

Special Edition No. 5

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Voice of the Global Hemp Industries



Ready To Fly

The CBD drama

Just forge ahead, says HempConsult's Daniel Kruse

Small is beautiful

With Henry Wieker's mobile harvester, just hitch it up and go

'Rolls' in the kitchen

Startup Hemp Chef tailors a top-shelf jacket for the cook

With a rich hemp history, established R&D and a flock of creative entrepreneurs, Poland is poised for takeoff



HempToday Voices

Haile Selassé Tefari on cannaromatherapy, commodities and faith

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Kehrt Reyher
Editor and Publisher

A veteran American business journalist and publisher based in Europe, Kehrt Reyher is the founder of HempToday and a co-founder of The Naklo Foundation, which works for economic development through sustainable farming of industrial hemp in south-central Poland.

Dream chasers

Having started several small business ventures, beginning in 1989, I'm always partial to bold souls who strike out on their own. Those who either ditched the 9-to-5 work life or clever enough to have never bought into it.

That will be obvious as you browse this issue of HempToday, our first edition put together especially for NoCo Hemp Expo.

They're everywhere - from the peaks of Nepal, where Nivedita and Dhiraj Shah, Shah Hemp Inno-Ventures (SHIV) are collecting feral hemp and putting it to use in service of the downtrodden, to tiny Croatia where the brothers Domagoj and Boljar Hrvoje have transformed a 30-year-old family shoemaking factory into a producer of sustainable sneakers, all over the world the hemp business is full of creative mavericks.

Then there's Poland, the focus of our cover story where, despite having lived for the last 25 years, I continue to be amazed by the ingenuity and vigor of the entrepreneurial class, and a current generation undaunted by the ever-shifting business landscape and not afraid to push back against the rules when they make no sense. They're exploiting hemp for its every possibility, but also probing the science and tinkering with the technology - all the while raising consciousness about the promise of this incredible plant and the economic and environmental promise it holds.

Poland's hemp startups can take inspiration all around Europe, where the industry continues at a headlong pace, and where some legacy hemp companies - many of which also started only with an idea and a full measure of grit - are entering middle age as truly global players.

Everywhere, the industry advances in fits and starts. As we all know, hemp's historical burdens can sometimes make the going rough. But if the dream chasers we present in these pages give only a small indicator of where hemp's headed, there's little doubt that, together, we'll carry the load.

See great products from some of the companies who are in this issue of HempToday in the HempBoutique, **NoCo Booth #57.**

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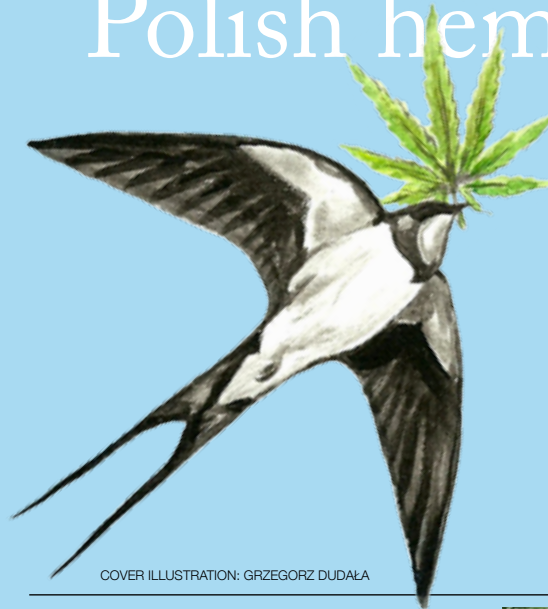


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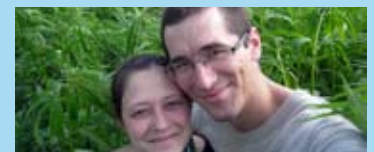
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Leaving the nest

Poland has vast, fertile farmland, a growing domestic market and strong export potential. How high can it fly?

Poland's modern-day hemp story begins in Vilnius, on March 14, 1930. That's where, at an experimental agriculture station set up in cooperation with the Stefan Batory University, in lands then under Polish reign, that General Łucjan Żeligowski began experiments to develop hemp and flax strains that eventually would be widely used across Europe.

Żeligowski, a contemporary and close friend of renowned Polish military hero and political leader Marshal Józef Piłsudski, gathered experts who began to study bast fiber plant varieties from Vilnius east into former German lands ceded to Poland after World War II.

It was on the heels of the war, in 1945, that Żeligowski's initiative and many of its bast fiber experts relocated to the central western Polish city of Poznań to join with an institute under the direction of Dr. Janusz Jagmin, a professor in the university there. With a post-war mission to rebuild now Communist Poland's bast fiber and wool industries, Jagmin oversaw the construction of 25 factories for retting, spinning and weaving, and set up research facilities to advance those processes with a new generation of machines while also establishing field laboratories for agronomic experimentation.

Internationally renowned

Operating today as the Institute of Natural Fibers and Medicinal Plants (in the Polish acronym IWNiRZ), the fruits of Żeligowski's and Jagmin's pioneering work make up one of the most well-known natural fiber research centers in the world, with partner organizations all over the globe. And while the Institute struggled in the post-communist days that started in 1989, hemp's recent worldwide revival has greatly contributed to a renewed 21st century purpose – and vast commercial potential – for IWNiRZ and the scientists and researchers who today scurry around the Institute's leafy Poznań campus.

IWNiRZ started to realize its commercial potential in 2015 when it began to use green matter it was leaving behind after harvesting contracted fields for fiber and seeds. The result was Hemp Element, a CBD brand now available in pharmacies, herb shops and health-food outlets all over Poland.

The success of that product spurred the Institute to begin looking into development of a broader portfolio of commercially viable products based on ongoing R&D projects in



hemp composites, plastics, textiles, building materials and foods as well as machinery and processing technology.

21st century pioneers

Meanwhile all across Poland an ambitious, creative cadre of young entrepreneurs are fueling a small but fast-moving hemp revival, producing and marketing everything from food and drinks to building materials. That's creating increasing demand for locally-grown hemp, and therefore steady expansion of Polish hemp fields, expected to grow to around 1,300 ha (3,200 acres) this year, nearly double the 2016 hectareage of 700 (1,700 acres).

And hemp would seem to be a perfect crop for the Polish agriculture sector, which suffers the lingering after-effects of socialist policies imposed during the post-WWII period to 1989, which resulted in fundamental structural inefficiency in its rural areas.

While 97% of Polish farmland is now in private hands, the average farm is a mere 8 hectares (20 acres) while the majority are as small as 1.0 ha (2.5 acres), held by farmers who work their micro plots on a “from my field to my table” basis – with very little outside commercial activity, leading to stagnating local economies. Growing hemp, particularly for CBD and other cannabinoids, could lift the economic fortunes of the nation's rural towns and villages. Beyond that potentially lucrative end product, a handful of Polish entrepreneurs are already creating localized value chains in which they are growing, processing, packaging and marketing hemp-based products to nearby shops in a Community Supported Agriculture model that could be replicated in other depressed farming areas.

Export potential

Serving other European markets – especially with hemp foodstuffs – is also an opportunity for Poland, a proven exporter. The country, for example, is one of the largest suppliers of apples and berries in the world.

Finally, there is a wide range of European Union farm support programs available to Poland that could help to revive the sector – funds that often go unclaimed due to a lack of the innovative ideas they seek, much to the lament of Polish agriculture officials.

Add in Poland's rich hemp history, its vast, fertile farmland, and a growing demand for healthy, eco-friendly products among the rising middle class, and the nation of 38 million looks poised to become a clear leader in Europe's broader hemp resurgence.

RESEARCH

New hemp breed is result of seven-year study

Researchers at Poland's Institute of Natural Fibres and Medicinal Plants (IWNiRZ) say they have developed a new hemp variety that produces four times more seed yield for edible oil than typical hemp plants. The monoecious strain, named Henola, was recently approved for Poland's National List of Cultivars by the Research Center for Cultivar Testing after a two-year review.

Henola offers the shortest vegetation period among other Polish hemp varieties, according to IWNiRZ. The Institute made a limited amount of seed available earlier this year and said it will multiply output for the 2018 growing season.

Certification followed seven years of research and development of the new cultivar under the direction of Assoc. Prof. Henryk Burczyk. Prof. Burczyk was assisted by Jakub Frankowski, M.Sc. Eng., Bożena Michalak, and Grzegorz Oleszak of the Institute's experimental station in Pętkowo.

Henola, bred by choosing lower and lower hybrids which gave more and more seeds over the years of research, is not genetically modified nor was it created



Assoc. Prof. Henryk Burczyk (left) and Jakub Frankowski of IWNiRZ led the team that developed the Henola cultivar.

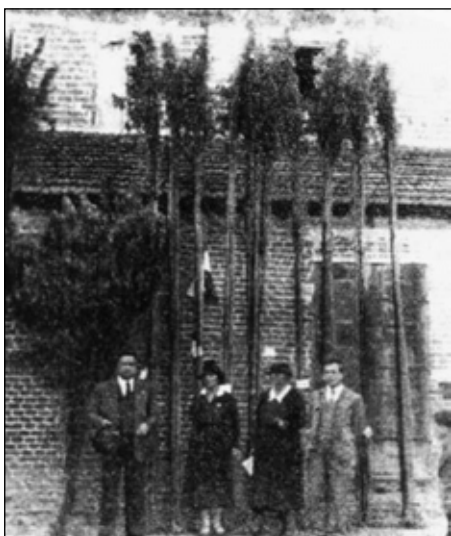


via biotechnology methods, the scientists said. The plants give up flower clusters containing 0.013% THC, and 0.07% CBD, according to the Institute.

The research aimed at maximizing seed yield was carried out via planting of four 20 sq. m. test plots over the first three years. The second round of research is on 40 sq. m. test plots, and is ongoing.

IWNiRZ: Roots

Key milestones in the development of Poland's Institute of Natural Fibers & Medicinal Plants:



1930: Forerunner organization established in Vilnius, then a part of Poland.

1945: Vilnius group joins with a newly created

industrial fiber research group at Poznań University.

1972: The name National Natural Fiber Institute is assumed, and the organization adds wool to its R&D portfolio.

1989: Institute is nominated by UN Food and Agriculture Organization (FAO) as the European regional coordination center of the FAO's ad hoc flax group

1992: Renamed Institute of Natural Fibers and begins international outreach.

1993: *Włókna Naturalne* (Natural Fibers), an annual journal is established.

1994: Market research department is added.

1995: Cooperation starts with research groups in Latin America: Ecuador, Peru, Colombia.

2004: As Poland enters the European Union, the Institute takes up its first EU projects; *Włókna Naturalne* journal is transformed into the *Journal of Natural Fibers* (currently published by Taylor & Francis Group).

2006: Institute is nominated by the UN FAO's European regional office as the Coordination Centre for the European Cooperative



Research Network on Flax and other Bast Plants (ESCORENA)

2009: IWN merges with Poland's Institute of Plants & Herbs, also based in Poznań, and becomes the Institute of Natural Fibers and Medicinal Plants; Prof. Dr. Grzegorz Spychalski named Director; Incorporation of the *Journal of Industrial Hemp* into the *Journal of Natural Fibers*.

2012: The Institute publishes the landmark "Handbook of Natural Fibers" Vols. 1 & 2, edited by Dr. Ryszard Kozłowski, IWNiRZ Deputy Director.

2016: Wojciech Maksymiuk named Director upon the death of Dr. G. Spychalski.



Dr. Ryszard Kozłowski, Deputy Director, and Wojciech Maksymiuk, Director, IWNiRZ.

FOOD



Daniel Bajas, Natacha Leban and Karol Bajas of Good Foods have built a hemp business model close to the source.

Hemp pioneers working the local value chain

From a one-hectare (circa 2.5 acres) pilot hemp growing project started in 2012, business partners Daniel Bajas and Natacha Leban have developed a flourishing localized hemp value chain producing high-quality products, handmade the old fashioned way.

"We process everything with the simplest, least invasive methods possible," said Bajas, whose company, Good Foods, turns out a wide range of food products from a processing facility created in 2014. Good Foods' branded product lineup includes cold pressed hemp oil, chocolates with hemp seeds and bee pollen; honeys with hemp-flower extract and shelled seeds, and fruit-flavored teas. The company also offers basic bulk foods such as whole and hulled seeds, and hemp flour.

While Good Foods grows and harvests hemp on its own small farm, expansion depends on convincing local farmers to grow hemp. That seems to be working, as the company this year will help local farmers plant 50 ha (124 acres), up from just 20 (50 acres) in 2016, all of which will be processed by Good Foods.

Hemp missionaries

"Our goal is also to create a model local hemp supply chain for the neighborhood bakery, dairy, and so on," Natacha Leban said. "We'd like to set a working example for locally made products, to put nutritious hemp foodstuffs on tables all across Poland in things like bread, hemp milk, cheese or butter," she added.

Along with running their own hemp business, Bajas and Leban see hemp as a mission. "We continuously promote the cultivation and processing of the crop," said Bajas, who early on launched Włókniści PL, an organization whose aim is to restore Poland's hemp agriculture legacy. Under it, Bajas holds workshops to which he invites farmers to try to convince them of hemp's income potential. Włókniści is also co-organizer of Poland's most prestigious industry event, Hemp Days, which this year will mark its fifth run.

"We also participate in projects aimed at developing inexpensive methods for obtaining cannabinoids (CBD) for human

and animal consumption," Bajas said, while concurrently working to adapt traditional farm equipment for hemp harvesting, and seeking solutions for processing machines and systems for hemp-based construction materials, cosmetics and pharmaceuticals.

Rush to fill a gap

While Poland's health food market is still in its infancy, Leban said awareness of hemp as a source of nutrition is growing among that segment of the market seeking healthier lifestyles. "But there's still a lack of proven products in Polish grocery stores," she said. That leaves a gap Good Foods is rushing to fill. "Our customer base and our distribution are continuing to expand nicely," she said. Good Foods also operates an online shop where sales are gradually increasing, according to Leban.

"Hemp has such great potential for the Polish economy, especially that its cultivation does not require any chemicals, and manufactured products can be 100% biodegradable and environmentally friendly," Bajas said.



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CONSTRUCTION

Brothers building on a family hemp legacy

Brothers Piotr and Marcin Jastrzębski are reviving a hemp legacy, inspired by tales of the old days, when the plant was grown on the family farm near Białystok in the northeast corner of Poland, not far from the Belarusian border.

“Our grandmother and our Dad tell stories of how the family grew it decades ago – the whole process of cultivation, harvesting and retting before manually processing and plaiting the fibers into rope,” said Piotr, who along with his brother brought hemp back to local fields beginning with a four-hectare (circa 10-acre) test crop of the Polish Białobrzeskie strain in 2014. The family farm had abandoned hemp in the early 1960s, and while their father is not active in Fermatech, he serves as an adviser to the company. “He’s our wiseman,” says Jastrzębski.

Expanding hectareage

After doubling hectareage in 2015 the brothers’ agro company, G.H. Fermatech Sp. z o.o., expanded hemp fields to 60 ha (circa 150 acres) last year split between the soaring Białobrzeskie – which is grown primarily for fiber – and Finola, an oilseed strain developed in Finland. Fermatech is putting in 80 ha (200 acres) of hemp this year, expanding the range of cultivars to put in test plots of varieties from Romania, Hungary and France in addition to Białobrzeskie and Finola, Jastrzębski said.

Fermatech has also been tinkering with various forms of harvesting and processing technology, adapting traditional farming machines for field work, and retrofitting an old Czech-built processing line to turn out fiber for hemp construction – Piotr’s passion.

And the company last year launched Podlaskie Konopie (Podlaskie Hemp), a brand pegged around the name of the municipal district where Białystok is located, and which is considered to be one of the most environmentally pristine areas of Poland.

Enthusiasm over hempcrete

While Fermatech grows for seed as well as fiber, it’s in hempcrete building materials and techniques where the company made its first splash, promoting the technology at trade shows and in workshops. So far the company has trained more than 100 hemp enthusiasts from Poland and other countries in hempcrete construction, said Piotr,



Piotr Jastrzębski is working to expand hempcrete building in Poland.

who also serves as vice president of Poland’s Natural Building Association.

The company premiered its system at a “Building Solutions” trade fair near Warsaw last year, drawing crowds of curious onlookers. “It was the biggest attraction of the event,” Piotr said. “People were really enthusiastic.”

In addition to promoting hemp construction, Fermatech is also helping to advance hempcrete science through cooperation with Przemysław Brzyski, a friend and scientist from Lublin University in east central Poland. Shortly after the trade fair, Fermatech broke ground on a demonstration house – smack in the middle of one of its hemp fields, completing the 100% hemp shell structure – the first of its kind in Poland – by autumn. Brzyski worked on the crew and installed sensors in the walls which he continues to monitor, documenting the hempcrete’s performance with an eye toward getting the material certified for Poland’s building industry. Further plans call for the add-on of energy efficient assistive technologies to create a truly green model home.

Experienced grain growers

Beyond the processing of shiv for

building material, Fermatech is an experienced grain grower. The company owns 640 hectares (1,600 acres) of farmland and contracts for another 160 ha (395 acres) where it grows Rapeseed, maize, wheat and barley that’s prepped for the market in on-site drying facilities – experience valuable to the company’s growth plans in the hemp oilseed market where it sells to food and cosmetics producers.

This autumn Fermatech hopes to boost its straw processing via improvements at the harvesting stage. Jastrzebski calculates that the firm’s re-engineered processing line could double its current capacity of 150kg per hour if it can deliver shorter lengths of shiv from the field.

The Jastrzębskis realized early on – especially where building materials are concerned – that they’d not only have to create a lot of processes and technology from scratch but also have to research and then prime the market to promote the relatively unknown hempcrete technology to traditional builders and homeowners.

“Our shivs already match the quality of our western counterparts,” Jastrzębski said. “At the same time our experience introducing hemp building around Poland shows us there’s great potential for development.”

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MEDICAL



Maciej Kowalski and Beata Plutowska manage 600 hectares of hemp fields in northeastern Poland.

HemPoland seeks CBD gold in Europe, U.S.

When Maciej Kowalski started talking about hemp a few years ago, people looked at him like he was crazy, recalls the Polish entrepreneur, founder of HemPoland, a diversified, vertically integrated hemp grower and producer based in northeastern Poland.

“I was seen as a lunatic, talking about the revival of a plant that nobody had seen in Poland for decades,” he said.

Three years later Kowalski doesn't seem so crazy. HemPoland will manage 600 ha (about 1,500 acres) of hemp fields this spring, up from 350 ha (865 acres) in 2016, and has a major hit on its hands in CannabiGold, a CBD product for which the company last year quickly built up distribution assets in seven European countries; two additional Euro markets are expected to be added soon. The company also sells bulk CBD in the U.S.

Rave reviews

CannabiGold, which has gotten rave reviews in the industry since its debut, is churned out from an ultra-modern processing facility at the company's base in the Żuławy region, an historic hemp-farming area in Poland. Raw material for that

product is grown on 60 ha that are owned directly by the company – fields it tightly controls as it manages CBD production from field to shelf.

“We want to be 100% in control of everything including cultivation. We are totally crazy about quality,” Kowalski said of HemPoland's CBD operation. It's a philosophy HemPoland intends to apply as it expands its hemp product lines through the use of other parts of the plant.

To make CannabiGold, HemPoland uses technology based on supercritical fluid extraction with carbon dioxide – eschewing the trend toward a multi-step process used by some CBD processors in which a crude form of CO₂ extraction is followed by the application of solvents to separate out the cannabinoids.

Extensive research

“We're CO₂ freaks,” noted Kowalski, who employs three PhDs in a research lab which is also on-premises at the company's headquarters. One of those is Kowalski's wife, Beata Plutowska, a specialist in food chemistry who worked for three years at the European Commission, and has several years experience in

the pharmaceutical industry.

Aside from the “tens of thousands of man-hours” of research into CBD production – which supports a growing product range that also includes e-liquids, cosmetics, chewing gum and food products – the company's R&D extends to the application of seeds and flowers to traditional hemp food production, and the plant's stalks for the construction industry.

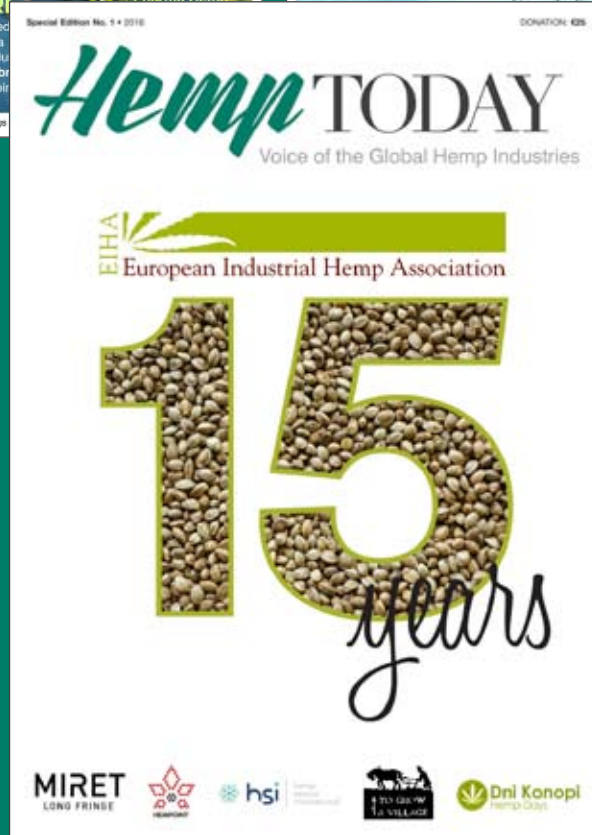
Keeping focus

Base material for those products come from the remaining 540 ha (1,300 acres) of hemp fields in the company's portfolio, which HemPoland contracts out to local farmers – and most of which currently goes to meet the rising demand for hemp-based food, Kowalski noted.

But for now the company remains primarily focused on CannabiGold and developing the technology and a manufacturing culture that always reaches for the highest quality.

“All the talk about hemp saving the world will just remain talk if we don't push for technological breakthrough that would allow hemp to be used broadly, without making the price tag too high,” he said.

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TEXTILES

Crafting the ‘Rolls Royce’ of culinary wear

There was that bar fight one night in Łódź, an industrial city in central western Poland. “A burly lad he was,” says Mateusz Jędrasik, “but I left him on the ground.”

When the dust settled, Jędrasik, founder of Hemp Chef, a Polish startup that designs and produces high-end culinary wear from hemp fabric, was left with a persistent spinal injury that put his own career in the restaurant business on hold.

While cooking is Jędrasik’s first love, the lingering aches and pains from that bar-room brawl made it a challenge to endure the long stretches on his feet, and the bends and reaches that come with a job in gastronomy. So for now, at least, he’s out of the kitchen and into design mode.

A ready focus group

But Hemp Chef, launched just this year, still keeps him in touch with his network of friends who work in restaurants around Poland – and give him a ready focus group as he develops creations specifically for their needs. They’ve proven invaluable so far.

“There’s some skepticism when some of them first put it on,” Jędrasik said of his first creation, a classically French-cut jacket he’s been slipping on chefs around Łódź. That’s due to the weight and thickness of the hemp cloth in his first prototype, he said. “But as soon as I come by to collect the piece after they’ve used it for a while, the response is ‘Hey, what a great product.’”

“So overall, the feedback is positive, and I think that’s due to my experience in the profession,” said Jędrasik, who has tweaked the utilitarian features of the jacket based on feedback from the trials.

“We had some changes done to the initial pocket form, opening it up at the bottom so the chefs can tuck away things like pens and tweezers – so just minor details to work on,” he said.

Attention to details

For Jędrasik, success rests squarely in those details as he continues to fine tune what he only half-jokingly refers to as “the Rolls Royce of chef’s jackets,” 100% made in Poland. Take the buttons. To get the sculpted shape he was looking for, Jędrasik had a special lathe-knife forged to carve the hand-picked Beechwood from which they’re made. Tests are ongoing in the polishing and lacquering



Mateusz Jędrasik models his French-cut chef’s jacket, fashioned from hemp fabric.

process, to achieve just the right finish and durability.

He also wants to get beyond the initial hesitation he’s observed over the jacket’s weight, so is working with Polish yarn and textile producers to develop a lighter cloth – drawing on expertise that’s in abundance around Łódź, historically Poland’s textile and clothing center.

“Importing fiber is more expensive,” Jędrasik said. “Plus, by coordinating it with local producers directly, I can make a fabric exactly how I need it for the product I’m making.”

While Jędrasik knew at the outset that the jacket would succeed or fail based purely on its functionality, the chefs who’ve so far tested it have quickly become converts to the hemp cloth as well, after he explained its many advantages – its breathability, durability, and antibacterial and antifungal properties along with its chic – and the sustainability hemp implies.

Amsterdam. Where else?

Jędrasik’s voyage in hemp started on a visit to Amsterdam. “I came across a

hemp wallet made in Nepal. I think it was about five euros,” he said. Quickly figuring the production cost would probably be about one-fifth that amount, he did some research and began to buy small, Nepalese-made products wholesale, posting the items on Allegro, a Polish knock-off of e-Bay. He launched Hampa.pl, one of Poland’s first hemp e-shops, in 2012.

Now, having graduated from a simple sales operation to designing, producing and marketing his own products, he feels like he’s arrived at a perfect intersection – Hemp Chef, where his favorite plant meets gastronomy. And he has ambitious plans to expand the product line, ideas which he’s holding close for now but which he believes will find a market among chefs, baristas, waitresses and anybody else working in the gastronomy business.

“Whether it’s a place with 50 people working in a haute cuisine kitchen or just one cuisinier running a boutique restaurant” he said. “Everyone who considers himself a chef, cares for his wellbeing, wants high quality merchandise, believes in craftsmanship. Those are our customers.”

HempConsult's global reach

German adviser is a 'go-to' source for industry guidance

Despite challenges facing CBD, investors and startups shouldn't be discouraged from the medical hemp market, according to Daniel Kruse, CEO at Dusseldorf, Germany-based HempConsult GmbH.

While international studies have repeatedly demonstrated the efficacy of CBD, nagging uncertainties over current laws and regulations are still barriers to the sector, Kruse said, noting CBD firms should remain steadfast as the industry continues to work out a clear playing field for producers and distributors.

Thought leader

HempConsult is playing a leading role in that process, having made significant contributions to the ongoing CBD debate, most recently by providing input to a position paper put together by the European Industrial Hemp Association (EIHA) that calls for reasonable rules for CBD in food, cosmetics and medicinal products. That document is aimed at enlightening European Union and national authorities across the continent as they continue to develop a regulatory framework for CBD.


Along with its efforts to help make clear rules for CBD, HempConsult was one of the first major industry players to begin to quantify the overall hemp sector by compiling worldwide market data as far back as 1996. That initial research is ongoing, producing regularly updated market reports on a range of indicators. In 2015 HempConsult joined with the Germany-based nova Institute to produce CBD and hemp food market studies. All of the research reports are available through the company's website at hempconsult.com.

Guiding firms big and small

Along with the current interest in CBD, Kruse, a 20-year industry veteran, notes the overall hemp market continues to boom, with rapidly growing numbers of farmers, producers, distributors and retailers coming on line. While those sectors also face legislative and

Network Partners

HempConsult



HempConsult was one of the first major industry players to begin to quantify the worldwide hemp sector by collecting market data in 2012.



HempConsult GmbH CEO Daniel Kruse is a 20-year veteran of the hemp industry

HempConsult GmbH

Founded: 2012

Headquarters: Dusseldorf, Germany

Profile: Complex services for all aspects of establishing hemp businesses.

Edge: More than 20 years experience; strategic partnership with Hempro Int. GmbH & Co. KG, established international player.

Website: hempconsult.com

Contact: +49 211-699 90 56-10

regulatory challenges, he doesn't see insurmountable hurdles anywhere in the industry.

All the action means HempConsult very busy these days, working with major global hemp players while it also gives entrepreneurs a strong shoulder to lean on, helping new entrants to avoid early-stage mistakes that can lead startups to short circuit, Kruse said.

The advisory, which offers guidance on everything from farming and organic certification to legal and regulatory issues, has its genesis in the long track record of sister company Hempro Int. GmbH & Co. KG, a vertically-integrated hemp firm that has operations in Germany, across Europe and China since 2002. That gives Hempro Int. a solid base of knowledge, network partners and experience all over the world.

HempConsult



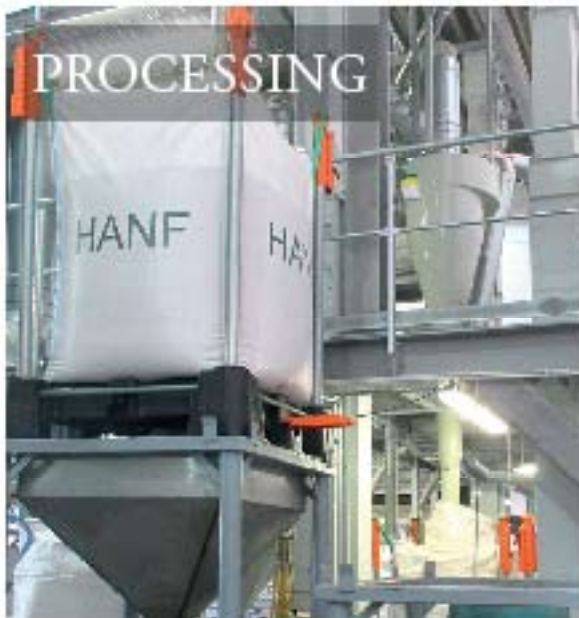
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Respira's triple option

Former NFL star finds relief in Elixinol's newest release

Respira, a new line of cannabidiol (CBD) tinctures recently released by Denver, Colorado-based Elixinol, has already proven a hit with Leonard Marshall – who knows a lot about hits.

“I suffer from anxiety, pain and headaches” said Marshall, 55, a two-time Super Bowl champion with the New York Giants during 12 years as a defensive lineman in the National Football League (NFL). “In addition to eating right and exercising, I use Respira.”

Easing symptoms of CTE

Marshall was diagnosed four years ago with chronic traumatic encephalopathy (CTE), a degenerative brain condition that's being detected in a growing number of retired NFL players. Since that time, he's worked to raise awareness about the disease as he sought a remedy for his own often debilitating symptoms, eventually finding it in Elixinol.

“This is a product formulated for busy people like me, I can use it in my vape pen when I'm on the go,” he said of Elixinol's new full-spectrum CBD tincture line. While Marshall prefers to vape Respira, the all-natural formulation can also be applied topically or taken orally – creating a triple option for consumers looking for the easiest way to incorporate CBD into their daily lives, said Chris Husong, Elixinol's Director of Marketing and Sales.

Versatile, highly concentrated

“Respira is our most versatile tincture to date,” Husong said. “The customer has complete control over the delivery mechanisms.” Each 10 mg serving size of Respira – which comes in grape-mint and natural flavors – delivers high concentrations in dosages of either 300 mg or 600 mg of CBD oil.

As cannabis and CBD customers become more educated, Elixinol continues to innovate to meet changing market expectations, Husong said. Respira took more than a year of research and testing to bring to market, and was based on intensive discussions with the company's medical advisers – physicians who bring vast anecdotal evidence about CBD's benefits, and with customers like Marshall.

“We knew we had it right when our internal trials were overwhelmingly positive,” Husong said.

Respira is available throughout Europe and the USA.



Elixinol's latest hit

Former NFL star Leonard Marshall has found relief in Elixinol products such as the recently released Respira, and the 1000mg serving size of Xpen, which he finds convenient when he's on the go. Respira can be vaped, applied topically or taken orally, and comes in grape-mint and natural flavors in dosages of either 300 mg or 600 mg of CBD oil.

Flexible in the field

Hanf Farm's new combine harvests hemp's full promise

Rafael Dulon has been involved in nearly all aspects of the hemp value chain since 1995, after Germany resumed legalization of hemp as an agricultural crop the year before.

Now Dulon's firm, Berlin-based Hanf Farm GmbH, which he serves as CEO, has extended its industry footprint with the rollout of an industrial-grade harvesting system, the Multi-Combine HC 3400 – a major advancement that can help hemp farmers realize the full promise of the plant on a massive scale.

A flexible solution

“Harvesting hemp on a large scale has always been complicated,” Dulon said. “We believe our harvester is a major advancement addressing this issue – which has been an ongoing challenge for the industry.”

To give birth to the MC HC 3400, Hanf Farm started working with a range of contractors and suppliers in 2014 to develop a prototype. By August 2015 the company completed its initial working model which was employed during harvests last year and in 2016.

Dulon has spent a lot of time on the road since, introducing the machine in what Hanf Farm sees as promising markets – as the demand for hemp raw materials shifts to focus on effective collection of the plant's flowers and leaves – a process that was only possible by hand in the past. The new MC HC 3400 system allows for the lopping off of the plant tops several times during the yearly vegetation.

In his talks with farmers thus far, Dulon has also heard from smaller growers about their equipment needs in the field. In that light Hanf Farm has already started work on a Multi-Combine Light Version – a smaller harvesting system that can be hooked up to existing tractors.

20-year hemp odyssey

For Dulon, the harvester project is just the next logical step in his 20-year hemp odyssey.

As soon as Germany freed up hemp again at the end of last century, Dulon began cultivating seeds in Saxony-Anhalt and Brandenburg, processing them into organic, high quality edible oils. Down through the years Hanf Farm has expanded operations – first by working



Rafael Dulon and Hana Gabrielová, CEO at Czech-based Hempoint, with the MC HC 3400

“Our goal is the production of innovative and sustainable products with respect for ecological, social and economic aspects of agriculture and food production.”

– Rafael Dulon, CEO, Hanf Farm

closely with local farmers to expand its growing area; the company's reach now extends to fields in eastern Germany and some Central European countries.

Along the way, the company also has expanded its product offerings, moving beyond edible oils into a wide range of teas, flour, protein powders, biscuits and hemp-seed chocolate bars, and raw materials for CBD production ground leaves, pellets and CBD-powder. Hanf Farm has extensive distribution around Europe and in several non-European countries, Dulon said.

Focus on the environment

The fields from which Hanf Farm

HANF FARM GmbH

CEO: Rafael Dulon

Founded: 1997

Headquarters: Berlin

Profile: Vertically integrated industrial hemp grower; developer of hemp harvesting and processing technology; producer of a wide range of hemp food and other derivatives.

gets raw plant material are primarily in ecologically managed areas that produce organically grown crops – an environmentally friendly process that Hanf Farm takes seriously: The company was the first European hemp processor to receive certification for hemp seeds, leaves and flowers under the International Sustainability and Carbon Certification (ISCC-PLUS) regime, which it was granted in January 2016. The designation guarantees that the biomass is not produced on land with high biodiversity and high carbon storage.

“Our goal is the production of innovative and sustainable products with respect for ecological, social and economic aspects of agriculture and food production,” says Dulon. “It was a logical step forward to have our products certified, as we are totally dedicated to agricultural good practices that demonstrate our commitment to the environment and to humanity in general.”

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Rafael Dulon, CEO, HANF FARM



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Gear for the little guy

German engineer focuses on small-scale solutions

A trip to Czech-based food producer Hempoint in autumn 2015 started a life change for German entrepreneur Heinrich Wieker. “I became fascinated with the possibilities of hemp,” said the Burgdorf-based Wieker.

Having recently left the corporate world “to do something meaningful with my life,” Wieker, an electrical engineer, quickly came to realize that hemp’s expansion was inhibited by the lack of suitable machinery for small farmers and processors.

Since that time his newly found commitment to hemp has taken him as far as the mountains of Nepal, which he visited earlier this year to help entrepreneurs Dhiraj and Nivedita Shah, Shah Hemp Inno-Ventures (SHIV), in their budding enterprise aimed at harvesting the potential of the abundant “wild crop” hemp that grows in many regions of the tiny, mountainous country.

Joining a mission

“They’re so motivated to improve the lives of the poorest people in Nepal,” Wieker said of the Shahs, with whom he’s consulting on small scale technology for harvesting and processing hemp for building materials. Hempcrete is central to SHIV’s mission to build houses for families who lost their homes in the massive earthquake which struck the country in 2015, and for the many Nepalese “untouchables” who’ve never had homes.



Above: Heinrich Wieker welding a tumbler to sort hemp shiv during a working trip to Nepal; **Left:** Wieker’s harvester can be towed behind a small vehicle.

“We’re working to get a suitable concept for a processing line by either building it locally in Nepal or by sourcing some technology from Europe,” Wieker said.

When he met the Shahs at a seminar in Poland last autumn, Wieker’s firm, H8 Automation, had already developed a prototype self-propelled harvester to address the needs of small farmers – a project he continues to refine and which could have application to SHIV’s efforts in Nepal.

“Existing harvesters weigh 18 tons, cost more than €600,000 and are difficult to transport over longer distances,” said Wieker, whose machine packs onto a trailer that can be pulled by a small vehicle.

Small machine market

He’ll eventually target sales for that machine to agricultural enterprises that farm up to 200 ha – and who struggle with laborious hand-harvesting methods, limiting efficiency, Wieker said.

“Henry’s machine can meet the grow-

ing need for affordable harvesting equipment, and help small farmers in their hemp-growing operations,” said Hempoint’s CEO, Hana Gabrielová, who met Wieker when she picked him up as a hitchhiker in Mexico a few years back.

While the machine employs parts including frameworks used in stage installations from Truss System, and cutters from canola-harvesting equipment, other components were designed and tooled on a custom basis, Wieker said. He working now to improve the machine by adding a shaker that will separate seeds from the buds as the harvester crawls across the field.

While he’s financed the harvester to this point with personal funds and a small bank loan, Wieker said he’ll turn to crowdfunding once the machine undergoes further testing and refinement.

Meanwhile Hempoint remains a proving ground for the harvester, while Wieker is gearing up a small factory, with a goal to have two machines market-ready this summer.

Rebuilding Nepal

Giving shelter to the needy, victims of 2015 quake

Dhiraj K. Shah will never forget the moment. “I was sleeping, and my wife saw it in the newspaper and read me the headline,” he said of being awakened to learn of the massive earthquake that struck his native country of Nepal in 2015.

“It was a life-changing moment for me,” said Shah.

A telecommunications engineer, Shah was winding up a research project in Lisbon, and had already started looking for a further such assignment.

“I was doing my research on 3D video compression but I had really started to lose motivation due to a lack of challenges in the work environment,” Shah said. “I was more interested in doing something to make people’s lives better but at which I could also make a living.”

‘I knew I had to go back’

“When the earthquake struck, I just knew I had to go back and help my country,” Shah said. After returning to Nepal, Shah and his wife Nivedita quickly launched Kathmandu-based Shah Hemp Inno-Ventures (SHIV), which in a short two years has developed into a diversified holding in construction, health and beauty products and hemp-textile accessories.

At the heart of SHIV’s activities for now is hEmpowering Bottom-Up, a project focused on using Nepal’s abundant feral hemp fields as a source of raw materials for mass-scale hempcrete home building. The company has already built a wing for a hospital and a couple of houses, one of which was financed by the German firms Hempro Int. GmbH and HempConsult Int. whose CEO Daniel Kruse committed to support the project immediately upon sitting in on a presentation the Shahs made during a seminar last autumn in Poland. A current indiegogo.com campaign was launched earlier this year also to support hEmpowering Bottom-Up.

Lots of hemp, weak infrastructure

“Hemp has been used in some form or the other in Nepal for ages, but the hemp industry is still in a very primitive stage in the country because of lack of proper technical infrastructure and unclear laws around the hemp plant,” Shah noted.

SHIV’s startup was lightening quick, but the Shahs had been researching hemp



Dhiraj and Nivedita Shah of Kathmandu-based SHIV.

since 2004. When the earthquake struck, they immediately saw hempcrete as the perfect material from which to rebuild the homes of middle-class Nepalese who are squeezed out of relief programs coming through NGOs and governments.

“Their own savings aren’t enough to build a proper house again but with hempcrete we’re offering them an affordable solution,” Shah said.

In their later research they came to realize that many lower-class Nepalese “untouchables” had never had homes, and they set out to address their needs as well.

Hemp community support

After talking with European hemp building veteran Steve Allin of the International Hemp Building Association, Shah was encouraged. “Steve and the hemp community showed a lot of support and made me feel that the project could work. It was soon after that I decided to move back to Nepal,” Shah said, his courage bolstered by Nivedita’s encouragement.

“I always wanted to do something with hemp but construction was never a focus,” Shah said. “But when the earthquake hit, hemp for construction in Nepal started making a lot of sense.”

The task of rebuilding Nepal’s housing stock is daunting. The quake and its after-shock destroyed as many as 600,000 homes and 45% of Nepal’s UNESCO cultural heritage sites while taking 9,000 lives and injuring 23,000 in the nation of 26 million.

Economists have estimated that rebuilding Nepal’s economy will need an international effort over the next few years that could exceed USD 5 billion, or about 20 percent of Nepal’s gross domestic product.

Nepal’s hemp potential

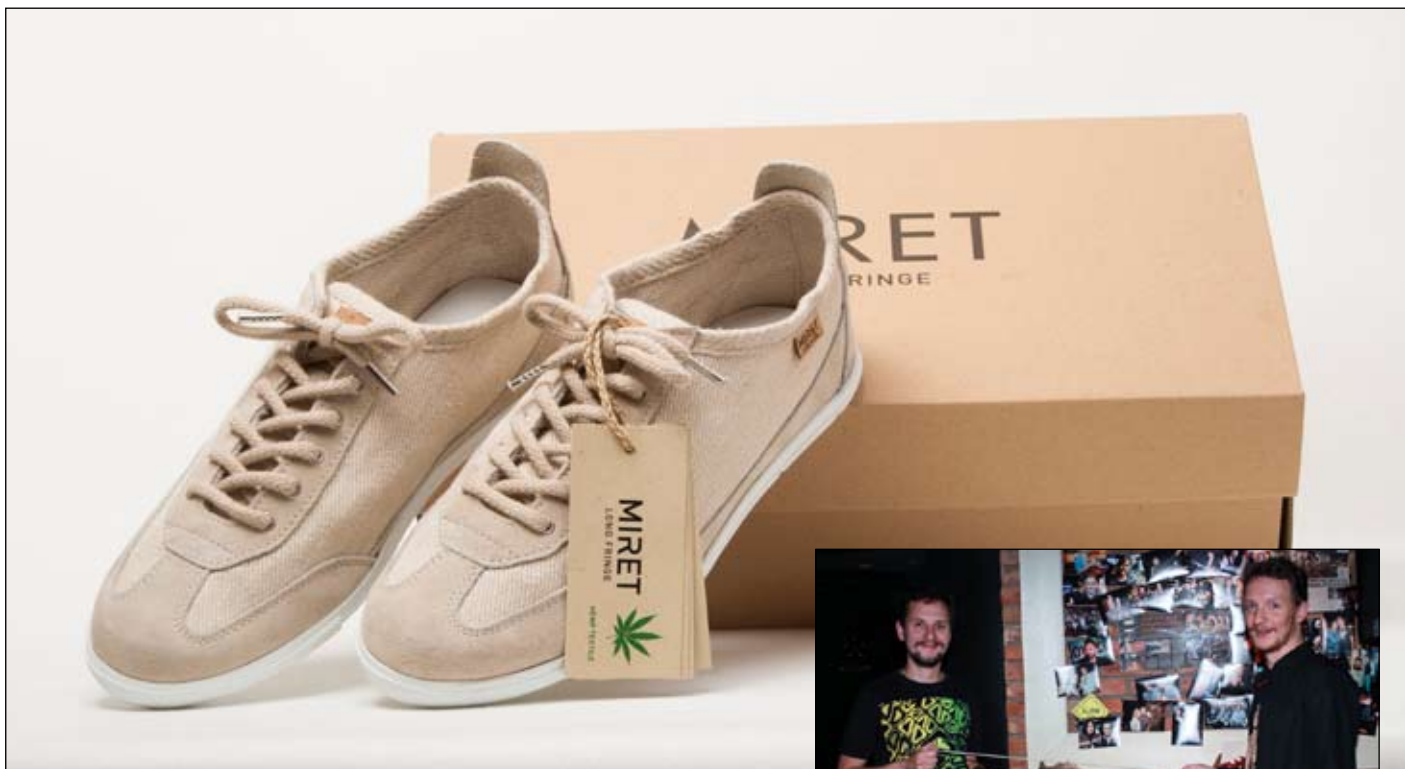
Yet hemp has a total potential yield of 3,000 tons annually in mountainous Nepal, enough to build 100,000 homes of 100 sq m that SHIV has designed, with a modest price tag of about EU 5,000 each. Most importantly, those structures would fare better in any future earthquakes. They are also healthy and environmentally friendly, Shah notes.

SHIV continues working on creative business arrangements with suppliers and talking with other funding sources as it seeks to expand operations.

“Nepal is a trading economy, so the cost of everything really goes up in the supply chain,” he said.

SHIV turned to crowdfunding to tap into what he sees as a willing group of contributors who have the urge to support his country’s earthquake relief but don’t know any reliable channel.

But finances weren’t foremost in the Shahs’ minds at the conception of SHIV. “Seeing my friends and other people’s houses crumbled, I just felt I had to do something, and we can,” Shah said. “I’ve always believed if you dedicate yourself to something and sincerely want it to happen, that you’ll find a way.”



Top: Hemp shoes by Miret. **Right:** Domagoj Boljar, 32, (left) and his brother Hrvoje, 30, run the hemp shoemaking firm Miret.



Sustainable footwear from Croatia

In Duga Resa, Croatia, elders still tell stories of thriving local hemp production in the old days. Of how farmers grew it in nearby fields, then how it was soaked for months in the Mrežnica River which flows through the small town (pop. 12,000), to eventually be made into clothing and other household textile goods by the locals.

While hemp has yet to make any significant comeback in Croatian farm fields, a local shoemaker has turned to 100% hemp material as the main component in a line of men's and women's sneakers; and in the meantime totally re-oriented a 30-year-old family factory toward sustainable production.

Local hemp strain lost

"Unfortunately, hemp was banned, the original strain of (local) hemp was lost, and hemp was forgotten for years" around Duga Resa ('long fringe' in Croatian)," said Domagoj Boljar, 32, business manager for Miret, the firm under which the line of hemp shoes is being manufactured and marketed.

Searching for the right fabric wasn't easy, Domagoj said. While Miret found several hemp textiles on the market, most

of them were blends with other materials like polyester or cotton. Finally the company found a supplier with which it worked out a 100% hemp, high-quality, durable fabric that's made traditionally, without any chemical processing.

While Miret, which Domagoj runs with his brother Hrvoje, 30, an industrial designer, started its move to more sustainable footwear four years ago, the family-owned factory where the product is made dates back more than three decades during which it produced shoes from leather and other unsustainable materials such as polyester and petroleum-based rubbers, supplying a range of global brands.

Getting responsible about sustainability

"There are so many inner parts and components of the shoe which are not visible from the outside," Hrvoje said of the company's move to ecological production. "And there are also production leftovers in factories as well. All of this has bothered us for many years and we were searching for a substitute, sustainable material."

Sustainability is also important in other materials used in the shoes, Hrvoje said. The rubber soles, for example, are

produced under the UNI EN ISO 14001 Certificate, and tests have proven the material contains no phytotoxicity when it degrades. Insoles and inner reinforcements are made from natural latex from the *Hevea Brasiliensis* tree. Natural wool, corn fibers, linen, tencel and kenaf fibers are also in the finished product, as are nickel-free metal components.

Hitting the markets

At the retail level, Miret is opening sales spots around Europe, focusing first on hemp and vegan web shops and physical outlets. At wholesale the company is just embarking on collaboration with players in Austria and Germany as it continues to look for partners to grow sales in the rest of the EU – with an eye on the North American and Australian markets as well.

With current footwear production capacity at 500 pairs per day, the company says it is also looking into creating other products based on hemp and other natural materials.

"Hemp will surely continue to be our main focus as it has proven itself to be ecological, sustainable and durable," Domagoj said.

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Nature on your skin

German clothing maker looks for value close to home

With interest in hemp fashions and accessories gradually growing among eco-conscious consumers, German firm Cannamoda is working toward a future in which raw material can be more broadly sourced closer to the company's Sachsenheim, Germany operations near Stuttgart.

"We recently took delivery of a 50% hemp, 50% cotton material based on German-grown hemp," said Petra Rusch, owner of Cannamoda, a designer, producer and seller of a constantly evolving range of hemp fashions and accessories. The company turns out hand-made, high-quality hemp lingerie, menswear, womenswear, t-shirts, children's clothing and accessories. The 50/50 blend was created following development earlier this year of a 30% hemp, 70% cotton yarn for weaving jeans, Rusch said.

Hemp textiles from Europe

Even across the whole of Europe, hemp production for textiles barely registers in the European Industrial Hemp Association's breakdown of the continent's hemp production, with the majority of such materials being imported from China.

"There are some small hemp growing operations for textiles in northern Germany and the University of Reutlingen is studying hemp textiles," Rusch said of Germany, "but it was only recently that domestic production of such products was possible."

She sees a more close-to-home supply helping to align hemp-made fashions price-wise versus those made from more traditional materials, especially considering the value proposition hemp textiles provide – its comfort, durability and eco-friendliness.

Hot line of lingerie

One of the highlights of Cannamoda's portfolio is a hot line of hemp lingerie, with prices ranging from a modest €25 to €40. Rusch said those prices – still above those for traditional intimate fashions – are due mainly to the relative high price of hemp raw materials and the fact that some partwork, such as lace, must undergo certification.

While Rusch first got started in hemp clothing design in the 1990s with moderate success selling a children's line, "that all collapsed around 2000," she said. But



Petra Rusch has been designing hemp fashions since the 1990s.

with the re-emergence of industrial hemp she sees the market coming back to life. She restarted in the business in 2014 with the launch of Cannamoda.

"Now's the right time to start again," said Rusch, who taught school after her first hemp business dried up, but who's now back on the fashion trade fair and exhibition circuit with her Cannamoda-designed clothing line. "The reactions are different now. People still don't know much about hemp materials, but they are willing to listen."

Along with what Rusch sees as better timing, Cannamoda is also running a crowdfunding campaign to put money in the company's coffers for continuing development.

Mother's sewing lessons

Rusch's design skills were developed as a child. "My mother started to teach me to sew when I was 8 years old," Rusch

said, "and I always liked making things with my hands." She first got interested in hemp clothing when a friend brought her a bolt of the material and asked her to fashion him a pair of jeans.

From there, she began to fashion a children's clothing line and started wholesale marketing at Frankfurt trade fairs – jumping into the market much too early, she admitted.

"It was all too new and exotic, and hemp's connection to marijuana was always something that held the products back," she said of those early days in the business, when "so much institutional knowledge about hemp had been lost."

German loom technology

While Cannamoda still has to import some hemp yarn from Italy, Rusch produces all of the company's textiles on specialized German machines in a factory near Stuttgart. "We've developed the process to eventually make 100% hemp material," she said of the production tests.

For now, Cannamoda's sales are through the company's online shop while Rusch looks to build out a retail network. It's all with two key factors in mind, Rusch said. "We need intelligent and authentic solutions that allow us to achieve commercial objectives while at the same time acting in a responsible, sustainable way," she said.

Of markets and miracles

Hemp's power to fuel profits, and lift us from bondage

Haïle Selassé Tefari is the founder of France-based Hemp Service International (HSI), a wholesaler and retailer of cannaromatherapy. He formerly worked as a trade analyst at Newedge Financial, a Futures Commission Merchant with operations on the New York Mercantile Exchange. He is also general secretary of the Association of Ethiopian Unity.

HempToday: Cannaromatherapy is a relatively new development, not widely known or understood. What is it, and what are the benefits that cannaromatherapeutic products bring?

Haïle Selassé Tefari: Cannaromatherapy is a combination of cannabis and aromatherapy – the science of essential oils. It's about making highly targeted solutions that gather the phytocannabinoids in hemp and its extracts and the terpenes more characteristic of hemp essential oils, as well as distilled essences from other plants.

The main benefits are that the cannabinoids, such as CBD and THC, are known to cause suppression of cancerous cells while leaving healthy cells intact. The terpenes in essential oils improve assimilation of the cannabinoids by the organism.

HT: As a trade analyst in commodities, how do you see the market for hemp derivatives unfolding over the next five, 10, 15 years?

HST: No matter what derivatives we talk about, the possibilities hemp offers point to a situation where we'll eventually have a number of regionalized trading hubs, with food derivatives (seed, oil, protein flour) and hemp-based food supplements accounting for the bulk of market share among the hemp sectors.

HT: There doesn't seem to be a lot of transparency around CBD. What's the key to building trust with the consumer?

HST: The varying national legal frameworks for hemp products containing CBD, as well as the relatively high technical requirements for production and analysis, leave the market wanting for more clarity and standards. Education is the key. As more people comprehend the dynamics of hemp, the more we can learn about our own nature and our relationship with nature in general.

HT: The path from the New York Mercantile Exchange to the hemp business



“Beyond its miraculous intrinsic properties, hemp is a precious catalyst for the social fabric.”

might seem unusual to some. Are you following a path between the two, or did you take another path when you branched out from the world of finance?

HST: During my years on the floor of the NYMEX, I used to cherish the moments when the ticker would display changing market prices for hemp derivatives instead of petroleum based products. After years as a trade analyst, I began to see the potential to create a sustainable investment fund, and that hemp had the potential to be the No. 1 diversification instrument for a profitable economic structure that respects the environment.

That's when I decided to leave New York and the financial world and relocate to the countryside in southeastern France. Once there, and after many long hours of R&D focused combining ancient science and modern progress with hemp, I formed a consultancy to help producers with such things as cultivation, sowing, processing, product development and marketing of hemp products.

HT: While HSI operates globally, your head office is located in France. How do you see things unfolding in the French hemp industry going forward?

HST: If France is to remain a world leader in hemp production, French proponents will need to adjust and embrace other core applications. Why should most of the French hemp fiber now being produced go into the construction industry when the real estate market keeps contracting? The French hemp industry, to be successful, may therefore need to reorient itself toward such things as expanding sowing seed production, and to organic grains, office papers, biodegradable hemp plastic, fine textiles, biodegradable hemp plastic, and even hemp ethanol.

HT: Tell us a bit about your work with the Association of Ethiopian Unity.

HST: Ethiopian culture has been essential to humanity since Ethiopians left the Eden region in the horn of Africa with their language 50,000 years ago in order to populate and civilize the entire world. While the world will not know peace as long as Africa is at war, the solutions to Africa's problems remain internal to Africa and Africans. Our objectives are to develop sustainable business models in more advantaged nations so those advantages can, in turn, be shared in places where they are needed the most – not only in Africa but throughout the world.

HT: How does your faith figure into the life's work you have set out for yourself?

HST: Following the example of Jesus Christ in the name of His Majesty Haile Selassie I gives our generation great inspiration to reach its full potential. To that extent, our personal hemp-related projects are just humble industrial engines to realize a more efficient, pollution-free economy in harmony with the universe.

Beyond its miraculous intrinsic properties, hemp is also a precious catalyst for the social fabric. It's a mystical yet powerful plant but also a double edged sword: It can backfire on those who approach it with vain intentions. As with all the vital precepts modern man seems to have forgotten, our primary duty remains to lead the way out of mental confusion and spiritual bondage.

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Quality first

‘Methodological rigor’ fuels Australia-based CresoPharma

Boaz Wachtel is chairman and co-founder of CresoPharma, a nutraceuticals company which debuted on the Australian Stock Exchange (ASX) in autumn 2016. He was co-founder and former managing director of MMJ Phytotech, Australia’s first publicly traded medical cannabis company. Wachtel is also the co-founder of the International Medical Cannabis Patient Coalition (IMCPC).

HempToday: Recent estimates indicate the U.S. CBD market will grow beyond \$2 billion by 2020. How can the investor be assured these estimates carry any level of accuracy?

Boaz Wachtel: CBD’s medicinal benefits are so vast and promising that the market estimate provided may turn out to be low. In my view CBD will be used for prevention and not just for treatment of symptoms. The monopoly on medical knowledge previously held by governments, pharma companies and the medical establishment has now been broken forever due to technological advancements and the internet, and this supports the rapid spread of awareness on the benefits of alternative medicines such as medical cannabis and CBD. This fuels demand and further data sharing among patient groups in such a way that market estimates for CBD are not far from future reality.

HT: How did the startup and ASX debut of CresoPharma compare to that of MMJ Phytotech in early 2015? How was the environment around medical cannabis then as compared to now?

BW: MMJ was Australia’s first listed medical cannabis company and as such it received huge media and investor attention, resulting in a spike of the stock price from AU 20 cents to AU 90 cents in a couple of days. Since then five other medical cannabis related companies were listed so media and investor attention is now diffused.

HT: Your corporate material stresses the “methodological rigor” CresoPharma brings to the sector. Please talk about that.

BW: Methodological rigor relates to the use of pharma grade standards for the development of medical cannabis or hemp based compounds, formulations and active pharmaceutical Ingredients (APIs). CresoPharma, which is a nutraceutical company, fuses big pharma executive experience with the medical cannabis and hemp extract fields, probably for the first time. Our CEO, Dr. Miri Halperin Werzli, left a \$19 billion company she helped form in Switzerland 15 years ago, and



“The monopoly on medical knowledge previously held by governments, pharma companies and the medical establishment has now been broken forever.”

took a massive pay cut to join and help us form Creso just because she believes in the medicinal properties of cannabis and hemp.

HT: And how much of this rigorous process is relegated to contract or partner experts, laboratories, etc.? What are the trust and security issues in this context?

BW: Dr. Halperin’s experience also relates to the ability to map and locate various much-needed expertise, such as regulatory experts, formulation consultants, delivery technologies, suppliers, manufacturers, international distribution networks, etc. From a corporate point of view this shortens considerably the learning curve and the products’ time to market, helps accelerate development plans and provides a solid reputation for CresoPharma, thus attracting business opportunities from around the world.

We only develop Good Manufacturing Practice (GMP) products as part of our CBD nutraceutical line which is based on two proven Swiss and German buc-

cal delivery technologies, to deliver the CBD and other phytonutrients directly to the blood stream and not via the gastro system where due to acidic reactions more than 90% of the CBD is lost.

HT: While it’s expected Australia will eventually set a playing field for medical cannabis, what are your initial target markets?

BW: Our initial market is Switzerland where we will register our nutraceutical products with the national authorities as a reference registration in other EU countries initially, followed closely by distribution in South America and Canada — and eventually in other countries.

HT: And what’s your general outlook on the European and USA markets, especially in light of the recent questions raised in the UK and the warning letters that went out from the FDA to certain American CBD vendors late last year?

BW: I think that these are the results of both patient complaints of low quality CBD products that are sold based on inflated claims by some careless manufacturers, and the desire of some companies to prevent competition with their own products that have gone through lengthy and expensive clinical trials.

It should be allowed to sell phytonutrients such as CBD extracted from hemp if they are produced by solid standards. The prohibition hurts many patients and good folks who set up CBD and hemp operations to provide access to patients who wish to use an alternative, herbal-sourced safe and effective compound such as CBD, especially when many conventional medications fail to provide relief and carry serious negative side effects.

HT: What are the keys to managing a fast-growing enterprise in such a dynamic however sometimes unpredictable sector such as CBD?

BW: It is hard to manage enterprises such as CresoPharma in a fluid regulatory environment. The way to handle such a situation is to use regulatory experts in each territory, backed by legal opinion from local lawyers; then to develop and use a two-pronged approach — one relates to the registration of CBD as a food supplement or nutraceutical and the second to register the products as part of a medical cannabis program and back it up with small scale clinical trials.

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Message in a dream

Italian entrepreneur is living out her hemp vision

Rachele Invernizzi is President at privately-held South Hemp Tecno srl, a fiber processor located in Crispiano-Taranto in southern Italy. She is also agricultural coordinator for southern Italy at Assocanapa, Italy's national hemp association.

HempToday: What is South Hemp's overall philosophy and approach to the economics of the hemp processing business?

Rachele Invernizzi: SHT was conceived first of all as a factory to process hemp straw and at the same time to be the first link in a local production chain. I always say that without a factory, you can't make anything with hemp. But without a source for hemp, it's useless to build a processing plant. We produce fiber and shivs into raw materials for the green building, paper (cellulose), bio-plastics, polymers and biocomposites markets. The market for cellulose and polymers will grow in the near future while green building is already a reality. We also make animal bedding and loose material for agricultural mulch.

HT: You've said hemp can play a part in keeping young people from leaving rural areas as it presents fresh business opportunities. Describe the best scenario in which this phenomenon could happen.

RI: Hemp has so many applications that if the value chain gains strength, the industry in southern Italy will begin to work. As a result, young people will be able to find work without having to emigrate to the north of the country or abroad, as many do. They don't necessarily have to be in agriculture, but can think of developing final products. It helps that the south of our country has some important economic aid from the EU which is targeted to young people who want to create businesses.

HT: What does the supply chain structure in Italy look like, and where is South Hemp in that supply chain?

RI: Our chain operates across southern Italy, in eight regions. After seeding, from May onwards, we start holding meetings with farmers, agronomists, associations, landowners and potential end users. We talk about everything needed to get them to conduct agricultural tests with hemp, and about current markets for end-use.



“More than the income statement, there's a great thrill in being in a market at the very beginning of an era.”

Farmers who decide to join call us in November and we make a list of all the people who are interested in planting hemp. We act as a medium for the supply of seed, which comes from Assocanapa, Ltd., a certified seed vendor.

Once the farmers have sown, we help them to prepare the paperwork to be sent to the police, we talk with the various police headquarters, which still nowadays aren't up to date and can be obstructive. But we are now highly trained and we've created conditions where they don't confiscate anymore.

We sign a contract with each farmer for the transfer of the final goods, regardless of what the production is. We help those who need it with the sowing, and we monitor the fields for progress. At least a couple of times per growing season we go to the fields, which are in a 400

kilometer radius. Visiting farmers in their fields is the most beautiful part of my business. All of Italy is all beautiful, but the south and its people are special.

Once the straw is ready, SHT withdraws it from the warehouse, pays the farmers and starts the round for the following year.

HT: Can you talk about the growth outlook for your company? What do you expect over the next three years.

RI: Well, we're only two years old, so the ideal today is paying the expenses without having to invest more money — so breaking even is the first goal.

After the third year of operation we expect to begin recovering the invested capital. But first we have the great task of creating the market, in all areas.

HT: What lessons were learned through the Assocanapa economic study that looked at the potential for the hemp industry in southern Italy?

RI: We learned that for the first three years you must invest; then you will have great return. But more than the income statement, there's a great thrill in being in a market at the very beginning of an era. Everything needs to be done, and that's just fantastic.

HT: What is your personal hemp history? When did you first get involved with hemp?

RI: I got a message in a dream. It was October 2011. At that time I looked at the market for olive oil, which is produced abundantly in our region. Hemp was something new and unknown but exciting, so it was obvious that hemp was the best choice.

I contacted the Assocanapa Association that same month, then in 2012 I planted 2.9 hectares that were seized as drugs and ended up in court. In 2013 I became a member of Assocanapa Ltd. located in Carmagnola (Turin) and had a trial of 120 hectares sown in different areas of southern Italy. From there I decided to start up my own business and to create the first entirely Italian industrial plant for processing straw, which Assocanapa Ltd. proposed.

My hemp guru is Felice Girardo, great reference for hemp cultivation in Italy, and the president of Assocanapa.

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