

WA industrial hemp grower Stephen Thomas in a trial crop.



THE GROWTH OF HEMP

Industrial hemp plantings are increasing around the country. Is the era for hemp as a legitimate, economic food and fibre crop in Australia finally here?

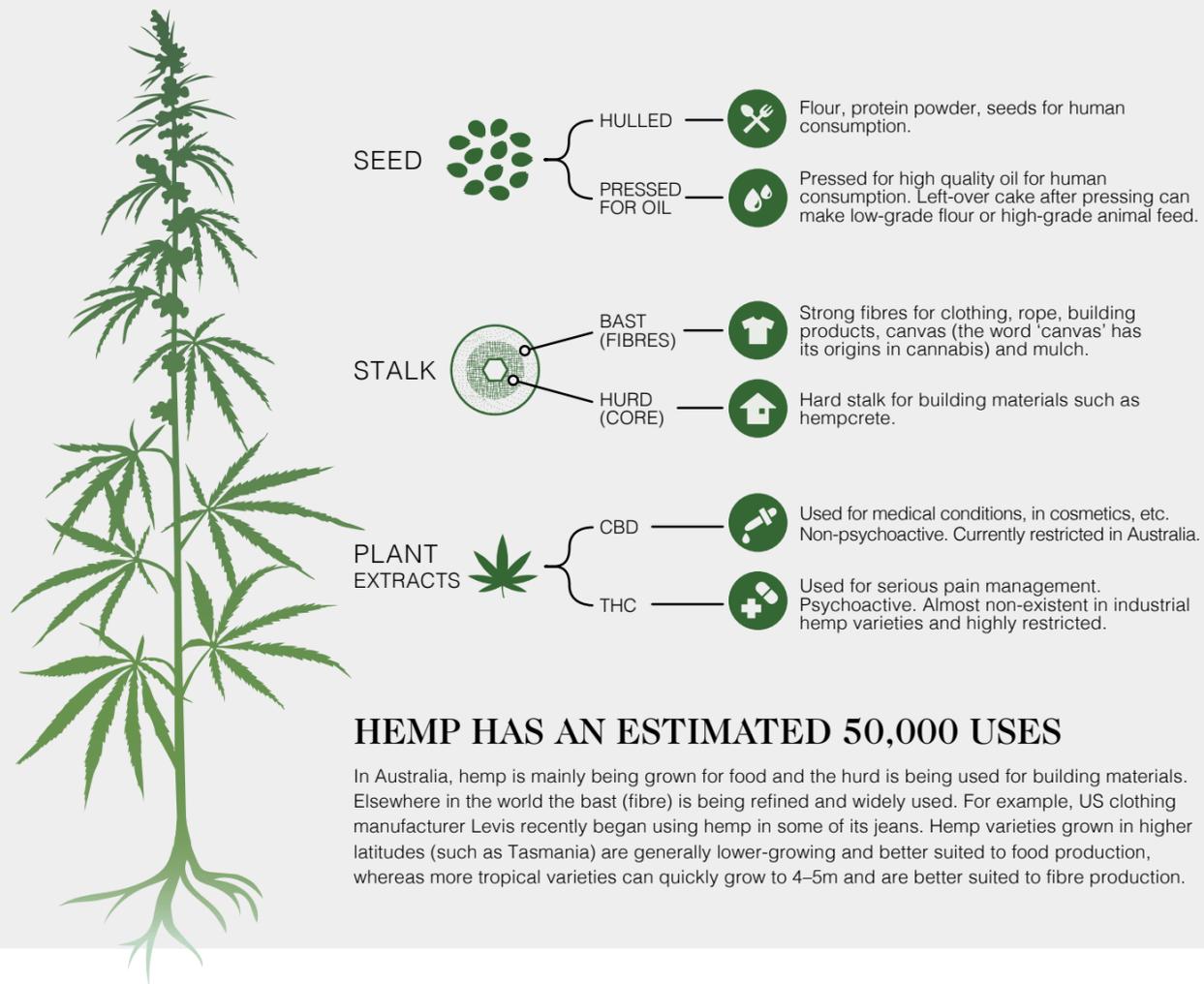
STORY KEN EASTWOOD

In South Australia, around Bordertown, Millicent and Victor Harbor, hemp growers will plant their second-ever crop in November this year, tripling their plantings from last year. Around Esperance and the Wheatbelt of Western Australia, some growers are putting in five times the amount of hemp they did last year, having already brought in the state's largest harvest last year. Even in the centre of Australia, Aileron Station is preparing to trial the Northern Territory's first hemp crop in arid conditions.

From Deloraine, Tas, through to northern Queensland, hemp production has been on a rapid rise since Australian laws were changed in 2017 permitting hemp to be grown as food. The French, Canadian and Chinese varieties being grown have almost non-existent levels of the mind-altering tetrahydrocannabinol (THC) component found in marijuana. Instead, they have a reported 50,000 uses discovered over the past 10,000 years – from a nutty, gluten-free vegan protein made from the seeds, to oils, clothing from the wispy fibres, and building materials from the hard stalk, or hurd. And although the total production figures are still small, the expansion and increasing infrastructure suggests the time of hemp in Australia may finally be here.

Tom McCue, senior manager of emerging industries at AgriFutures, says hemp is one of a handful of commodities that the organisation has identified as having “huge growth potential”. Estimates suggest it will grow more than 500% over the next five years to become an industry worth at least \$15 million a year.

Stephen Thomas of Hemp Processors WA, based south of Margaret River, says current economic conditions for the crop are “like the perfect storm”: a result of the combination of consumer demand for new green, healthy products, entrepreneurial interests and changing legislation. “There’s always been this war for the past 100 years on marijuana, so hemp has been virtually sidelined for 100 years,” he says. Last year Stephen sold cattle and tore down fences on his property to plant a 25ha crop “just to see if it would work”. This year he’ll plant 125ha and he has invested in



HEMP HAS AN ESTIMATED 50,000 USES

In Australia, hemp is mainly being grown for food and the hurd is being used for building materials. Elsewhere in the world the bast (fibre) is being refined and widely used. For example, US clothing manufacturer Levis recently began using hemp in some of its jeans. Hemp varieties grown in higher latitudes (such as Tasmania) are generally lower-growing and better suited to food production, whereas more tropical varieties can quickly grow to 4–5m and are better suited to fibre production.

harvesting and processing machinery. “I’m aiming to try to prove to farmers in WA that we can broadacre farm this as a rotational crop. Because it has a tap root, it helps recondition the soil – it can go down and chase the moisture as the summer comes on. Once you’ve got a crop going, it kills the weeds because it blocks out the sun and the soil holds the moisture. It’s like a rainforest.”

After a 120–140-day growing cycle, hemp is harvested in March or April, allowing another crop to be grown over winter. Farmers who have tried hemp in rotation are reporting that their other crops, such as potatoes, soy beans or even cotton, use less water as a result, and are up to 25% more vigorous.

Stephen says the economics are starting to stack up, particularly for small farmers, with the best growers able to generate a \$4000–\$7000 return per hectare if they can harvest both seed and stalk. “If you’re getting \$4000 a tonne for hemp seed, it’s a lot more than \$400 a tonne for oats,” he says.

Australia’s largest hemp crop is in Tasmania, and growth there has been exponential, according to hemp grower and president of the Hemp Association of Tasmania, Tim Schmidt. “We’re sort of way ahead of the rest of the country,” he says, noting that two years ago 29 growers in the state planted 450ha of hemp, whereas last year 49 growers planted 1361ha. They are on target to be growing 8000ha by 2022, bringing in an average of 1.3 tonnes of seed per hectare. “The big change is that bigger farmers are taking it seriously,” he says. “Our top yielder last year did two tonnes to the hectare – he would have grossed \$5000 a hectare for that, which is equivalent to growing poppies.”

Most hemp in Australia is currently being grown for the protein-rich seed. It can be harvested with regular harvesters, although they may need to be modified to prevent clogging, and Tim says the crop is as easy to grow as corn. “Hemp’s a low-input, low-risk crop,” he says. “Down here the initial NPK [nitrogen, phosphorous, potassium] application is a pretty standard 300–400kg/ha, whereas potatoes are 2 tonnes/ha.” One of the tricky aspects is that the seed needs to be dried to 8–9% moisture within 18 hours of harvesting to prevent mould.

Australia’s biggest hemp food producer, Hemp Foods Australia, is based in Bangalow, northern NSW, but mainly uses imported seed from China. The other big players are Australian Primary Hemp, in Geelong, Vic, and Ananda Food near Newcastle, NSW. Both source hemp seed from around the country – particularly Tasmania – for products that include hemp flour, protein powder, hemp oil and cleaned and dehulled seed, which can be used like chia seeds on salads or cereals.

Managing director of Ananda Food Kieren Brown says the initial excitement and huge growth of the industry after the 2017 legislation change has died down, but now it will pick up and grow more steadily. The state-of-the-art production facility at Newcastle processed about 90 tonnes of seed so far, but is primed for future growth, with the ability to process 800,000 tonnes of hemp seed a year for other brands, such as Woolworths Macro brand, or their own branded products. “Hemp seeds are a nutrient powerhouse,” Kieren says, proudly admitting that he slurps a bit of the creamy hemp oil every day and slips hemp



CLOCKWISE FROM TOP LEFT: Managing director of Ananda Food Kieren Brown, with hemp oil, seeds and protein powder; Saint Hemp products; Ananda Food factory; hemp grower and processor Bob Doyle, of Dungog, NSW; industrial hemp varieties look the same as marijuana, but have different properties; bagged hurd ready for building.

PHOTOS: KEN EASTWOOD



CLOCKWISE FROM LEFT: Hemp home owner Anarkali Papalkar; hemp wall; builder Shane Hannan with a fresh wall.

protein powder into his children's meals. "It's so versatile – there is not a meal occasion when you couldn't use it. It fits every occasion – breakfast, lunch, snacks, dinner."

In the US, Ananda Food parent company Ananda Professional is focusing on the benefits of cannabidiol (CBD) extracted from other parts of the plant, shown to have positive effects on everything from sleep disorders and anxiety through to skin conditions. "Last month we sent 8000L of Australian hemp oil to the US," Kieren says. "They use it as a carrier for the CBD extract. We were matching them on price and delivering a better quality product."

Near Dungog, NSW, former dairy farmer Bob Doyle of Hemp International Australia has been concentrating on milling hemp's hard hurd stalk for use as a light, breathable building material with great insulation properties, and then supplying that to builders around the country. "At the moment, we're the only guys in Australia producing a building product," he says. "We'd probably have enough material to do 500 houses a year, but we're probably doing about 200 houses a year." One of the problems with growing hemp for building and fibre is the lack of appropriate machinery. The borrowed \$1 million mower that Bob was using has been shipped overseas, and the industry isn't big enough yet for him to justify the expense of buying one, or decorticating equipment that could efficiently separate and clean the strong, fibrous bast material from the hurd. "Right now, we're running out of product," Bob says. "We just have to find a way to justify that mower. We have a market

for the hurd here, but in the rest of the world they have a market for the bast, too. We don't have the technology here to produce the bast clean enough."

In Margaret River, Gary Rogers of Hemp Homes Australia is importing machinery from Croatia that will process Western Australian hemp for building materials. "It's an exciting industry – it's a great industry to be in," Gary says. "The houses are beautiful and they are exceeding my expectations on sustainability. It's my belief that industrial hemp will be much bigger than medicinal hemp."

Dungog builder Shane Hannan has built eight houses with Bob's hemp products, including fireproof and termite-proof walls 150–250mm thick by mixing it with lime and sand and a binder, and tamping it down. It then dries over 4–6 weeks, hardening like stone. "I love it as a building material – it just ticks all the boxes," he says. "Australia should really pull its finger out and get right behind this. It's a \$14 billion industry in Canada."

One of the hemp houses Shane built was for Anarkali Papalkar at Shepherds Ground. Leaning on her shining white lime-rendered hemp walls, Anarkali proudly says most materials for her house were sourced within 100km of the site. "Hemp has got twice the insulation ability of bricks and because it is so much lighter it is much better to transport," she says. And then she points out one more factor in its sustainability: "And if you don't like your house in 30 years' time, you can smash it up and put it back into the ground – it's going to decompose."

