Label: Europe's Pragmatic IP Approach to Agri-Tech Innovation

Written by Lorelei Graham

Across the Atlantic, the European Union (EU) and its member states have also been encouraging climate-resilient agri-tech innovation, but their approach to IP incentives has been a bit different. The EU has set ambitious climate goals (like achieving climate neutrality by 2050) and launched the European Green Deal, a broad policy agenda to support sustainable technologies. While funding and regulations (such as support for sustainable farming practices) are big parts of the EU strategy, there is also recognition that IP rights play an important role in fostering innovation. However, unlike Canada or the recent US pilot program, Europe has not implemented a unified "green channel" for patent examination at the European Patent Office (EPO).

Instead, the EPO, which grants patents that can cover most EU countries, offers acceleration options but without singling out green technologies. Any patent applicant (in agri-tech or otherwise) can request faster processing through programs like PACE (a procedure to expedite examination on request) or via the Patent Prosecution Highway (PPH) if they have a favorable examination from another country. These routes are technology-agnostic, meaning a patent for a climate-smart irrigation system gets no special priority over a patent for any other invention, unless the inventor specifically asks for acceleration (and even then, it's subject to the EPO's workload capacity). The philosophy in the EU is more about equal treatment: the EPO focuses on reducing backlogs generally and improving overall speed and quality, rather than dedicating a program to green tech alone.

Patent Support for Green Innovation in Agriculture

That said, several European countries individually have introduced their own green patent fast-tracks. The United Kingdom (UK) was a pioneer. The UK Intellectual Property Office started a "Green Channel" in May 2009 to accelerate eco-friendly inventions. Under the UK Green Channel, if an inventor provides a brief statement of an environmental benefit (for example, a farming technology that reduces fertilizer runoff), they can request accelerated search and examination of their UK patent application. This program has been quite popular, with around 20 percent of eligible patent applicants in the UK having used it, which is a much higher uptake than seen in Canada or the United States. Similarly, other European national offices like Germany, France and others have instituted various green acceleration schemes or pilot programs over the past decade (as part of a global trend where at least a dozen IP offices worldwide established green fast-tracks since 2009). These national programs vary in requirements and usage, but the common thread is encouraging local green innovation by speeding up patents.

A Focus on Climate Technologies

From the EU policy perspective, there's also an emphasis on open innovation and knowledge sharing for climate technologies. The European Commission has explored ways to balance IP protection with the need for rapid dissemination of green solutions. While strong patent protection can incentivize research and development (by rewarding inventors with exclusive rights), the EU is mindful that overly restrictive IP could also slow the

adoption of crucial technologies across borders. For instance, the EU has mechanisms for patent licensing and is generally supportive of initiatives like WIPO GREEN, a platform that connects providers of green technologies (and their IP) with those seeking solutions. We also see discussions in Europe about possibly easing access to key green technologies for developing countries, and even the idea of patent pools or pledges where companies voluntarily license green patents royalty-free to spread climate solutions faster. These are not formal EU programs, but they influence how European research institutions and startups think about IP. The strategy might sometimes involve sharing certain innovations openly (especially if supported by public funds), while patenting others that require private investment.

What Startups Can Expect in Europe

In practical terms, what can a Canadian or US agri-tech startup expect in Europe? If they file a patent through the EPO, they will not find a special green fast-track at the EPO level, but they can, however, request accelerated examination (PACE) for free. Additionally, the new Unitary Patent system in the EU (launched in 2023) now allows a single patent grant to be effective across many EU countries, potentially making it easier and cheaper for innovators to protect inventions Europe-wide. This is a general improvement in the patent landscape that benefits agri-tech innovators by simplifying their IP strategy in the EU. Therefore, while Europe may not brand its patent process with a green label, it is working on streamlining IP processes and supporting green R&D through funding. The result is that European agri-tech startups and research institutes are encouraged to innovate for sustainability, backed by a robust (if not specifically preferential) IP system.

Summing it Up

In contrast to the United States, which had a targeted program and then canceled it, and Canada, which maintains one, Europe's approach is more integrated into the overall system. This diversity in approaches sets the stage for the next part of our discussion: how the United States Patent and Trademark Office's recent policy change might ripple through and affect strategies in countries like Canada, and what it all means for the global agri-tech innovation race.

PART IV

Shifting Gears: How the United States' Exit from Climate Protection Fuels Canada's IP Advantage

Written by Lorelei Graham

The USPTO's decision to cancel its Climate Change Mitigation pilot program for patents has not gone unnoticed in Canada. For Canadian policymakers and agri-tech innovators, this move by the United States raises two big questions: (1) How might this affect Canada's own IP strategy for green tech, and (2) could it create opportunities for Canada (and others) to take the lead in certain climate-tech domains?

A particular area of interest is carbon-capture agri-tech, technologies that help farming not just reduce emissions but actively capture carbon (for instance, special crops or soil treatments that lock away carbon dioxide or farm machinery that traps greenhouse gases). These innovations are crucial for meeting climate goals and could become a competitive arena internationally.

Canada Is Open for Innovation

One immediate implication of the USPTO ending its fast-track is that Canada's program now stands out even more. Canada is open for green innovation, and will fast-track it, at a time when the United States has pulled back its dedicated support. Agri-tech innovators can leverage Canada's accelerated examination as an alternative route to speed up global patent protection. By filing in Canada and requesting advanced examination under the CIPO's Green Technologies Program, a US company can leverage a favorable Canadian decision to accelerate examination in other countries through the PPH. The PPH is an international cooperation mechanism. Essentially, if one patent office finds certain claims allowable, other patent offices will fast-track those same claims in their own examination process. As such, a Canadian fast-track can trigger faster consideration in the United States, Europe and elsewhere. In effect, Canada can become the first stop for green agri-tech patents, producing a "work product" (search and examination results) that helps push the patent through in larger markets. This strategy could save time overall and is especially useful for startups that need global patent coverage sooner rather than later.

For Canadian policymakers, the USPTO's shift might be a signal to double down on Canada's strengths. Using Canada as a launching pad for green innovation patents and their subsequent success could inspire Canada to expand support for specific sectors like agriculture. Canada's existing innovation system is relatively flexible and broad given the geography. As such, it can accommodate an influx of various green technologies, like carbon sequestration innovations, which should qualify under the current rules as they clearly aim to mitigate environmental impact. This influx could potentially propel the Canadian agri-tech industry to the forefront and leader in this sector globally.

From an international competitiveness standpoint, the differing IP policies could influence where companies invest or collaborate. If the US patent process becomes comparatively slower for climate tech, innovators might be more inclined to base some research and development activity in jurisdictions with more straightforward patenting processes. Canada and certain European Union countries (or the United Kingdom) might attract startups who value a supportive IP environment for green tech. Over time, this could help Canada build a reputation as a friendly hub for green agri-tech innovation. While the United States still offers huge markets and funding

resources, Canada's consistent policy could give it a competitive edge in nurturing early-stage innovations to the patent stage.

Mind the Patent Gap

However, some worry about a potential "patent gap" if major jurisdictions diverge in strategy. With the USPTO's program gone, there is less convergence in how top patent office's handle green tech. This might slow down efforts to harmonize these programs globally, as a standardized international system for green patent fast-tracks would simplify things for inventors everywhere. The United States withdrawal might make such coordination more challenging in the short term. Nonetheless, inventors are resourceful: they will use the tools available (like Canada's program and the PPH) to ensure their inventions are protected worldwide as efficiently as possible.

Summing it Up

The USPTO's policy reversal places even greater importance on Canada's and other countries' initiatives. It serves as a reminder that policy environments can change, and having a diversified IP strategy (both in terms of jurisdictions and protection mechanisms) is wise for those in the climate agri-tech sector. Canada appears poised to capitalize on this moment by highlighting its ongoing commitment to green innovation, potentially strengthening its leadership in areas like carbon-capture agriculture technology on the world stage.

PART V

From Carrots to Carbon Credits: How the World is Powering Green Agri-Tech Beyond IP

Written by Lorelei Graham

It is clear that the global push for green innovation is no longer just aspirational, it is structural. Over the past decade, countries around the world have implemented a mosaic of policies to accelerate environmentally friendly technologies, many of which intersect with intellectual property. But IP is just one piece of a much larger innovation puzzle.

Increasingly, we see that financial incentives, regulatory frameworks and IP protections are working in tandem to drive green agri-tech. Incentives can include tax credits, substantial grants supporting climate-smart agriculture, subsidies for carbon farming, or "patent box" regimes offering reduced tax rates on income from green IP, all of which then shape the behavior of startups and researchers alike. However increasingly the conversation is expanding beyond patents and grants into including carbon markets.

Positive Trends in Agri-Tech

Carbon credits are emerging as a powerful complement to traditional IP and financial incentives making them the new currency for agri-tech innovation. For agri-tech startups focused on carbon capture, whether through regenerative farming, biochar or soil sequestration, carbon credits offer a direct revenue stream tied to environmental performance. These credits can be sold on voluntary or compliance markets, providing a financial incentive to scale sustainable practices. Companies are also starting to pioneer the use of carbon insets, which are emission reductions within their own supply chains, as a more integrated alternative to traditional carbon offsets, which often involve external projects. Insetting aligns sustainability goals with core operations, making it particularly relevant for agri-food companies aiming to reduce their emissions. This approach underscores how carbon strategies are becoming embedded in agri-tech innovation, not just adjacent to it. For startups, this means that a novel carbon-capturing device or soil-enhancing microbial treatment is not just a patentable invention, it is also a potential generator of carbon credits. A dual strategy that combines IP protection with carbon market participation can unlock both investment and impact.

Another noteworthy trend, especially in the climate arena, is an emphasis on collaboration over competition for the greater good. While patents grant legal rights, many innovators are choosing to share green technologies through collaborative licensing, patent pools or platforms like WIPO GREEN. This approach allows agri-tech startups to license critical technologies or contribute their own, accelerating deployment and impact. Universities and public research institutions often lead the way, patenting drought-resistant crops, for example, but licensing them affordably to ensure global access. Governments are also encouraging this model, with some requiring publicly funded innovations to include dissemination strategies that balance protection with accessibility.

Finally, climate technology is evolving fast, and so are the policies that support it. The USPTO's recent shift in green tech prioritization reflects a broader trend of re-evaluation. Canada may adjust its own programs in response to shifting demand. Globally, equity remains a concern, ensuring that developing countries can access and benefit from green innovations. This could spark future discussions at the World Trade Organization or World Intellectual Property Organization around IP flexibilities for climate-critical technologies, much like the

debates around COVID-19 vaccine access. For agri-tech companies, staying attuned to these shifts is essential. A flexible IP strategy, one that can seize incentives when available and pivot when policies change, will be crucial in the years ahead.

Looking Ahead

Innovation in climate-resilient agriculture is not just about brilliant science and engineering; it is also about navigating the landscape of intellectual property to maximize impact. Canada's experience shows how a supportive IP strategy (like fast-track green patents and broad innovation incentives) can foster a healthy pipeline of climate-focused agri-tech solutions. The United States' recent policy reversal on its green patent program has highlighted the differences in approach, prompting stakeholders to think globally and creatively about how to protect and disseminate green innovations. Meanwhile, the EU, through both its collective policies and individual member states, underscores a balanced approach, encourages innovation, protects it, when necessary, but also collaborates and shares knowledge to address the climate challenge.

For agri-tech startups and researchers, the key takeaway is that IP strategy is a tool for innovation, not an obstacle. By understanding the incentives and programs available and how they differ across Canada, the United States and the EU, innovators can better plan where and how to patent their technologies. Policymakers, for their part, will continue to refine the balance, offering carrots like accelerated examination or tax benefits, and occasionally rethinking policies to serve the greater good.

In the end, all these efforts are aimed at the same goal, to accelerate the development and adoption of technologies that can sustain agriculture in the face of climate change. By making intellectual property regimes more attuned to the urgency of the climate crisis, we create an environment in which agri-tech innovation can flourish. Farmers, businesses and the planet stand to benefit from that innovation. As we move forward, it will be fascinating to watch how Canada, the United States, the EU and others learn from each other's successes and missteps. The hope is that through smart IP policies and international cooperation, climate-resilient agri-tech will thrive delivering solutions that not only are inventively brilliant but also widely accessible for the benefit of all.

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