FIRST ISSUE 2014

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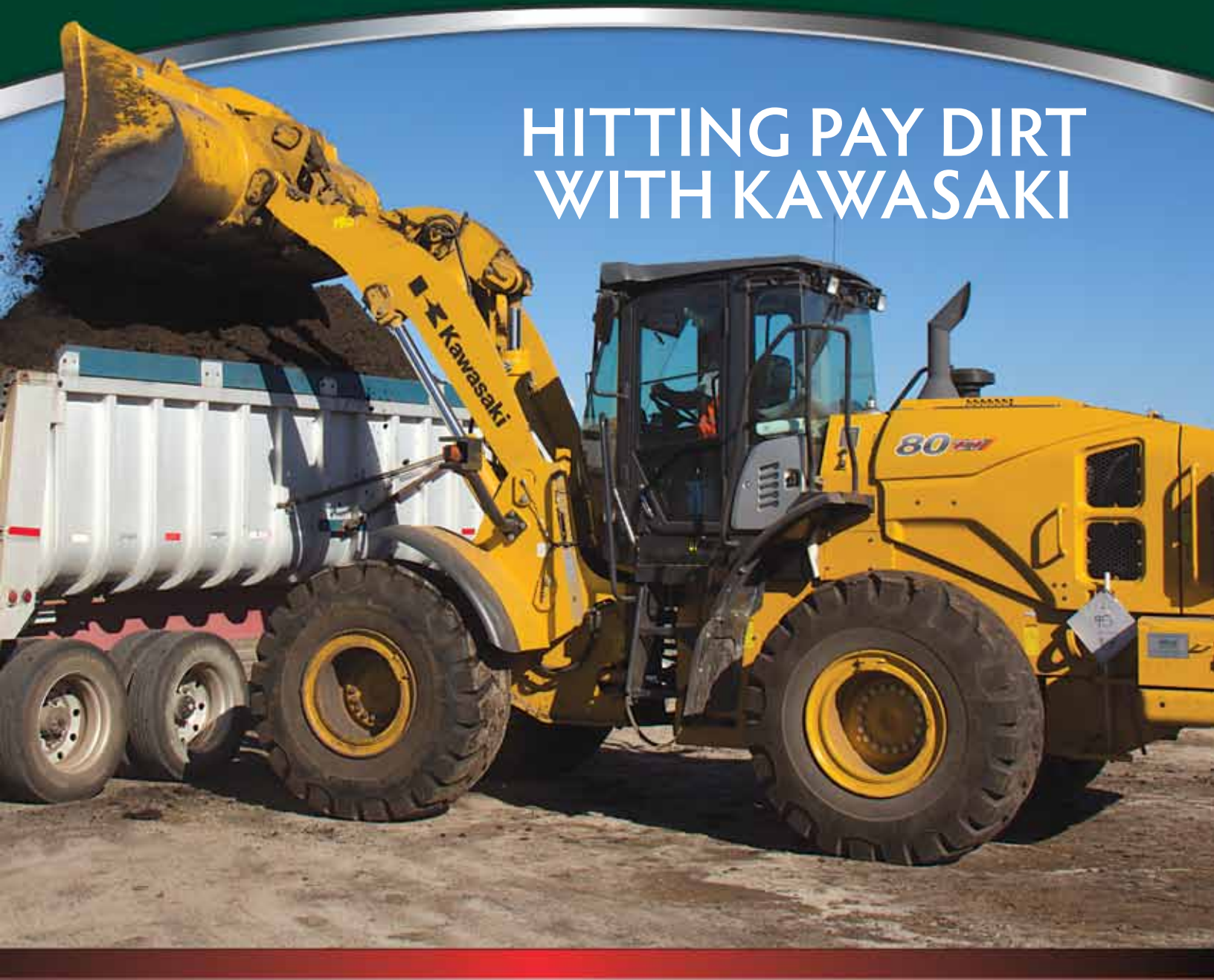
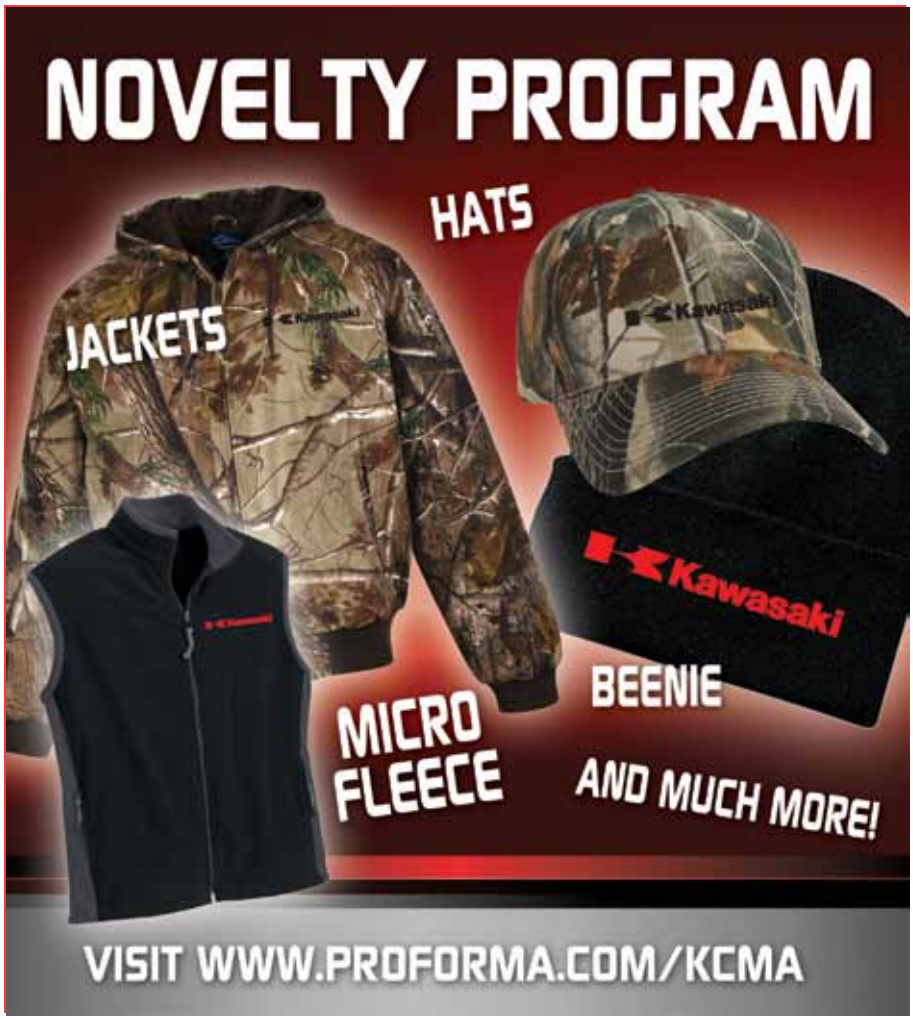


HITTING PAY DIRT WITH KAWASAKI

- 10 TIRE TIPS TO AVOID COSTLY DOWNTIME
- KCMA AT ISRI 2014
- BLACK GOLD COMPOST

Kawasaki



42ZV-2

- Wrap-around counterweight lowers the center of gravity increasing stability
- Universal Quick Coupler allows a wide range of attachments
- Interchangeable with skid steer attachments
- Limited Slip Differentials provide additional traction for applications requiring extreme traction control
- Bucket Leveler
- Reliable Kubota Engines, supported locally
- Third spool hydraulics, standard
- High Ground Speed, standard

45ZV-2

- Wrap-around counterweight lowers the center of gravity increasing stability
- Eco Mode provides a fuel efficient setting resulting in better fuel economy without affecting productivity
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- Bucket Leveler
- Reliable Kubota Engines, supported locally
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- Cab access on both sides of machine
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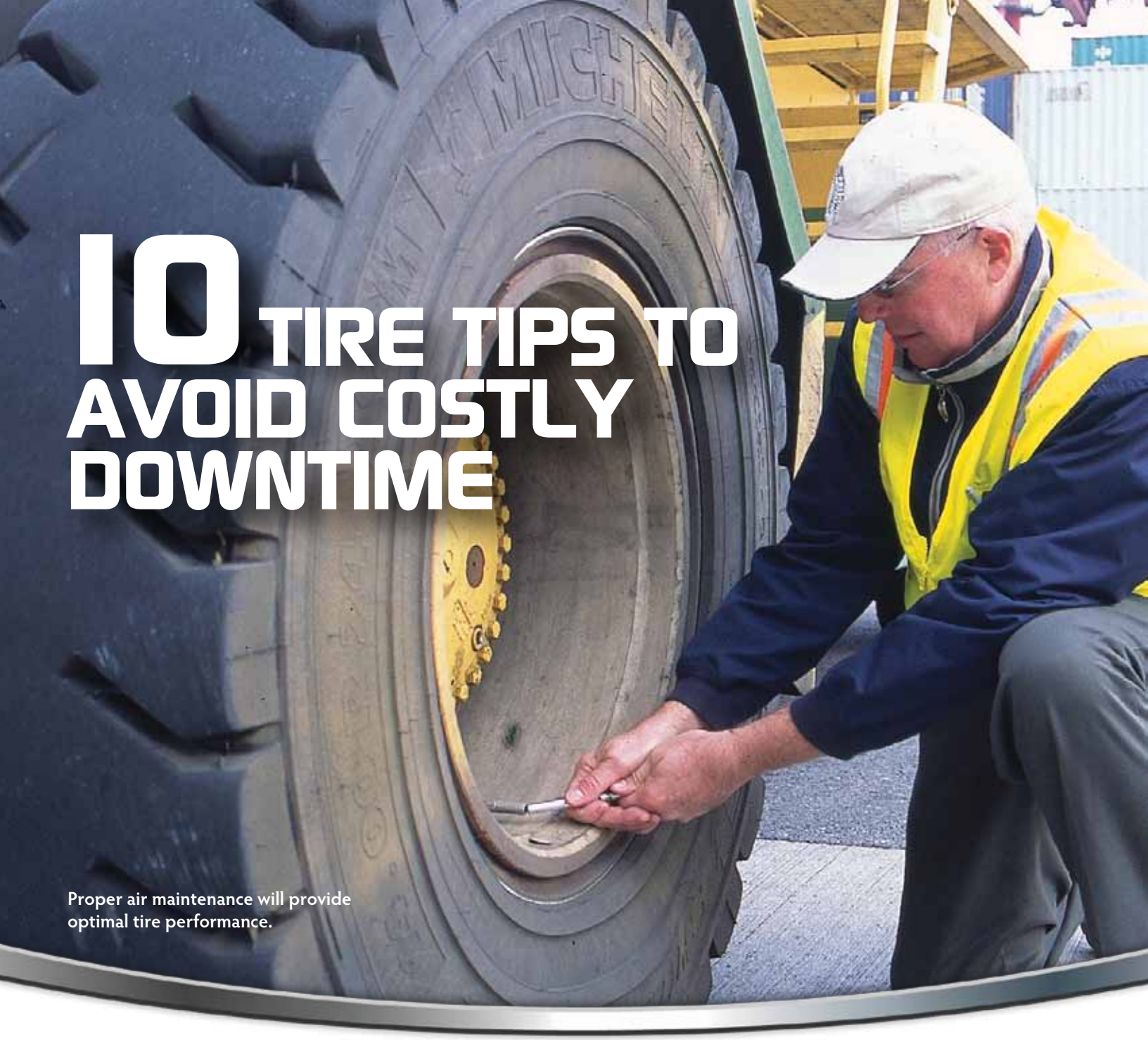
10 TIRE TIPS TO AVOID COSTLY DOWNTIME



Proper air maintenance will provide optimal tire performance.

Downtime can cost significant money. While there are some instances of downtime that are unavoidable, there are measures you can take with your equipment that can help avoid those associated costs.

In relation to a site's tires, proper tire maintenance, even at its most basic level, will have a dramatic effect on avoiding downtime. Basic tire maintenance and monitoring is easy, and there is no time like the present to start following important maintenance tips to ensure that tires operate at peak levels throughout any season.

The following are 10 areas for immediate improvement regarding tire performance. While an in-depth tire management and maintenance program will reap significant benefits, just paying attention to these basic areas will help provide more productive, longer-lasting tires, and avoid that costly downtime.

#1 — AIR PRESSURE MAINTENANCE

Just as humans need air to live, tires depend on air to live too. They need the right amount of air pressure to function at their optimal performance. A radial earthmover tire that is either over- or under-inflated is vulnerable to potential downtime. If no other tip is remembered, this is the one to note and to take steps to implement as quickly as possible.

All tires should be kept at the pressure specified by the tire and vehicle manufacturers. The correct tire pressure for a radial tire will vary widely depending on the machine type, manufacturer model type and weight. It is always a good idea to consult the tire manufacturer to ensure that each

axle is properly weighed and the correct pressure is set. The manufacturer can also answer questions and provide additional tire advice based on the site's specific terrain and layout.

Any vehicle with properly inflated radial tires carries its load in a noticeably different way. Radial tire technology separates the work done by the sidewall and tread areas, allowing the tire to conform to the terrain by running at lower air pressures than bias tires. This lower air pressure yields a more even footprint and higher levels of traction for radial tires. The constant footprint ensures that the lugs strike the contact patch simultaneously, reducing vehicle vibration. However, if the tire is over-inflated, many of these radial advantages and increased productivity benefits are lost.

As for the frequency of checking tire pressure, this should be done on a daily basis or at least weekly. Regular pressure checks will reduce the risk of running the tires without the proper air pressure, which can lead to decreased tire life. Tire pressures should be measured and managed by trained maintenance staff.

Pressure check results should always be recorded for later comparative analysis. This is the only way to determine if, and which, tires are slowly leaking air. Once a leaking tire is identified, it can then be examined and the problem addressed.

Michelin recommends using new O-rings and checking all wheel components when mounting a new tire to ensure a proper seal and reduce the risk of pressure loss. It is also important to review and inspect the condition of the wheels on a regular basis to detect any damage that may have occurred during operation that could lead to a loss in pressure.

#2 — DRIVER AWARENESS

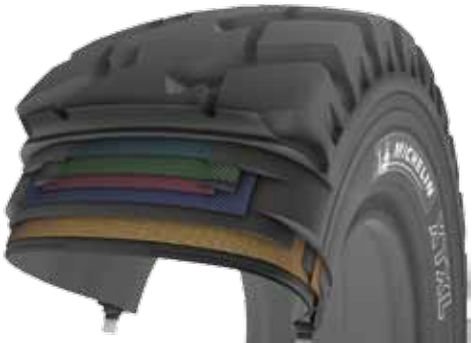
Because the operators are on-site all the time, they see problems that need to be fixed, whether it's in their pre-trip inspection or while operating the equipment. Managers and supervisors can draw their operators into the equation by asking for input and cultivating a team approach to tire and vehicle maintenance. Operators should be kept in-the-loop on situations with their equipment or tires, so they are aware when they conduct inspections or operate the equipment.

It is crucial that operators report any spillage, whether from their vehicles or other vehicles. Increasing the operator's awareness of their part in taking care of the equipment and tires and avoiding hazards around the site will increase the team mentality and help avoid downtime.

#3 — TIRE & RIM INSPECTION

All vehicle operators should do a thorough walk-around inspection of their vehicle before beginning operation. They should look for cuts, holes, cracks, or any other damage to tires or wheels. The constant inspection of a rim and tire helps to minimize and detect any issues in a timely manner and ensure they are dealt with before becoming major maintenance issues or going beyond the point of serviceability.

Radial construction separates the work of the crown from that of the sidewalls.



During tire and wheel checks, Michelin also recommends examining all rim hardware for any signs of cracks or flange damage. It is also important to check the valve hardware for signs of damage or wear.

#4 — HAUL-ROAD MAINTENANCE

Maintaining the site's haul roads can help prevent tire punctures and other damages. When designed and maintained properly, haul roads can reduce negative impacts on tire life. Site planners and haul road maintenance personnel should pay special attention to road surface conditions, super elevations, curve radii, and speed in curves.

Haul road design should be considered in concert with the tread compound of the tires being used. Certain compounds are better suited to short hauls as opposed to longer hauls. If used in the wrong application, tires can be damaged beyond serviceability.

Hauling on steep grades will cause the load to shift toward the front or rear of the vehicle. If hauling downhill while laden, pay special attention to the pressures of the front tires and set them according to the operating conditions. This compensation

should be done only after consulting with the tire manufacturer representative to ensure proper tire pressure settings. It is best to avoid grades higher than 8 percent to reduce these load transfer effects. When designing haul roads, it is also important to use the appropriate curve radii in turns, so they are not too tight. Build a crown into the roads at approximately 3 percent to help with water run-off. Standing water or puddles on the haul roads can hide rocks and other debris that could damage the tires.

#5 — MECHANICAL VEHICLE MAINTENANCE

When it comes to tire life optimization and avoiding downtime, maintaining the vehicle is critically important. Brakes, struts, rock knockers, and alignment all need attention to function properly and not have an adverse effect on a vehicle's tires. Ensuring the vehicle is correctly aligned helps to prevent uneven wear on the steer axle tires.

Matching the diameter of earthmover tires on various wheel positions is essential in order to maximize tire life as well as minimize abnormal wear on drive shaft, differential, and final drive mechanical components. Mechanical drives will rotate at constant revolutions (rpm). If tires of various diameters are introduced to a vehicle, the tires will attempt to travel at a different distance for a constant rpm. Since they are secured to the rigid vehicle frame and forced to travel the same distance, the tires will slip resulting in abnormal tire wear (scrubbing) and excessive stress to the powertrain.

#6 — LOAD MANAGEMENT

Load management is another crucial area because of the significant weight required to be carried by tires. When a load is not centered, it can often put too much weight on one corner of the truck, causing an overload on that corner's tires. Overloading tires will lead to shorter tire life or downtime. Even if properly centered, every load should stay within total gross vehicle weight (GVW) compliance. Michelin also suggests conducting weight studies regularly.

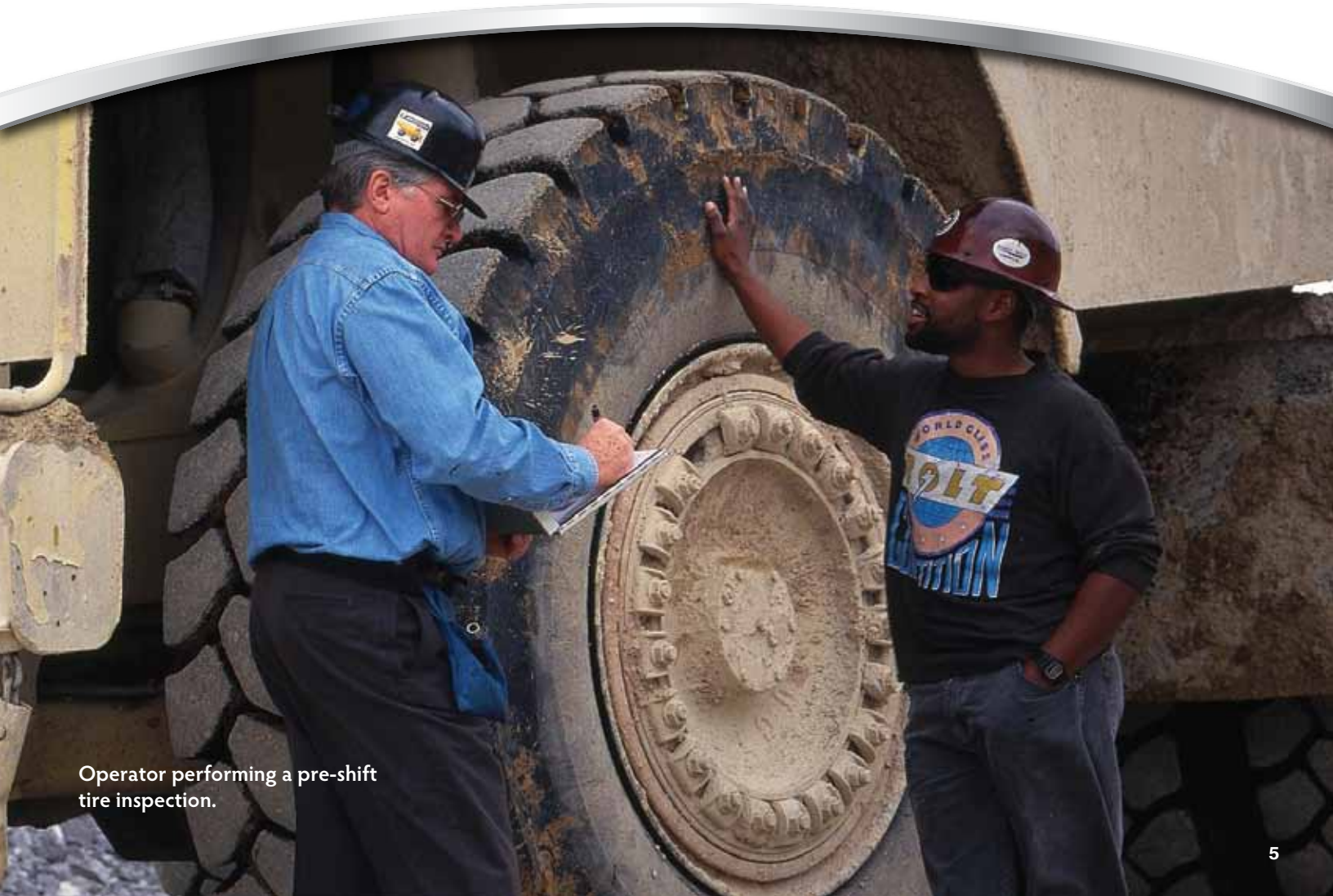
#7 — SUPPORT EQUIPMENT

The role of support equipment on a site should not be minimized or overlooked. They are key pieces of equipment that play a vital role in keeping haul roads clear of rocks or other debris that could damage tires. A motor grader or rubber-tired dozer should be used on a regular basis, not just for the haul roads, but also for the loading and unloading areas to cleanup any spillage. As mentioned previously, operator training should include communicating and reporting work area spillage.

#8 – SCRAP TIRE ANALYSIS

Tires will normally display what happened to them to cause them to come out of service. Inspecting scrap tires as they come out of service can help prevent future tire loss and indicate the need for tire or vehicle repairs or adjustments in vehicle operation.

It is an important step to analyze the history of scrap tires and evaluate and determine the type of tire damage, the vehicles on which the tires were operating, as well as



Operator performing a pre-shift tire inspection.

the area of the site. Also key to the evaluation are load distribution, weight transfers, or misalignment. These areas, discussed previously, can lead to tires prematurely coming out of service. If the problem is accurately diagnosed, changes and new practices can be implemented to correct the issue.

#9 — TIRE-PERFORMANCE IMPROVEMENT COMMITTEE

Establishing a tire-performance improvement committee can benefit a site by forcing discussion on how tire assets are being used and maintained. The committee should be composed of personnel from different areas of responsibility at the site. Maintenance, operations, production and operators should each have a voice, and provide their input to improve and enrich the meeting and the site's tire policies.

Michelin recommends regular monthly meetings of the committee to discuss any needed and relevant changes concerning tires and to assign tasks for correcting any issues that come up. It is also critical to allot the necessary time during meetings for each topic, so that each issue is afforded the attention it deserves.

#10 — REPORTING/ COMMUNICATING

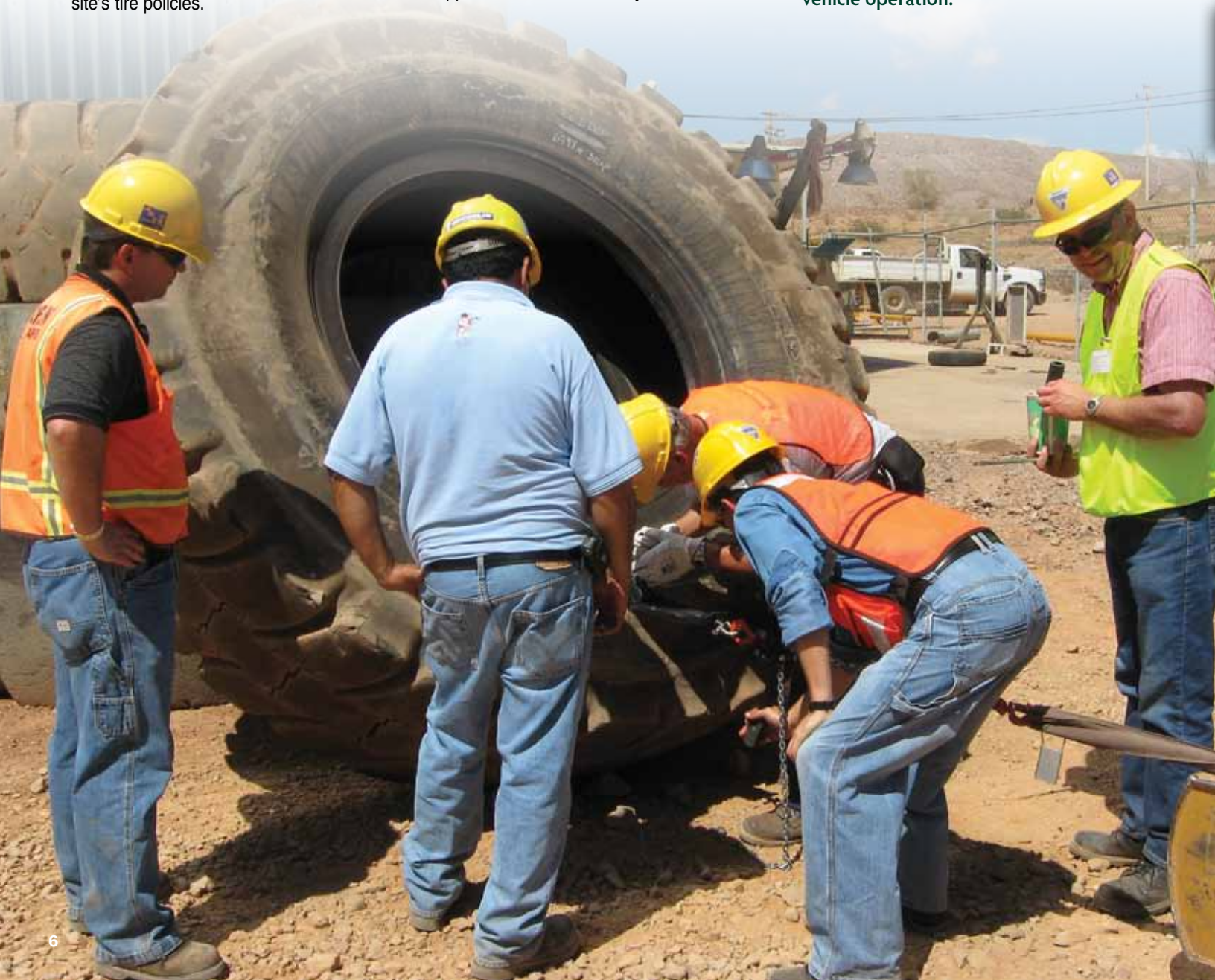
The last area that can help improve tire performance and avoid downtime is to generate clear and specific policies and reports of all the initiatives and progress made in any meetings. For tire maintenance to succeed, policies must be written, communicated, monitored, and enforced.

Policies or reports should be shared with all applicable staff so that they can be aware of the areas of improvement or change, as well as be able to provide input for future changes or additions to tire or other maintenance policies.

Proper understanding of tire basics and maintenance impacts the entire mine by keeping vehicles operating at maximum efficiency. By following these 10 simple steps, any operation can take full advantage of its tire investment, boost productivity levels and avoid that costly condition — downtime.

By Hugo Morales, Business Segment Manager INFRA & Mining, Michelin Earthmover Tires

Inspecting scrap tires as they come out of service can help prevent future tire loss and indicate the need for tire or vehicle repairs or adjustments in vehicle operation.



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BLACK GOLD COMPOST HITS PAY DIRT

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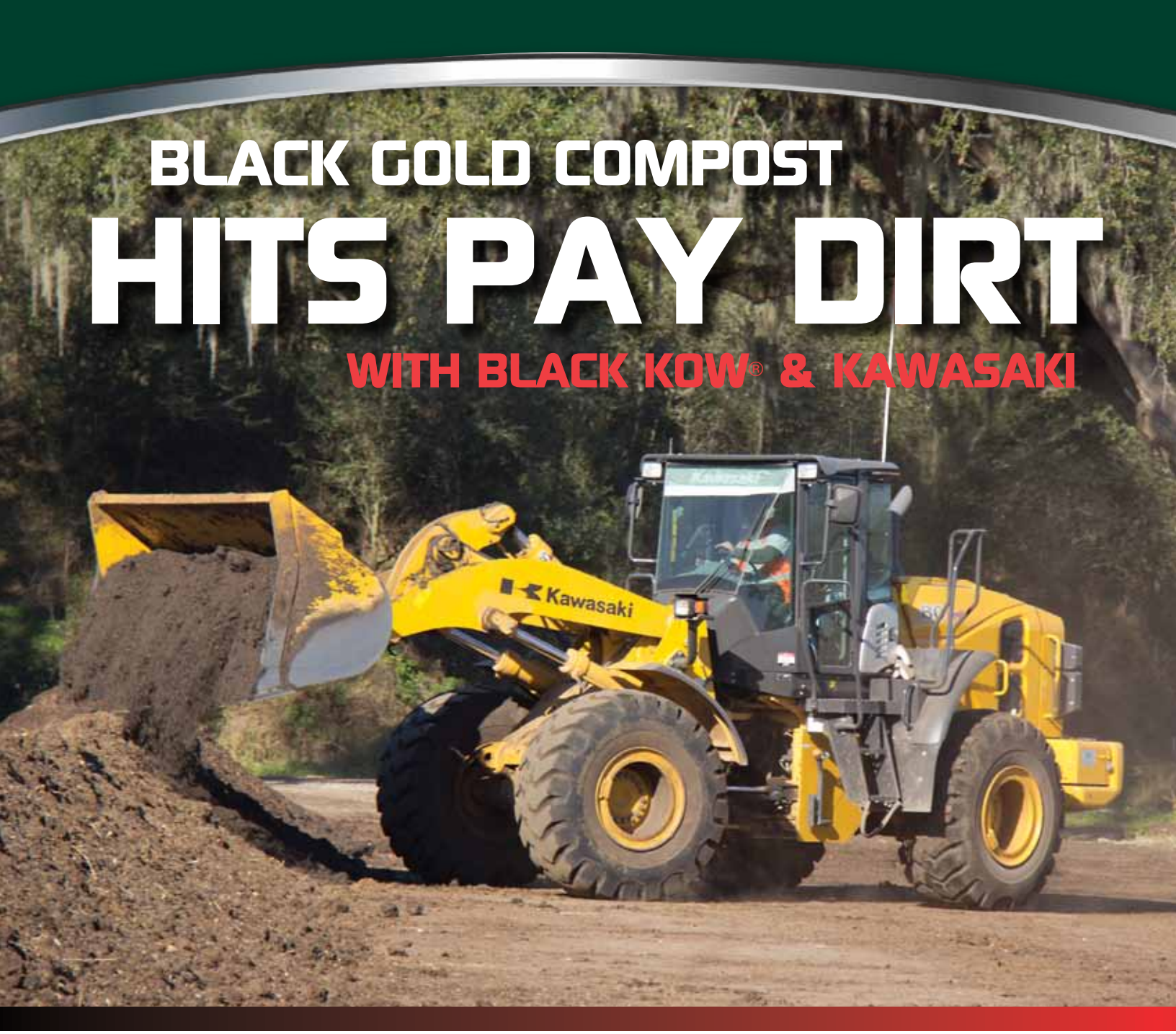

SECOND-GENERATION USING FIVE GENERATIONS OF KAWASAKI LOADERS

"New machines are like puppies. Everybody loves a new machine. It's clean and pristine when it first comes out. But when it gets to be an old dog, does anybody still love it?" — Steve Tuton, GS Equipment, Tampa, Florida

That's the question that haunts heavy-equipment users whenever they face the purchase of a new piece of machinery. With the roll-out of Tier 4 models, skittishness has been even more palpable, raising additional questions about initial engine maintenance and performance.

Black Gold Compost Company, Inc., Oxford, Florida, was no different, even though they've been using Kawasaki wheel loaders for years, with most of them working in harsh conditions such as horse and dairy farms mucking out bedding and stalls. Although they had complete confidence in the brand, when they realized it was time to take the Tier 4 plunge, they wanted to know what they were getting into with the new Z7.

"I'm not comfortable with what I don't know, because when something new comes out you just don't know what to expect in the first year," says Jody Futch, Operations Manager. "I had to study up on the advantages of regeneration over urea — Steve Tuton helped with that. And I knew the Z7 was very different from anything Kawasaki had introduced before. We do our own maintenance, and I knew the 80Z7 would be a whole different ball game. But the change to Tier 4 wasn't as bad as everyone made it out to be. The scariest thing was the first time the regeneration process kicked in. It didn't cause any problems, but everybody was a bit freaked there for a minute. But we understand what's going on and we're good with it.

"One of the improvements we noticed was the fuel consumption in comparison to our

80ZV-2. We had been burning about 65 gallons a day because our machines are on the go constantly, but with the 80Z7, we're only using 50 a day. ***That's a savings of about $11,000 a year. That's significant."***

BACK TO NATURE

Since the Z7, Black Gold Compost has also noticed an increase in production due to the faster cycle times, and it's a welcome addition. With consumer fears on the rise about toxic chemicals in foods, interest in organic home gardening is growing. As a result, business is very good and getting better — especially between the months of March and May. The company manufactures several popular lines of all-natural composts and soils in addition to its signature line of composted cow manure, Black Kow. Their 100-acre Florida location combined with D C Organics, a sister operation in Texas, ships to home-improvement centers in 12 states across the southeast and southern plains.

The process of making compost has changed since the mid 1980s when companies first started creating composting materials on a large scale. Now there is a greater reliance on the aerobic process — letting nature break things down naturally, while keeping moisture levels and heat conditions as ideal as possible.

It all starts, of course, with the raw material. Black Gold Compost works with both horse and dairy farms. Just three of the ten loaders are used at the Oxford facility; the rest are out at peat bogs and farms. The loaders scrape up horse muck, then it is hauled to dairies in Florida for use as cow bedding

"We've found that seeing, feeling, and hand testing the material is key to a good quality compost. Crumpling a ball of material by hand works better than relying solely on a moisture meter. It is both art and science." – Jody Futch, Operations Manager.

where saw dust or wood shavings are often added. After a time, the dairies scrape up the used bedding/cow manure mixture and haul it directly to Black Gold Compost's facility. The company also accepts the spent growing medium from mushroom farms.

Once a truck unloads raw material, one of the loaders will bucket-count the delivery to confirm the amount, which is then entered into a log book. If there's too much trash in the delivery, it's given back to the truck driver and they're docked on the delivery amount. Next a loader will push up the shavings into organized piles, and when it's time, scrape it up, ferry it out to one of the composting yards, and build the compost rows.

One would think that with all that manure on site, flies would be a real problem. But in fact, the site is quite clean, having no more flies or mosquitoes than any typical place in Florida — maybe even less. "We buy special little wasps we place throughout the area," explains Jody. "They are wingless and eat the fly larvae. We also use mosquito dunk rings in our retention ponds to keep that problem down. We do everything we can to keep our facility clean and maintained to ensure a solid relationship with the community.

"When we lay out a row, it's typically 315 cubic yards. By the time it composts, breaks down, and compacts, it's about 250. We have special recipes and build the rows in layers. The dryer stuff will be on the bottom, fresh cow manure in the middle, and the wetter stuff will be on top. Our loaders do a lot of running back and forth at full speed, stopping just long enough to gather or dump material. We place the composting area as far away from our neighbors as we can, and sometimes we must put a special cap of shavings or peat to contain the odor, especially if we're dealing with the spent mushroom material. But as you can see, we run our loaders hard, averaging 50 hours a week. That's about 2,000–2,500 hours a year on each of our three here on property. Two work with the compost materials, the third loads hoppers at the processing plant."

"THE MATURE MANURE"

Although heat, moisture, and microbes turn the odiferous raw material into compost, they need ideal conditions to do the job properly. That's where the windrow turner and careful monitoring of row conditions come into play. It takes a turner about 20 minutes to work a row, taking the center of the pile and flipping

Compost rows are placed on a 4-inch clay base with 9 inches of lime rock on top that is then packed down to about 6 inches. The windrow turner typically takes 20 minutes to do a row, longer if water needs to be added.

Typically 6,500 pallets of the company's famous Black Kow® are stored on site, but the addition of a new section will increase capacity to 10,000.

Like the 70ZIV and most of the other Kawasaki loaders owned by Black Gold Compost, this 80ZV is open ROPS. The 80 loads a hopper that feeds the bagging line.

it inside out. If water is needed, it's added at the same time. Typically a fresh row will be turned twice the first day, mixing up the recipe and killing even more of the smell. Then it will be turned once a day for a week, then 4 times a week, then less and less as the row continues to heat and materials break down. The raw-material supervisor does daily checks — monitoring of internal row temperature and moisture content is critical to maintain an even heating process and avoid the hazard of internal combustion.

"After six or seven weeks, we'll transfer these rows to another area in smaller piles for curing, typically another 4 weeks," says Jody. "There they are turned once a week with a loader. Then our loaders ferry the material over to the processing plant for final mixing and bagging."

"'The Mature Manure' slogan line dates back to before we owned the company," explains Michael Lange, Owner. "My dad and his partner, Dorman Mizell, bought the company in 1985 from the founder who had moved from Ohio to Tampa in 1969 and saw the need for bagged cow manure. Everyone in the family — mother, brother, and four sisters — has worked here one time or another. Right now three of my sisters are working here, as is my brother-in-law Jody. It's nice having family in the operation. Plus, many of our workers have been here for years. We don't have a high turnover.

"When I started here the loaders turned the compost; did everything really. We didn't even have pallets to load the product on; we would hand-stack the bags on the trucks. This is our third location. We moved to this facility six years ago so our bagging and composting facilities could be in one place. Although Black Kow is our flagship product, we have several others and are currently developing more."

This 70ZIV with open ROPS has 14,000 hours on it. The bucket has been plated because of the corrosive nature of the materials with which it works.

TIME-TESTED QUALITY

Black Gold Compost started buying Kawasaki loaders in 1988, when the brand was still new to the North American market. For that first one they did a demo and compared it to others on the market, then made the purchase based on numbers and cost. Ever since then they've been buying a loader about every two years from GS Equipment, their local Kawasaki dealer. Currently they run 10 of them, spanning five generations of loaders ranging from a 70ZIII to their new 80Z7. Three of the Kawasaki loaders have hours exceeding 10,000, and five exceeding 15,000 — with one over 20,000 hours.

"When I came on board in 2009, I had zero experience with equipment," recalls Jody. "I had to learn about them really quick. The company has always kept good maintenance records on paper but I got everything transferred over to computer. I learned that with Kawasaki, the repair and maintenance aspects of them were very good. I could almost judge at the number of hours when a specific repair was coming — like a hose at 3–4,000 hours. It makes it easy to calculate a maintenance budget. Kawasaki is very good equipment.

"Every morning we check the loaders out. We make sure they are greased and the fluid levels are proper; we keep them maintained. We send the oils off and check for heavy metals. We do preventive maintenance at 250 hours, no matter what the computer says. And we've installed auto-greasing on just about all of them. We run our equipment till they fall apart, then we use those for parts. Since I've been here, out of all those loaders, we've replaced one engine. That was a rental we bought from elsewhere, and we ran it 13,000 hours before the engine failed. I can say that it's been a pleasurable experience dealing with Kawasaki because there haven't been major malfunctions in the equipment. Sure we do as much of our own maintenance as we can, but Steve and GS Equipment help us out whenever we need it.

"We are very pro-active in our approach to equipment maintenance. Because our operation is so efficient, if something goes down it throws a kink into everything. I've determined that all our loaders will be Kawasaki. We stick with what works."

Black Gold Compost Company, Inc. is serviced by GS Equipment, Tampa, Florida.

The new 80Z7 is only one of two loaders the company owns with an enclosed cab. Black Gold Compost has been pleased with the fuel efficiency and quietness of their new Z7.

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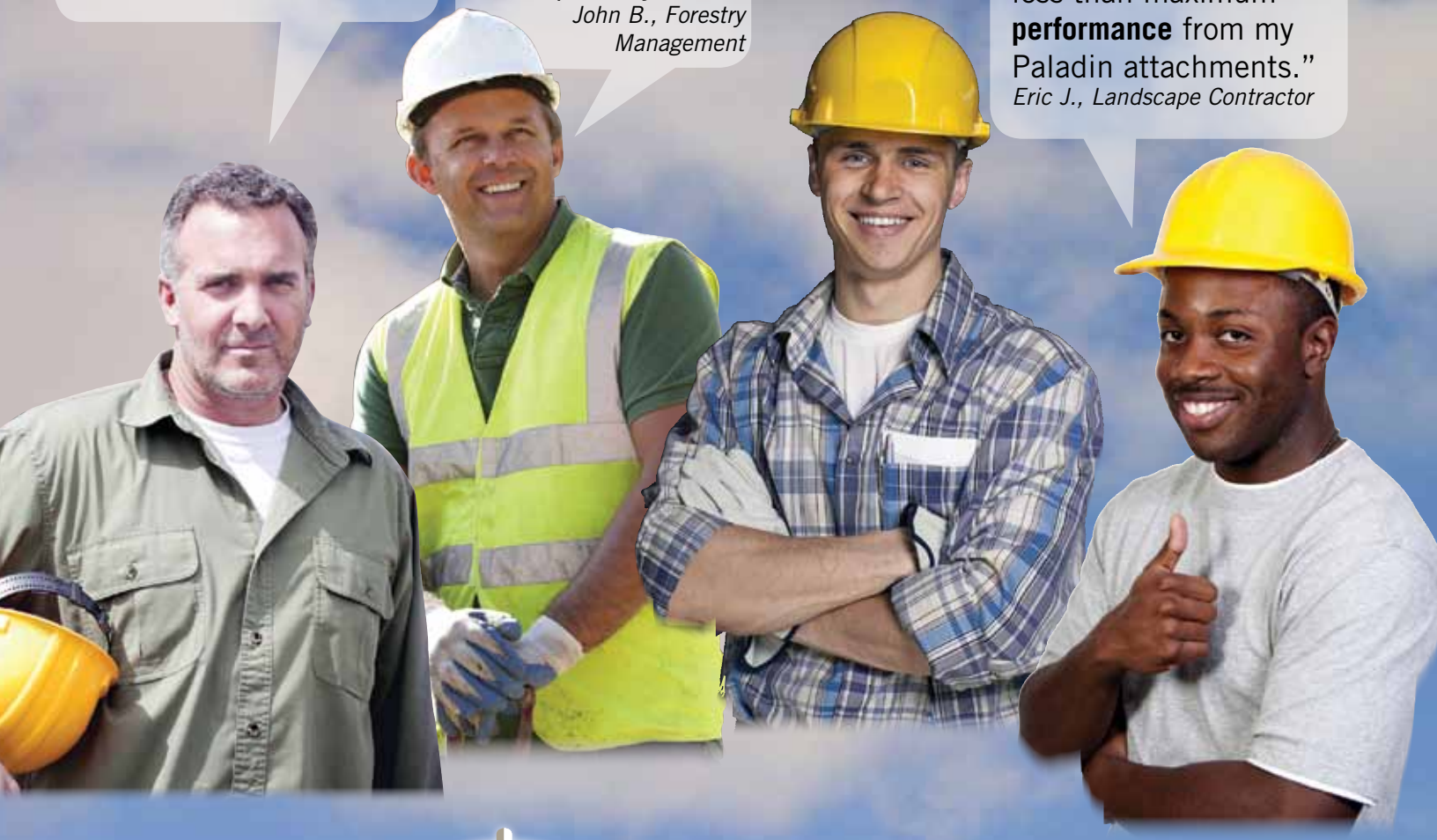

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