



BERRY WELL DONE

B.C. blueberry grower and packer uses WeighPack Systems equipment to automate lines to berry good efficiency

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If it seems as though the province of British Columbia is blessed with a plethora natural resources, rest assured you are not imagining things.

Among its forestry and fishing capabilities, the province is also Canada's leader in the production of cultivated blueberries.

According to a 2016 report from Agriculture and Agri-Food Canada, the Great White North is the world's second-largest producer and third-largest exporter of cultivated (highbush) blueberries, and the leader in the production of wild (lowbush) blueberries.

In Canada, blueberries are commercially grown in both wild and cultivated formats, with British Columbia producing about 96 percent of the country's cultivated blueberries.

A recent push in Canadian consumers looking for healthier foods—blueberries may reduce the risk of cardiovascular disease, diabetes, neurological decline—has propelled the production of cultivated blueberries from 53,000 metric tons in 2013 to 72,500 metric tons in 2015.

Some 57-million pounds of cultivated blueberries were exported from Canada, with British Columbia exporting 55-million pounds all by itself, with fresh products largely going to the U.S., Chile and Japan, while frozen berries went to the U.S., Japan and Australia.

For Richmond, B.C.-based **Wingreen International Trading (Canada) Ltd.**—a company with only 12 full-time employees—the production and processing of blueberries was initiated by a love-at-first-taste meeting.

Although only incorporated in 2015, Wingreen's story begins a year or so earlier with the chance encounter of founder Belina Zhao attending a B&B (bed and breakfast) that offered personal warmth from the Gill family who ran the establishment, and a generous offering of succulent local area fresh fruit.

According to Zhao, the Gill family stated that, "you haven't tasted the true flavors of blueberries until you've tried one from B.C."

That first taste carried Zhao forward to become part of the local community and a grower of B.C. blueberries.

Blueberries, a member of the Ericaceae family, have been part of the human diet for thousands of years, and pack numerous health benefits.

Containing lots of the blue pigment anthocyanins, studies show that regular consumption of it helps reduce the risk of cardiovascular disease, diabetes, neurological decline and possibly aid in weight management.

Wingreen's business covers the whole range of blueberry: fresh; dried, and; frozen. "Wingreen is one of the first growers/exporters to get fresh blueberries into several Asian markets, including China," Wingreen product manager Xiafan Li told *Canadian Packaging* during a recent interview.

That said, the majority of Wingreen's business output revolves around dried blueberries during the off-season, with over 90 percent of its sales derived from dried fruits, including cranberries, sold outside of Canada.

The company is currently only a Provincial business, but Li says the company is working on getting its Federal facility license soon.

Li says Wingreen's production skews towards approximately 60 percent dried fruit, 30 percent fresh, with the remaining 10 percent frozen.



Wingreen International Trading (Canada) Ltd. product manager Xiafan Li holds up packs of Dried Cranberries and Dried Blueberries, two of the company's highly-popular products.



Purchased via Paxiom Group, the Swifty Bagger Jr. manufactured by WeighPack Systems is run by Wingreen at speeds up to 12 packs per minute, and not only helps the company provide packaging savings, but also forms packs that are eye-catching at the retail level.



In early-2017, Wingreen purchased a VerTek 800 from WeighPack Systems to form-fill-seal smaller packs of dried berry products at speeds up to 16 units per minute.

“Of that dried line production, 60 percent is for cranberries, with the remaining 40 percent for blueberries,” mentions Li.

“While the majority of the blueberries we sell come from local area farms here in British Columbia, our cranberries are shipped from farms mostly in Quebec, and when necessary, the United States.”

During the harvest time, when blueberries are available as fresh, Li says it grows and ships its berries to a local packer.

“Some of those fresh berries are sold under our Wingreen brand label—mostly for export,” notes Li, “while the remainder is sold under third-party labels.

“During the off-season, we pack and sell dried fruits under own label, but will provide private label opportunities for our customers interested in marketing dried fruits,” says Li, adding that peak blueberry season in B.C. is between June–September, during which Wingreen will contract more workers and extend its daily hours by an additional three to six hours to ensure it is able to keep up with demand.

Li says that while Wingreen would prefer to control the source of its own blueberry crop—planting two varieties on its own 15 acres (650,000 square feet) of farm—the sheer volume of demand for blueberries means it has to supplement its berries from outside farms.

“In order to provide blueberries across the whole season and beat the market price, we will pick up blueberries from other growers, packers and suppliers,” relates Li.

Under the Wingreen label, the company offers *Dried Cranberries*, *Dried Whole Blueberries*, *Frozen Whole Blueberries* in 128-gram resealable stand-up pouches, and 40-gram pillow bags of *Dried Whole Blueberries* and *Dried Cranberries*. There’s also a 125-gram clamshell pack of fresh *Wingreen Blueberries*.

Wingreen also has five different low-fat breakfast cereals under its banner in 450-gram paperboard boxes: muesli-based *5 Grains*, *Nuts & Berries*, and *25% Fruits & Nuts*; and granola-based *Honey & Almond*, and *Raisin & Almond*.

“Wingreen did not enter the cereal category simply as a means to use more of our fruit, rather we saw it as an opportunity to explore the concept of granola and mueslis as cereal bases—a relatively new idea that we felt we could gear towards our targeted markets,” notes Li.

“Starting in and around 2016, we found ourselves a manufacturer in Ontario whose granola product tasted fantastic and who followed strict QC (quality control) processes, and had them perform private-label cereal manufacturing on our behalf,” he continues.

Li told *Canadian Packaging* of a new product—*Dried Blueberries For Kids*—that is still in the developmental stage, but conceptually will be available in 20-gram flexpacks



A close-up of the magazine holder on the WeighPack Systems’ Swifty Bagger Jr. bagging system gently pulling a stand-up resealable plastic pouch to the filling and sealing area of the machine at the 3,000-square-foot Wingreen berry packing facility.

as a snack-on-the-go product in the near future.

According to Li, the farm is **CanadaGap**-certified, while the dried fruit packing facility is currently in the process of being audited by **SGS Canada** (a global leader in inspection, verification, testing and certification) for *HACCP* (*Hazard Analysis and Critical Control Points*) certification.

Within Wingreen’s premises, it houses a 3,000-square-foot dried blueberry packaging facility with three packing lines, one each of: fully-automated; semi-automated; and manual.

“The fully-automated line runs regular bags and pouches; the semi-automated line works with small bags or smaller-run production for customers requiring a more cost-effective solution; while the hand-packed line was designed for special order or large bulk products,” Li extols.

“We understand that every customer has their unique needs,” he continues, “so we try our best to provide more options to satisfy their package and packing requirements.”

After receiving frozen fruits—cranberries and blueberries—from local packers, cane sugar is infused into the fruit until a specific brix level (a mineral/sugar ratio) is achieved.

A gentle drying technique is then used to dry the fruits before they are lightly sprayed with sunflower oil to give them a shine.

The fruits are then re-packed, run through a metal detection system and manually inspected before being hand palletized and shipped.

Helping the company with its packing are a trio of high-tech machines manufactured by **WeighPack Systems** and sold by **Paxiom Group**. Paxiom Group is the sales division for leading packaging machinery manufacturers WeighPack Systems, **Eagle Packaging Machinery**, **CombiScale**, and **SleekWrapper**.

The berries are dropped down through a **PrimoLinear V-5** linear net-weigher, a modular designed piece of equipment that comes with a single-lane scale, but as a business grows and higher packaging speeds are required, additional lanes can be added, up to a total of four lanes.

The *PrimoLinear V-5* comes with a tilting hopper that doesn’t require time-consuming changeovers when running multiple applications. Its tool-less removable contact parts and standardized components also help reduce maintenance costs.

The *V5*’s vibrator assembly is spring-mounted, allowing the vibration to produce a faster and more accurate product flow.

The weigher utilizes the **360 Operating Software**, a key component of WeighPack System’s offerings, providing up-to-the-minute reporting on production line efficiency, and offering complete remote operation if needed.

The software is easily configurable to send data and interface with ERP/ MRP, and is seamless in its use with any **Microsoft** software, like **Outlook**, **Excel**, **Word** and **Explorer**.

The *360* system also possesses reporting tools that include: event logging and archiving of production results, uptime and downtime, yield analysis, and unit cost.

And, should Wingreen need it, there’s also free on-line support that allows the operator and technicians to provide real-time support while eliminating production delay and its associated negative costs.

Wingreen also purchased a **Swifty Bagger Jr.** and a **VerTek 800**—two bagging systems designed and manufactured by WeighPack Systems, each of which offer Wingreen completely different styles of bagging quality and efficiency.

WeighPack calls its *Swifty Bagger Jr.* a compact and affordable bagging solution, automatically opening up to receive dropped down product to fill, and then seal pre-made laminated pouches in a multitude of styles, such as pillow, doy and quad bags.

Standard features on the *Swifty* include an automatic bag feeding magazine, a robust stainless steel frame, and an easy-to-use **Omron** PLC (programmable logic controller) and touchscreen operation.



Within the VerTek 800 bagging system from WeighPack Systems, a Markem-Imaje SmartDate X40 thermal transfer printer adds lot-code and best-before data to flexible bags of Dried Cranberries on one of two production lines at Wingreen.

“We use both the Swifty Jr. and the VerTek 800 for dried fruits packaging,” relates Li, adding that “the Swifty Bagger Jr. is used for bagging products in regular sized pouches, while the VerTek 800 is used for smaller bags.”

The *Swifty Bagger Jr.* was purchased by Wingreen in late 2016, and is operated at a speed of 10 to 12 packs per minute depending on actual product packaging requirements.

“Before we automated our facility with the addition of the WeighPack machines, we wanted something that could help us reduce labor costs which in turn could provide savings we could pass on to our customers, making us more attractive at store level,” explains Li.

“We like the compact footprint of the Swifty Bagger Jr.,” continues Li. “Along with it being very easy to set up for new packaging types, our operators find it simple to use, and just as importantly, easy for us to clean and easy to service when the WeighPack technicians come in.”

Li says that when it comes to cleaning the machine—very important when dealing with the fruits—employees simply open up the clear lexan doors in the front, and are provided with complete access to all of the bag-filling components, allowing them to do an effective single-person clean-up within minutes.

Features of the *Swifty Jr. Bagger* include:

- an Omron PLC;
- an Omron PID temperature controller;
- color touchscreen for fast and easy operation;
- quick bag-loading station with vacuum mechanism, and;
- a “no bag-no fill” sensor to help avoid product waste.

The *Swifty* can easily handle bag widths of 130mm to 280mm, and bag lengths of 130mm to 380mm, and can fill bags with a zipper closure, though they must be pre-opened by the bag supplier.

In Early 2017, Wingreen also purchased a *VerTek 800* vertical form-fill-seal bagger.

“After the success we had with the Swifty Jr. Bagger, we had no qualms in going back to Paxiom to purchase our second WeighPack Systems bagging machine,” exclaims Li.

“While we did have the initial growing pains with the Swifty Bagger Jr. after it was installed due to our then-unfamiliarity with the technology, what impressed us was WeighPack’s response, having their technician come in quickly to take care of us. We felt like we mattered to them,” Li notes. “Their customer service was critical in our determination to purchase the second WeighPack system.”

He says that Wingreen typically runs the *VerTek 800* at speeds of 12 to 16 packs per minute depending on bag size, and likes that it is able to produce multiple pouch types, such as stick packs, pillows, and gusseted pouches.

The machine is made of a very robust, single-piece 304 stainless steel frame, with a design that places all of the machine’s parts at the front, providing workers with excellent production line visibility and accessibility for maintenance.

According to WeighPack, the *VerTek 800* (and up-market *VerTek 1200*) come with easy-to-remove pull belts and jaw assembly for machine maintenance, along with a tool-less removable former.

The bagger can also form-fill and seal multiple substrates such as laminated, metalized or polyethylene materials, and like the *Swifty Bagger*, the *VerTek 800* also possesses a compact design.

According to WeighPack, when it comes to the actual bag forming, the *VerTek*’s pneumatic film roll shaft holds the film core concentric to the shaft as a means to reduce vibration which helps prevent the film from wrinkling at high speeds.

Additional features include:

- an Omron PLC;
- a 10.4-inch color touchscreen;
- quick disconnect sealing jaws and heating elements;



Wingreen utilizes a Markem-Imaje 9410 small-character for application of best-before dates onto the packs of dried blueberry and dried cranberry products.

- SMC pneumatics;
- HMI integrated temperature control
- side access panel for maintenance;
- an integrated encoder for bag length control;
- bag deflator—sponge, and;
- memory-based storage menu of operating functions.

Says Li: “Thanks to the WeighPack machinery, our company’s productivity levels have gone through the roof.

“They have helped make us a more competitive company.”

Other equipment utilized by Wingreen includes a **Markem-Imaje 9410** small-character inkjet coder to apply best-before dates on the *Swifty Bagger Jr.*, and a **Smart-Date X40** thermal transfer coding solution in the *VerTek 800*. Its supplier of corrugated cartoning is **Ideon Packaging** of Richmond, B.C., with bags supplied by Vancouver’s **Taipak Enterprises Ltd.**

“Purchasing the WeighPack System machines from Paxiom has been a great help to Wingreen,” says Li. “The automation we have achieved has certainly aided us with cost savings, but both the Swifty and the VerTek have helped us provide private label packing of dried fruits, something we could not have previously accomplished with such efficiency.”

Continues Li: “We also love the service responsibility from WeighPack. Their technicians and service people have been very responsive to our questions, or in help us improving our productivity—we always get a response from them the first time we ask.

“While it is true that our customers love the delicate flavor of fruits from our farm, it is equally true that they love the look and feel of our product packaging.

“And that’s something we have achieved thanks to the efforts of WeighPack Systems.”

SUPPLIERS

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Paxiom Group

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