



New
Zealand
Leather
and Shoe
Research
Association

Allbirds releases weather resistant Mizzle range



Allbirds have just released their latest innovative footwear with the brand introducing Mizzle, a collection of weather resistant shoes in their signature Merino wool. The brand's many fans wear their Allbirds everywhere and everyday but the company's original Wool Runners aren't quite cut out for wet weather so they decided to create an updated version that are perfect for rain or shine.

The first of the new designs is the Wool Runner Mizzle, the brand's first-ever wool hightop, which is

accompanied by the Wool Runner-up Mizzle. Each one are designed to be all-climate, all-season options that don't make you choose between function or style as you can wear them anywhere. The shoes have a thicker layer of ZQ-certified Merino Wool and a more substantial SweetFoam™ sole reinforced with high traction natural rubber which is perfect for wet surfaces.

Allbirds are always looking for sustainable ways to do things better and when they discovered that virtually all weather-resistant gear is made with synthetic fluorinated chemicals (PFAs) which don't break down over time and end up polluting our soil and water. Allbirds did extensive research and development to found a solution that will keeps your feet dry but doesn't rely on PFAs. The result is the brand's new proprietary Puddle Guard™ technology which utilizes an Oeko-Tex Eco Passport-certified fluorine-free water repellent treatment, and a breathable, waterresistant layer of bio-TPU. All of that means your feet will stay cosy and dry without causing harm to the environment which is definitely win-win. Now you can wear your Allbirds whatever the weather.

From *fashionz.co.nz*

Environmental awareness raising workshop for Sialkot tanners

Held at the Sialkot Chamber of Commerce and Industry (SCCI) under the auspices of United Nations Industrial Development Organization (UNIDO), the workshop brought together tanners, representatives from the Sialkot Tannery Zone Association, Pakistan and from the SCCI and Environment Protection Agency (EPA), climate change experts and students from local universities.

During the one-day workshop titled "Climate Change Emerging Issues, Adaptation Challenges and Recommendations for Leather Sector in Sialkot", Umer Sher Chattha, Sialkot Deputy Commissioner, directed the officials concerned to speed up the construction works to ensure the completion of the much-delayed Sialkot Tannery Zone. "The initiative of a well-equipped project in Sialkot is a significant leap forward to modernise the region's leather industry in an environmentally friendly way", said Chattha, highlighting that the project in collaboration with UNIDO will be a landmark achievement of public-private partnership in Sialkot.

During the workshop, some experts explained how climate change impacts local communities and how these can be aggravated by obsolete practices in leather processing. Muhammad Suleman Tahir, a Chemical Engineering expert and Professor, spoke about the concerns of the Sialkot leather industry's contribution to water, air and soil pollution and how the risks to the environment and human health can be avoided by adopting the best practices and technologies that are now available. From *The Nation*

BEHUMANE: A new model for traceability

Hiddenet's Editor-in-Chief and CEO, Vera Dordick, writes that as the leather industry grapples with sustainability and transparency, a new supply chain is on the rise. Calling itself the "leather industry's first and only transparent supply chain," BEHUMANE is following a different process. "This supply chain is a brand's guarantee that a product directly supports farmers who are taking good care of animals and the environment," says Danielle Dotzenrod, founder of BEHUMANE, a new model for sourcing leather.

Dotzenrod's company is different because it buys the hides directly and sells them to brands, making traceability front and center. "We're buying from farmers who are already largely animal-welfare driven," she says. This direct approach ensures the source and brings awareness to the good farmers. "The traceability is already there for the meat, so it's a logical extension to apply it to leather." Having

grown up on a dairy farm in Iowa, Dotzenrod later moved to New York and Los Angeles, where the idea for this new type of supply chain came from the food industry. "In LA, I watched consumers increasingly focused on where food comes from and I thought 'This should be happening in fashion!'" But it won't happen with the way the supply chain currently operates, she said, leading her to launch this innovative venture.

But will brands bite? They already are. Dotzenrod says that BEHUMANE is in negotiation with a range of brands, from big names to smaller boutique lines. "One brand is already making big changes to work with us," she says. Dotzenrod says that she is also open to working with tanneries, brokers — anyone in the leather industry looking to improve their supply chain. As we already know, consumer demands for traceability will only increase. "We can't expect consumers to make better decisions if there aren't products on the shelf," she adds. And while a variety of certifications already exist, there is a lot of "certification confusion" and a lack of enforcement, she notes. And speaking of consumers, Dotzenrod feels there is still a lot of room for positive consumer education. "Part of the reason consumers turned away from leather is because the industry hadn't done a good job showing that it is sustainable. We have to educate the consumer that if you eat meat, you have a responsibility to buy leather," she says. "It should be nose-to-tail use of the cow."

From *Hiddenet*

European industry working towards sustainability

Project LIFE GreenShoes4All, co-funded by the European Commission, will implement and promote a method to measure the environmental performance of each shoe and a green label. The project also seeks to propose and disseminate innovative green shoes ecodesign and recycling strategies, reports World Footwear.

We live in a fast-paced business and social environment. The Internet and the popularity of social networks have connected million of people across the globe and have brought to everyone's minds concepts and ideas that were disseminated quickly but not always in the most effective way.

A new focus on sustainability and being sustainable has raised awareness on many concepts and aspects of our daily lives. There has been a proliferation of eco labels, green products and sustainable methods, which are in many instances mere statements and fail to be proven right or true. A majority of consumers says they wish to go greener and protect the planet and so they demand eco products and a lower footprint of the industry manufacturing their products which causes pressure on manufacturers. With an aim to respond to consumers' wishes these can easily get confused. What is green? What is eco? How can we ensure a product is sustainable for the planet, the people living in it and the animals and nature?

With this in mind a new European project **LIFE GreenShoes4All**, led by the Portuguese Footwear Technology Centre (CTCP), the European Footwear Confederation (CEC) and other project partners will exploit a methodology that is expected to help footwear companies to be more efficient in the way they use the available resources and to reduce the discarded materials and the waste produced.

What is the project?

The project aims to implement, demonstrate and disseminate a Footwear Product Environmental Footprint (PEF) methodology and to develop efficient eco-design, recycling and manufacturing solutions, in order to obtain performing shoes with a lower PEF. In particular, LIFE GreenShoes4All intends to

achieve a Single Market for Green Products by promoting the great added value of the innovative PEF Category Rules (PEFCRs) methodology. The project is also intended to test and demonstrate new recycling routes in the EU footwear value chain and to establish and compare, through demonstrative experimentations, innovative eco-design concepts and eco processes for shoes manufacturing.

From *aplif.com*

USHSLA establishes first-ever hides and skins traceability programme

The US Hide, Skin and Leather Association (USHSLA) today formally launched the US's first-ever traceability programme for hides and skins. The USHSLA Hide and Skin Traceability Programme is a voluntary certification programme that provides independently certified traceability for all U.S. hides and skins of participating companies back to a single, identifiable point of origin.

"The groundbreaking USHSLA Hide and Skin Traceability Program will, for the first time, establish a standardised, national system with the goal of tracing 100% of US hides and skins to the meatpacking plant or hide/skin processing facility of origin," said USHSLA President Stephen Sothmann. "The programme demonstrates the industry's steadfast commitment to transparency and continuous improvement as we seek to build and maintain trust with tanners, manufacturers, brands, retailers and consumers."

The US Department of Agriculture's Agricultural Market Service (USDA AMS) will conduct independent audits to certify that a US supplier has adequate procedures, internal controls and record keeping methods in place to ensure the hides and skins it sells originate from a single, identifiable facility – a specific meatpacking plant or a hide/skin processing facility, as aforementioned. All hides and skins produced in the US are eligible to be certified under the program.

Once a facility has been certified to meet one of the traceability standards under the programme, USDA AMS will list the name, contact information and programme certification of the facility on a public AMS website. In addition, USHSLA will list the facility, programme certification and specific product information on its website with the contact information of the U.S. supplier.

Buyers of certified traceable hides and skins under the programme are eligible to receive a Certificate of Origin identifying the facility where the product originated and accreditation information, as listed on the public USDA AMS website. The Certificate of Origin for specific loads of hides and skins that have been further processed into leather may be transferred to downstream customers such as manufacturers, brands and retailers, to help comply with supply chain transparency and security efforts.

"The US hide, skin and leather industry already adheres to some of the most rigorous processing and production standards in the world and is valued for producing a consistent, high-quality supply of hides and skins," Sothmann added. "This programme further distinguishes the US industry, and will provide additional confidence to its customers, including manufacturers, brands and retailers, about their leather supply chain sourcing."

For more information about the programme, including auditing procedures, and to obtain an application, visit www.ushsla.org/USHSLA-Traceability-Program.

From *leathermag.com*

ACLE 22nd Edition sheds new, positive light on leather

China's leading international event for the leather industry wrapped up another successful edition, its 22nd, on 5 September 2019. 1,056 exhibitors from 34 countries and regions were joined by more than 23,300 visitors in Shanghai from 3 - 5 September. Over 20,000 buyers were from the major manufacturing provinces in China. The fair covered 92,000 sqm and 8 halls of the Shanghai New International Exhibition Center (SNIEC).

Since its launch during a crisp Beijing winter back in 1998, the All China Leather Exhibition (ACLE) has witnessed and adapted to the ups and downs of the leather industry. Over the years, it has turned from a traditional trading platform to an integrative event that delivers trend insight, business matching activities and roadshows, as well as a fringe programme including workshops, conferences and seminars.

While this edition of ACLE once again showcased abundant opportunities and innovations, it was nevertheless evident that the market is going through its most challenging time yet. From unresolved trade disputes between the US and China, to an oversupply of raw hides and poor demand leading to pressure on leather prices, to increased competition from synthetic and other alternative materials as well as negative publicity and misconceptions about leather; all these factors are taking their toll on the industry.

However, a number of underlying indicators in China still remain robust, including continued growth of sales revenue generated by footwear manufacturers, albeit at a slower pace than in previous years, and undiminished strong demand for overs

The CLIA's Secretary General, Chen Zhanguang, also announced that the association recently issued to its members some guidance promoting the proper use in English of the term "leather". "These are only guidance and not yet a law and it will take time to be regulated," Chen admitted. "The All China Leather Exhibition (ACLE) is the best place to educate and to start implementing this rule," he added.

Advocating "kind" leather

This year's fringe programme ensured fairgoers could discover the latest design, product and industry trends and insights from the industry's experts. The main didactic themes this year at both the Shanghai Shake-up and Leather Naturally talks were how to improve the image of leather among consumers, especially young ones, and how to encourage designers to include leather in their collections and appreciate it as a natural, renewable, durable, versatile and attractive material.

"Contrarily to alternative materials, leather is sustainable and the industry needs to talk to consumers and convince them of the sustainability of leather," said Ralph Arbeid of the Swiss automated machinery company Hueni, in an attempt to downplay the disproportionate anti-leather publicity and emphasize the positive aspects of leather.

On the exhibition floor, a considerable number of exhibitors highlighted the sustainability of their products and promoted the clean and environmentally friendly aspects of leather, as illustrated by the Brazilian company JBS Couros' "Kind Leather": a new approach to leather processing leading to reductions in trimming, waste, usage of chemicals as well as water and electricity. Furthermore, Kind Leather's traceability programme gathers data about animal welfare and monitors cattle populations to avoid illegal deforestation, guaranteeing both sustainability and transparency.

Another noticeable trend is the growing number of vegetable tanning which is increasingly replacing chrome tanning. "Vegetable tanning is picking up. We are happy about this trend as chrome free

auxiliaries have less impact on the environment," said Silvateam's Leather Division Director, Antonio Battaglia.

The next [All China Leather Exhibition](#) will be held from **1 – 3 September 2020**, at the Shanghai New International Exhibition Centre.

From *aplif.com*

Award for Lanxess and Reel

The German Chemical Industry Association (VCI) has awarded first prize in its 2019 Responsible Care competition to Lanxess for its resource-efficient manufacturing of leather chemicals (ReeL) project.

In this research project, Lanxess developed a method for recycling residues from leather production directly on site. The main raw materials are biomass, collagen-containing shavings and waste cuts, which, until now, have usually been disposed of. Tanners can now produce Lanxess's X-Biomer retanning agents from these by-products themselves and use them in production. A medium-sized tannery produces between one and two tonnes of shavings per day.

At the time of the announcement, head of the Lanxess leather business unit, Luis López-Remón, said: "Sustainability is crucial for the leather industry and this award confirms to us that we are on the right track. Recycling residual materials and the development of material cycles are essential topics." Lanxess launched ReeL in 2017, working with Leverkusen-based research institute Invite to develop the equipment required to process the residues in tanneries. Prominent German leather manufacturer Heller-Leder carried out a pilot project at its tannery near Bremen.

In April 2019, Lanxess and ReeL won the Responsible Care competition for its home region, North Rhine-Westphalia. As a regional winner, it went forward to take part in the national competition. A jury of independent experts declared it the winner. The project has won several other awards, including the Climate and Environment Innovation Award in February 2018, which is presented by the Federation of German Industries (BDI) and the German ministry for the environment.

From *leatherbiz.com*

Leather exporters struggle in oversupplied market

Leather exporters are grappling with record low prices for hides. The agricultural insights group, AgriHQ, said strong beef production in Australia, Brazil and the US had meant that the cattle hide market was significantly oversupplied. A senior analyst at AgriHQ, Mel Croad, said this oversupply, combined with the rise of much more convincing synthetic leather substitutes and a downturn in the manufacture of luxury leather goods meant global demand was very weak. "In addition, the closure of some Chinese tanneries due to environmental concerns has narrowed down selling options for hides," Ms Croad said. Ms Croad said even the better quality cattle hides were selling at heavily discounted rates.

The general manager of Wallace Group Tannery, Ted Hulbert, said demand for leather, particularly for the manufacture of shoes, in its key export markets, Italy and China, had dropped significantly. "In New Zealand it's mainly a cow [hide] issue, the other types of hide ... they've all come back in prices, some have come back over 50 percent, but it's really the cows that have dropped ... a lot of cow hides now are not worth processing," Mr Hulbert said.

Earlier this year NZ Light Leathers, New Zealand's only export supplier of high quality finished deer skins, announced it was stopping production of fine deer skins due to the tough trading conditions. However it was still partially processing cow and deer skins for meat processors, who would then export them to tanneries overseas for finishing.

From *mz.co.nz*

ICLT says new chrome VI limit is too low for current test methods

Research leader at the University of Northampton's Institute for Creative Leather Technologies (ICLT), Dr Will Wise, has published an update on the work he and his colleagues have carried out on chromium VI. He said the leather industry's ongoing debate about chromium VI took on increased significance earlier this year following a proposal from European Chemicals Agency (ECHA) in April that the allowable limit for chromium VI should go from 3 ppm at the moment to 1 ppm to bring the leather industry in line with the textile industry. Dr Wise has pointed out that, while the textile industry uses little chromium, the leather industry faces having to try to detect 1 ppm of chromium VI in a background of 20,000-40,000 ppm of chromium III.

A project to review the current status of chromium (VI) analysis in leather began at ICLT in early 2016, jointly funded by the Worshipful Company of Leathersellers and Leather UK. The focus of this project narrowed when the project team, Dr Stefan Davies and Dr Wise, identified possible sources of error in the colorimetric method (ISO 17075-1) used for determining chromium (VI) levels. According to Dr Wise, the standard method itself provides "rigorous evidence" that lowering the limit below 3 ppm would render the colorimetric method meaningless.

The team's work also suggests that the supposedly more accurate chromatographic method is also incapable of testing to a limit as low as 1 ppm, despite the analytical technique having greater sensitivity. The team at the ICLT has identified several ways to improve the methodology, which could reduce the discrepancies observed between samples and test houses. For example, tighter restrictions on timings are important in limiting the possibility of premature testing before a complete reaction has taken place. Also, specifying a shelf-life for analytical solutions minimises precipitation and oxidation in solutions that could alter results. It also proposes that when it's less than certain that a sample has passed or failed, it should be possible to record 'inconclusive' as the test result. Other standard methods, for example BS EN 62321-7-1:2015, allow this.

All the proposed changes will be put to the European Committee for Standardization (CEN) for inclusion in future updates of the standard. If adopted, these changes will improve the reliability of results but are unlikely to allow the colorimetric method to remain as a viable method for measuring the lower 1 ppm limit.

ICLT will submit a response to a consultation on the proposed legislation changes, explaining "the fundamental inability" of the current test methods to reach such low levels of detection reliably. This submission will be supported by Leather UK, which will separately examine the impact on the leather manufacturing industry.

All parties have until December 19 to [submit a response](#) of their own to the proposed changes.

From *leatherbiz.com*

Stahl talks biotechnology for sustainable product development



Stahl writes that the depletion of raw materials is a worldwide concern and consequence of the way we use our natural resources. Human overfish, overharvest and we are emitting more carbon dioxide into the atmosphere than ecosystems can absorb. If we want to continue living as we do today, and enable future generations to do the same, we need to change.

Biotechnology is the gamechanger

What is biotechnology? According to the OECD, biotechnology is defined as the application of science and technology to living organisms as well as parts, products and models thereof, to alter living or non-living materials for the production of knowledge, goods and services.

A solution is to collectively redesign our materials, processes and products. Moving away from finite feedstock and switching to, in our case, renewable, restorative and regenerative chemistry chemicals. In many cases this means switching to bio-based materials, materials based on captured carbon or materials that contain recycled content. By working together on innovative responsible solutions that are designed on the biotechnology principles, we can change the impact on the environment considerably.

An example is Proviera® - Probiotics for Leather™. In general petrol-based chemistry (derived from finite petroleum and natural gas sources) have been desired and used for its specific characteristics; performance, price and availability. With a growing concern and awareness of the downsides of these finite sources, however, opportunities arise for renewable and more sustainable alternatives. Proviera® - Probiotics for Leather™ for instance. Its biochemicals are derived from probiotic cultures and renewable natural raw ingredients. According the principles of biotechnology, Proviera breaks down and processes – in the way nature would do – hides and skins and turns them into leather, helping tanners implement sustainable strategies by reducing the need for synthetic chemicals and adding value to tanning by-products.

Measure and assess to evaluate product impact

The process of designing our products includes continuously evaluating their total impact. We use internationally standardized methods that measure the impact of our products and processes on health, safety and the environment, such as Life Cycle Assessment (LCA) – a methodology that measures the impact of any product on the environment over its lifetime, ASTM D6866 (to define bio-based content) and VDA 278 (emission test).

Stahl's bio-based technology portfolio includes:

- Bio-based polyurethanes
- Bio-based PolyMatte®
- Proviera® - Probiotics for Leather™

When is a product bio-based?

To define when a product is bio-based, we use the definition of ASTM D6866. This methodology tests products on their modern bio-based (organic) content. It looks both at the percentage of bio-based materials in the product as how 'old' the used materials are. A product is bio-based when it contains 20% bio-based materials or more. ASTM D6866 bio-based content computation only considers the total organic carbon content, not product weight; the amount of water is taken out before measuring the bio-based content.

From *stahl.com*

Xeros Technology has sold its Qualus Bead Tanning Unit

Xeros technology has sold its bead tanning unit to Qualus to its management team that has formed a new company called ESTR to run the business after acquiring the contracts and assets.

With the help of a loan from Xeros more funding will need to be raised by the new owners to market the business whose patents it now holds but will have to pay a royalty. Xeros CEO Mark Nichols has said that "ESTR is best placed to commercialise our tanning patents. The team has the expertise and credibility both to execute existing and future contracts and to raise the finance required to take the business forward."

Bead tanning technology has been used by Wollsdorf Leather in Austria.

From *morningstar.co.uk*

Laser system for hides can offer animals' whole life story

The chief executive of Danish meat plant and wet blue producer Scan-Hide, Michael Sondergaard, has said his organisation is close to being able to bring to market a laser-technology based system for marking and identifying hides. He said the idea consists of marking the hide when fresh with a series of

characters that link to information about where the animal was born and how many times it moved farms before going to the abattoir. The markings survive wet-end processes, Mr Sondergaard has insisted.

Speaking at a workshop on traceability that leather industry organisations COTANCE and UNIC organised at Lineapelle, the Scan-Hide chief executive said: "We can have the whole life-story of the animal, from farm to shoe, farm to sofa and so on, and I believe this will add value, but to take cost out, players across the industry have to work together to roll it out."

The leather supply chain in many parts of the world already has the means to guarantee to buyers that the leather they are buying comes from hides that come from animals that lived in keeping with the so-called 'five freedoms' for livestock. These commitments offer reassurance that the animals have been well treated and protected from pain, disease, discomfort, hunger and thirst, and allowed to carry out behaviour that is in keeping with animals of its kind.

Asked by World Leather what value the new system might add, over and above demonstrating a 'five freedoms' commitment, he said: "Look at young consumers: they want to know more about every product they buy, not just leather. What you can do with the system we want to introduce is add the story. Companies may choose to use it commercially or not, but we just want to offer it, to start the journey."

From *leatherbiz.com*

Buckman launches five new innovations

Buckman has introduced five new products to its range over the past few months, aimed at the beamhouse and wet end processing of leather. They are as follows:

Beamhouse Auxiliaries

Busperse Chrome Tanning System was designed to improve the environmental profile of beamhouse processing by enabling leather to be processed directly from deliming and bating to tanning. The system eliminates the use of common salt, inorganic (strong) acids and basifying agents. The benefits of the system include reducing tanning liquor TDS by up to 65%, reducing chrome use by up to 25%, reducing process time by up to 35% and reducing water consumption by up to 50%. Leather produced with this system also shows improved fullness and tightness as well as increased physico-mechanical properties. **Butan 7840LW** is a high-performance basifying agent with uniform granularity which results in specific and controlled reactivity and is suitable for basifying all types of hides and skins. The rigorous quality testing of the product ensures excellent purity, particle size distribution and surface area and high consistency of basification from batch-to-batch and a reduced risk of pH elevation in wet-blue during long term storage. The product has a slow initial reactivity, a standard basification curve without extreme peaks and a uniform pH.

Fatliquor

BLX-14525 is a modified lecithin with good lightfastness suitable for the manufacture of soft leathers including nappa, nubuck, milled leathers, gloves and garment leathers from cow, buff, goat and sheep wet-blues. BLX-14525 shows excellent penetration properties that give the leather a good softness and fullness with a silky touch. In nappa production, it has been shown to improve the fineness of grain, and with nubuck an improvement in fineness of nap and sheen. BLX-14525 is compatible with commonly used syntans, vegetable extracts, polymers and other anionic fatliquors, making it suitable in the production of many types of leathers. It is stable to normal concentrations of acid, salt, hard water and electrolytes.

Syntans

Butan 7846 is a sulfone based syntan suitable for the production of soft and round leathers from wet-blue. Leathers produced with Butan 7846 have excellent fullness and softness properties with a spongy feel. Butan 7846 is particularly suitable to produce uniform bubble grain pattern in the production of natural floater and nappa floater leathers. Leathers developed with Butan 7846 also exhibit a tight grain and excellent lightfastness. Excellent bleaching properties of Butan 7846 enable the production of white and pastel coloured leathers with purer shades.

BLX-14528 is a medium soft acrylic syntan which is primarily used to produce leathers with improved fullness and roundness along with a fine grain. BLX-14528 is effective at improving the tightness and fullness of the empty parts of the hides and skins. The syntan has good lightfastness properties and is suitable for the production of white and pastel colours. For milled products, BLX-14528 gives an excellent bouncy feel to the leather.

From *ILM*

The controversial shoe propelling marathon runners to amazing records



The world's greatest marathon runners are flying like never before – and many experts are putting the astonishing times down to a running shoe. The Nike ZoomX Vaporfly, launched in 2016, has zoomed into the headlines, and is threatening to become as famous as Kenya's record setting stars Brigid Kosgei and Eliud Kipchoge. The shoe, which has a few versions, sells for up to \$650 on the internet (and one supposed limited release model is being sold out of Britain for \$2000). They are half that price out of official New Zealand suppliers, while the latest incarnation sells for nearly \$500 in Europe.

But it is also dividing the athletics world with at least one stable of runners, aligned to a rival company, calling on authorities to examine the shoes which they claim are "ruining" the sport, stating they "don't want to continue with unfair athletics". It is almost indisputable that the shoe is leading to much faster times. Carbon plates have been inserted into other athletics shoes but Nike appears to have taken this a huge step forward for marathoners so to speak. The public has apparently flocked to them, testing supplies and presumably raising the internet prices.

Nike's invention contains a curved carbon plate built into the sole, which insiders claim "acts like a spring and propels the runner forward", according to a Times report. Nike has also developed a unique foam which is used in the sole, something they will not sell to other companies. Sports scientist Ross Tucker told the *Times* "at least four independent laboratory studies say that there is between a 2.7 and 4.2 reduction in oxygen use when wearing the shoes". Claims include the shoes enable top runners to reduce their marathon times by two minutes.

The five fastest official marathon times in history have occurred in the last 13 months, all in the Nike Vaporfly. Kosgei obliterated Paula Radcliffe's 16-year-old record in Chicago this week, a day after compatriot Kipchoge became the first person to break two hours for the marathon distance in a specially staged event. Kipchoge called it his "moon landing moment" while Kosgei believes she can go four minutes faster saying: "I think 2:10 is possible for a lady...I am focused on reducing my time again."

Last year, a runner told the Guardian "you feel (the Vaporfly) most when standing still or walking in them. They tip you forward slightly so it's like you are always just about to 'take off' at speed." In a *Times* article, David Bates reckoned: "The carbon plate is not visible, but as soon as you run, it is bouncy, unavoidably so. Each step was easier than usual. It felt phenomenal, like cheating — almost. It felt as if, until then, I had been trying to run in sandals."

In evaluating the landslide of marathon records, The Economist concluded: "Regardless of whether the IAAF takes an official stance on Nike's latest creation, the advantage offered by the shoes complicates the task of evaluating the otherworldly feats of the last 13 months."

From nzherald.co.nz

Nike's sustainability collection presents new ways to reduce your carbon footprint

Nike's push for sustainability in recent years has lead them down a path of fueled innovation, driving down their negative impact on the world gradually with new and mindful techniques. With past releases slowly implementing their diligent R&D, these forthcoming Summer pairs spell quite a bit more in their ecological efforts. The first of the three makes use of their most sustainable material yet, Flyleather, utilizing its recycled fiber with reckless abandon along the silhouettes of the Earth Day Pack. Though majorly white and clean, each comes ornamented by Steve Harrington's unique artwork with toony graphic motifs filling the uppers and insoles. In quite a different direction, the Plant Color collection opts for a pastel assortment of plant-based dyes with the the Air Max 95 and Blazer Lw standing as their canvas. What's more, the spare Flyknit threads left in excess due to standard productions are given another chance on the shelves as they come together to form a truly one-of-a-kind Vapormax. Launch dates for each range are spread across the entirety of the Summer 2019 season.

From sneakernews.com

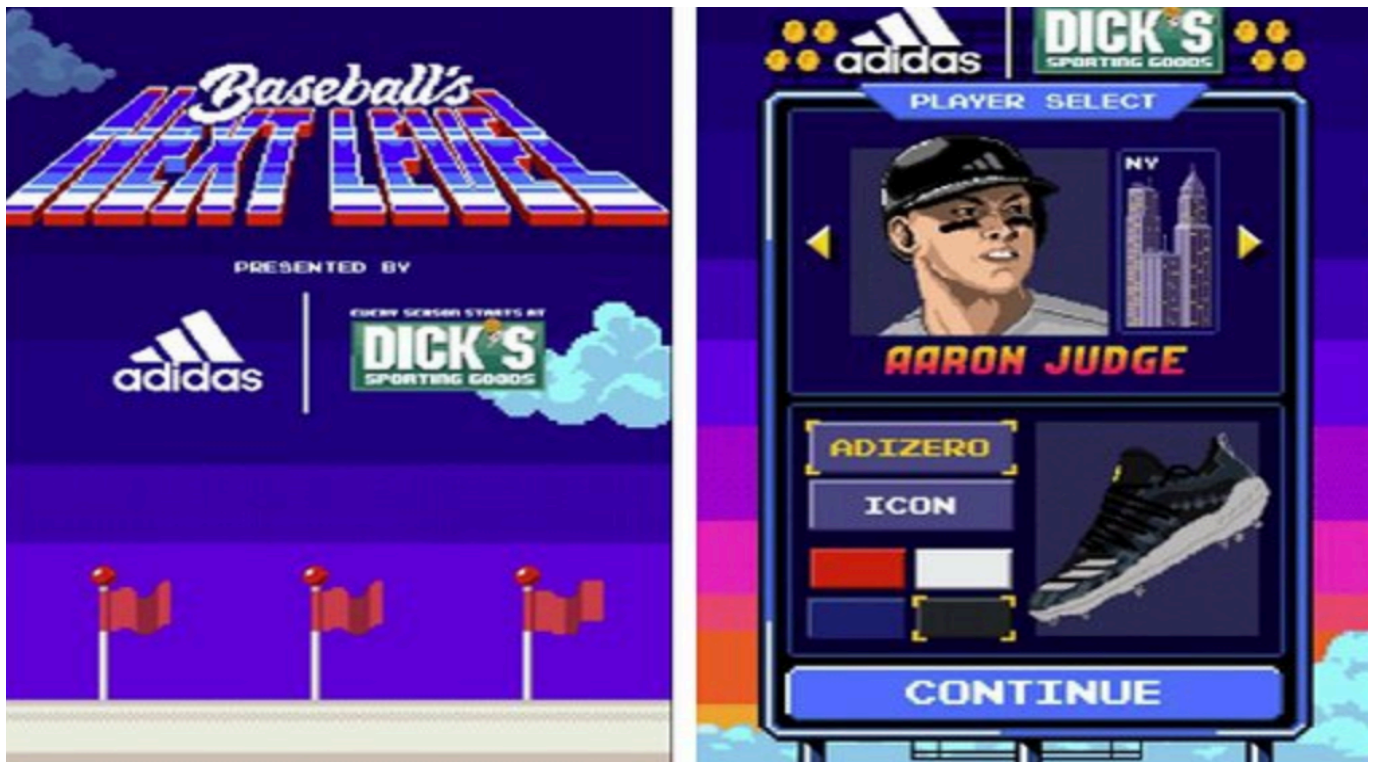
LVMH says products that last are the key

Luxury group LVMH has published a new environmental report, outlining details of its work to improve its environmental performance and detailing the progress it has made so far towards achieving targets it set itself for 2020. It has called these targets its Life Programme, with a focus on four areas, products, sourcing, its sites around the world and a reduction in greenhouse gas emissions.

In an introduction to the report, chief executive, Bernard Arnault, said: "The surest way to reduce our environmental footprint is to make our product lifetimes as long as possible. And for a product to last, it has to be exceptional. This is why our luxury goods houses have so much to contribute to the economy. If our products are standing the test of time, it's precisely because they are aligned with nature."

From *leatherbiz.com*

Adidas becomes first company to sell sneakers through snapchat video game



adidas has created the first-ever launch of a baseball cleat within a video game, and partnered with Snapchat to create a game for baseball and video game fans.

To unveil the special-edition, video game-inspired 8-BIT collection for the MLB Playoffs, adidas Baseball is debuting the cleats via MLB: The Show. To further bring 8-BIT cleats to life within the gaming world, Adidas Baseball launches the Snapchat game "BASEBALL'S NEXT LEVEL", produced with AvatarLabs and inspired by the new Adidas Baseball 8-BIT collection, featuring adizero and IconV cleats. The game features Adidas MLB icons: Aaron Judge, Carlos Carrera, Alex Bregman, Justin Turner and Kiké Hernandez, and invites players to pick their favorite 8-BIT cleat and MLB icon to participate in a home run-derby challenge.

Through the game, players will also be able to purchase the latest Adidas cleats, the first time such

capacity has been expanded to a game, and a significant step in Snap's e-Commerce efforts.

From *fdra.org*

What's new October 2019: papers added to the LASRA Library

The Effect of Incorporating Hydroxyapatite and Silica Nanoparticles in Polyethylene Surface Treatment of Natural Leather

by E. Jowshan and A. Ershad-Langroudi

Leather is a natural material which is used widely in different industries. It is prone to lose moisture due to environmental conditions. Consequently, leather becomes hard and fragile, which leads to poor durability. A novel mixed system of Poly (ethylene glycol), Hydroxyapatite, plus Silica nanoparticles enhanced the mechanical, thermal, optical, and aging properties of the natural leather properties. This system also enabled the retention of moisture in leather. Thanks to the reinforcing properties of hydroxyapatite/silica nanoparticles, and the lubricating effect of poly (ethylene glycol), these modifying agents enhanced the mechanical and thermal properties of leather and preserved the leather's natural color and gloss.

JALCA Oct 2019

Effect of an Amphoteric Chromium-free Polymer Retanning Agent with Reactive Aldehyde Groups on Collagen Fibers

by Xuechuan Wang, Dongyan Hao, Xiaoye Chai and Ji Li

A chromium-free amphoteric polymer retanning agent was prepared by free radical polymerization reaction of undecylenic aldehyde (UAL), acrylic acid (AA) and dimethyl diallyl ammonium chloride (DADMAC) as raw materials. The structure of amphoteric polymer retanning agent was characterized by FT-IR and ¹H-NMR. Amphoteric polymer retanning agent was applied to the retanning of vegetable-tanned light leather to investigate the binding ability of crust leather to anionic dyes, fat liquoring agent and physical-mechanical properties of the crust leather. The results showed that the synthesized amphoteric polymer retanning agent was successfully prepared. The application trial indicated that the amphoteric polymer retanning agent can improve the binding capacity between leather and anion dye and fat liquoring agent in the retanning process. The dye absorption rate of the crust leather was up to 99.58% and the dyeing liquor was clear. Furthermore, color of the crust leather was uniform and full and its K/S value and drywet rub fastness, thickening rate and physical-mechanical properties were higher than that of the retanned leather by acrylic resin retanning agent. In addition, the crust leather after retanning with amphoteric polymer retanning agent has good softness, and the absorption rate of fat liquoring agent was 99.62%. The above results showed that amphoteric polymer retanning agent possessed the good retanning property in vegetable tanned sheep garment leather.

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Determination of Free Formaldehyde in Leather Chemicals

by Yudan Yi, Wei Ding, Ya-nan Wang and Bi Shi

Formaldehyde is widely used in the synthesis of various leather chemicals due to its high reactivity and low cost. It is probably introduced into leather when applying the chemicals to processing, and then released during storage and use of leather, which may pose a potential risk to human health. Existing method for determining formaldehyde in leather is helpless to deal with the complicated chemicals. In this study, a method was optimized for determination of free formaldehyde in leather chemicals based on ISO 27587. A 0.5-2.0 g sample of leather chemical (formaldehyde could range from 1.25 to 1250 mg/kg) was heated at 90°C in nitrogen atmosphere. The released formaldehyde was purged at a flow rate of 300 mL/min for 30 min, captured and derivatized using a bubble absorption tube containing 2,4-dinitrophenylhydrazine absorption solution, and then detected by HPLC-diode array detector. The recovery rate of formaldehyde standard solution was 91.0% with relative standard deviation (RSD) of 4.87% in seven times repeated trials. The repeated determinations of aldehyde tanning agents showed the formaldehyde recoveries higher than 90% and RSD lower than 7%, indicating the accuracy and precision of the method. Powdery amino resins were determined to contain a tiny amount of free formaldehyde using this method. However, it should be noted that hydrolyzed formaldehyde will be formed when the amino resins were dissolved in water and used in retanning, leading to the potential for bringing leather with high content of formaldehyde.

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Effect of Ionic Liquids Pretreatment on the Extraction of Collagen from Calf Skin

by Sicong Liu, Wentao Liu and Guoying Li

The use of ionic liquids (ILs) for collagen extraction should be premised of not destroying the triple helix structure of collagen. Herein, the effects of pretreatments by two imidazolium based ILs with different anions, 1-ethyl-methylimidazolium dicyanamide ([EMIM][N(CN)₂]) and 1-ethyl-methylimidazolium tetrafluoroborate ([EMIM][BF₄]), on the extraction of collagen from calf skins were studied. The dependences of ILs pretreatments on ILs species and concentrations (30%, 50%, and 70% (w/w)) were examined, in terms of the fiber morphology of skins as well as the extraction rate, structural integrity, thermal stability, and aggregation behaviors of collagens. The results of histological analysis and scanning electron microscopy showed that the skin fibers were effectively loosened by the IL s pretreatments. The extraction rate of collagen was improved as the increase of ILs concentration and polarity with the highest value of 28.79%. Moreover, sodium dodecyl sulphatepolyacrylamide gel electrophoresis and Fourier transform infrared spectroscopy confirmed that the structural integrity of collagen was maintained after ILs pretreatments, although the thermal stability of collagen was determined to be slightly decreased by ultra-sensitive differential scanning calorimeter. Finally, pyrene fluorescence analysis and atomic force microscope indicated that the aggregation behavior of collagen was weakened when increasing the ILs concentration and polarity. The green ILs pretreatment of calf skins might be used as an effective approach for the extraction of bioactive collagen with improved yield and purity.

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Life cycle assessment of leather shoe manufacturing process based on Simapro

by Fan Shan; Ding Shaolan; Li Rui

The Eco-indicator 99 ecological index was used to do the life cycle assessment of the manufacturing process of cotton-padded shoes [leather winter shoes with cotton or fur padding] and the 'nude' shoes [ladies court shoe styles often with a pigskin lining]. The study was based on the total life cycle assessment (LCA) and the SimaPro software. The results showed that the basic skill stages of nude/court shoes and the vamp process of the same shoes had the greatest impact on the environment. The effect was 45.66 % and 52.05 %, respectively. The weighted and single value results for nude/court leather shoes and cotton-padded/winter shoes were concentrated on the effect on human health, reaching 78.62% and 79.01%, respectively. In addition, the cotton-padded/winter shoes had the largest contribution.

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Preparation and properties of matting waterborne polyurethane with polybutadiene

by Ma Xingyuan; Zhang Mingrui; Qiu Xiaohan; Liu Shuai

A matting waterborne polyurethane (MWPU) emulsion was prepared using polybutadiene diol (HTPB), polybutylene adipate diol (PBA) and isophorone diisocyanate (IPDI) as the main raw materials, dimethylolpropionic acid (DMPA) as a hydrophilic chain extender and ethylene diamine as a post chain extender, this was applied to the surface treatment of the leather. The surface microstructure of the MWPU film was studied by SEM. The results showed that when the content of HTPB increased, the particle size of MWPU emulsion increased, the stability decreased, the mechanical properties and surface roughness of MWPU film increased, the elongation at break, water absorption and light transmittance decreased. Combined with the matting effect, the gloss of the MWPU film was as low as 23GU, and the surface particles of the film were more obvious. The folding fastness was free from cracking, and the abrasion resistance could reach 154 circles [rubs], which meets the testing standard of leather.

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A study of photocatalytic degradation of dyeing and printing wastewater by ZnO@zeolitic imidazolate framework (ZIF)-8

by Mu Hongjun; Ding Shaolan; Deng Lang

As a semiconducting material with outstanding properties, ZnO has been playing a key role in the chemical industry, light industry, ceramics, electronics, national defence, healthcare and other hightech industries. In recent years, great efforts have been made in studies of ZnO as photocatalyst in the treatment of organic wastewater by virtue of its high reaction rate, excellent applicability and environmentally friendly products. The metal-organic frameworks (MOFs) exhibit large specific surface area and good stability, and calcination of zeolitic imidazolate framework (ZIF)-8 in atmosphere leads to generation of ZnO@MOF. With relatively large specific surface areas, ZnO nanoparticles can generate a large quantity of hydroxyl free radicals under visible light and these radicals can nonselectively oxidise most organics (strong organic-oxidising capability). ZIF-8 was synthesised using the hydrothermal method and calcinated at different temperatures to obtain ZnO nanoparticles of different sizes. Then, the photocatalytic performances of these ZnO nanoparticles were tested by degradation of methylene blue

(MB) under visible light. Additionally, the ZnO samples were applied in photocatalytic degradation of dyeing and printing wastewater produced by leather retanning. The chemical oxygen demand (COD) removal rate and the total organic carbon (TOC) mineralisation rate exceeded 70% and 35%, respectively. Tannery wastewater refers to the industrial wastewater discharged by tannery yards. It contains

considerable organics and non-degradable dyes, which increase the oxygen consumption of water. Indeed, organics and non-degradable dyes are severe environmental hazards as their treatments (to meet the emission standards) are extremely challenging. Current treatment methods include physicochemical treatment, biochemical treatment and combined method. However, these methods have their respective limitations in treatment of organic pollutants. Recently, studies of semiconductors as photocatalysts for degradation of various pollutants have attracted great attention both in China and globally.

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Inhibitory mechanism of hexavalent chromium formation in chrome-tanned leather with combined inhibitors

by Ogata, Koki; Hattori, Shunji; Takahashi, Koji

The perfect inhibition of Cr⁶⁺ formation in Cr-tanned leather has been reported using combined inhibitors consisting 3(2)-t-butyl-4-hydroxyanisole (BHA), ascorbic acid (AsA), and collagen peptide (CP-9). In this study, the inhibitory mechanism of the combined inhibitors was investigated with respect to: (i) Inhibiting the conversion of Cr³⁺ to Cr⁶⁺ by scavenging lipid radicals and peroxy radicals in free lipid of Cr-tanned leather; (ii) strengthening the reductivity within Cr-tanned leather; and (iii) stabilising Cr³⁺ complexes by coordination with CP-9. Electron spin resonance (ESR) of free lipid extracted from the Cr-tanned leather treated with combined inhibitors showed that free radicals considerably reduced with BHA and AsA. AsA markedly depressed peroxide value (POV), indicating strong effectiveness of the reducing action of AsA. The CP-9-added extract with 0.1 mol/L potassium phosphate buffer (pH 5.5) of the Cr-tanned leather before changing from pH 5.5 to 8.0 showed that the conversion of Cr³⁺ to Cr⁶⁺ showed concentration-dependent inhibition, suggesting stabilisation through CP-9 coordination. Therefore, perfect inhibition of Cr⁶⁺ formation in Cr-tanned leather using combined inhibitors was concluded to be caused by the multiple inhibitory actions of BHA, AsA, and CP-9, such as radical scavenging, radical scavenger regeneration, reducing action, and Cr³⁺ stabilisation.

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Formaldehyde release from Chekiang lambskin, characteristic parameter determination and influencing factors

by Hao Dongyan; Wang Xuechuan; Lu Weina Li Ji

VOC emissions may cause poor indoor (vehicle cabins included) air quality (IAQ). Recent studies have been conducted on the characteristics of volatile organic compounds (VOCs) emissions, most of them are focused on wood-based building materials, fur or fur imitations are scarcely mentioned. However, formaldehyde or formaldehyde-containing chemicals are often used in the production of fur, resulting in a certain amount of formaldehyde remaining in the finished product. This paper takes formaldehyde (FA) as an example to study its diffusion in fur. In order to understand and control the behaviour of the formaldehyde emission characteristics. Based on detailed mass transfer analysis of the emission

process in a ventilated chamber, this paper measured the three emission characteristic parameters, i.e., the initial emittable concentration (C0), the diffusion coefficient (Dm) and the partition coefficient (K). The influence of different factors on the release parameters was also studied, as well as the time required for the emission of formaldehyde under different ventilation rates; we also compared the formaldehyde results of different test methods. The results showed that both Dm and C0 increased as temperature rose, but C0 increase is significant. With the increase of relative humidity, Dm decreased but C0 increased. In addition, the prediction model agrees well with the experimental data. The greater the ventilation rate, the faster the improvement of air quality standards in the cabin; The initial concentration was less than 43% of the formaldehyde content obtained through the extraction method and less than 4.6% of the formaldehyde content obtained by the distillation method.

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Tanning properties of 4-((4,6-Dichloro-1,3,5-Triazin-2-yl) amino) benzene sulfonic acid

by Zou Xianglong; Fang Qi; Chai Yuye; Li Zhongyu ; Ren Bianl

In this work, a triazine tanning agent of 4-((4,6-dichloro-1,3,5-triazin-2-yl)amino) benzenesulfonic acid (SAT) was prepared with cyanuric chloride and sodium p-aminobenzene sulfonate, its structure was confirmed by FTIR spectroscopy, and its tanning property was investigated. The results indicate that SAT can raise the Ts of tanned skin to around 75°C at the optimised dosage of 3%. The stability of tanned leather was tested by washing with aqueous solution of 10w% urea, 10w% NaCl and 1:1 acetone. The results of washing show that the tanned leather of SAT has excellent stability and there are stable covalent bond interactions between SAT and collagen fibres. Based on the results of washing and the structure characteristics of SAT, a tanning mechanism of SAT was given in which the second Cl and the third Cl on the triazine ring can both react with collagen fibres under mild tanning conditions of 35°C to 45°C.

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Preparation of formaldehyde-free melamine resins using furfural as condensing agent and investigation of their retanning performance

by Ashraf, Muhammad Naveed; Khan, Shazad Maqsood; Munir, Shahid; Saleem, Rashid

Sulfonated amino resins are an important class of polymers which are used as retanning agents in the leather industry. There is challenge for such resins to be synthesised without formaldehyde to satisfy the strict regulation in leather goods. In this work, formaldehyde-free melamine based retanning agents have been synthesised by acid catalysed process using furfural as condensing agent and sodium metabisulfite as the sulfonating agent. Sulfonated melamine furfural (SMFr) resins were synthesised using different molar ratio of melamine, sodium metabisulfite and furfural. Stable and water-soluble resins were produced without etherification. The sodium metabisulfite to melamine ratio (SMB/M) was changed from 0.5-2.0 and furfural to melamine mole ratio (Fr/M) was varied from 2-6. The viscosity behaviour of the produced resins was evaluated with the increasing trend of sulfonation and increasing mole ratio of furfural to melamine. Functional group analysis and conversion of reactants into product was elucidated by FTIR. Synthesised formaldehyde-free resins (SMFr) were comparatively evaluated as retanning agents on goatskin wet-blue against a commercially available sulfonated melamine formaldehyde (SMF) resin. The retanning

performance of synthesised resins was studied and found better than that of the commercial SMF resin.

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Fashion Spotlight - The trend for leather suits and dresses



For autumn/ winter 2019-2020 fashion trends, many designers are draping leather as fabric, crafting dresses, jumpsuits, and even suits out of the material in a totally new way. Continuing the theme of lots and lots of leather in the fall 2019 fashion trends are leather suits. There were both skirt suits and pantsuits made of leather on the runways this season.

