EUROPEAN FIRMS FEEL THE SQUEEZE

EARNINGS: Chemical firms struggle to recapture sales, earnings growth

JUST-RELEASED FINANCIAL results for 2013 show that key European chemical companies are still struggling to reestablish profit growth after the worldwide recession that began in 2008.

BASF, the world's largest chemical company, expanded sales and earnings only modestly in 2013, and that was because of a 16% increase in sales and a 50% hike in pretax profit by the firm's oil and gas operations, which make up 20% of its sales. Without the oil and gas segment, sales would have fallen 0.4% and pretax profits would have dropped 6.1%.

BASF Chairman Kurt Bock told journalists during a briefing at the firm's headquarters last week that he expects economic conditions in 2014 to be similar to those in 2013. "We do not expect strong tailwinds this year. Overall, we expect to perform well in a market environment that remains challenging in 2014," Bock said. The German firm is anticipating "somewhat higher growth" in sectors such as transportation, consumer goods, and electronics.

Solvay's profits nosedived in 2013, but restructur-ing at the Belgian firm during the year positioned it to take advantage of any future economic improvement, CEO Jean-Pierre Clamadieu said. "Indeed, we start to see—especially in Europe—some signs that things could get better." The company expects to generate about $140 million in annual savings starting in 2016 by cutting soda ash production in Europe and increasing it in the U.S. It expects another $140 million in savings in its nylon and intermediates business.

EUROPE'S 2013 RESULTS
Profit growth is elusive for leading chemical companies

| | SALES | EARNINGS | CHANGE FROM 2012 | | PROFIT MARGIN[a] | |
	($ MILLIONS)		SALES	EARNINGS	2013	2012
AkzoNobel	$20,099	$992	-5.0%	88.0%	5.0%	2.5%
BASF	101,905	6,670	2.6	0.5	6.5	6.7
Clariant	6,822	6	1.0	-97.8	0.1	3.8
DSM	13,250	373	5.3	-2.5	2.8	3.0
Lanxess[b]	11,434	-219	-8.7	nm	def	5.6
Solvay	13,691	581	-5.0	-40.0	4.3	6.7

NOTE: Monetary figures are converted at the Dec. 31, 2013, exchange rates of $1.00 U.S. = 0.7259 euros and 0.8906 Swiss francs. **a** Earnings as a percentage of sales. **b** Preliminary figures. **def** = deficit. **nm** = not meaningful.

AkzoNobel's 2013 results benefited from a cost-reduction program initiated at the end of 2011. Although the firm's overall sales declined for the year, sales increased in the second half. Further restructuring is in the cards, said CEO Ton Büchner, who expects the economic environment in 2014 to be "fragile."—ALEX SCOTT

DETECTING CITRUS BLIGHT

AGRICULTURE: Portable spectrometer identifies signature volatile organic compounds before it's too late

CITRUS GREENING DISEASE, a bacterial tree infection, has devastated citrus groves throughout the U.S. and the world. Citrus growers have few treatment options or methods for early diagnosis.

Now, researchers report a portable spectrometry technique to detect signature volatile organic compounds of the disease before visible clues develop and when it's still possible to keep the infection from spreading (*Anal. Chem.* 2014, DOI: 10.1021/ac403469y).

Citrus greening disease, also called Huanglongbing (HLB) disease, is caused by *Candidatus liberibacter*, which can live in trees for years, allowing it to silently infect neighboring trees. By the time one tree's leaves begin to yellow and its fruit is damaged, it's too late to save nearby trees. If growers could detect the disease early, they could remove infected trees before they cause irreparable damage.
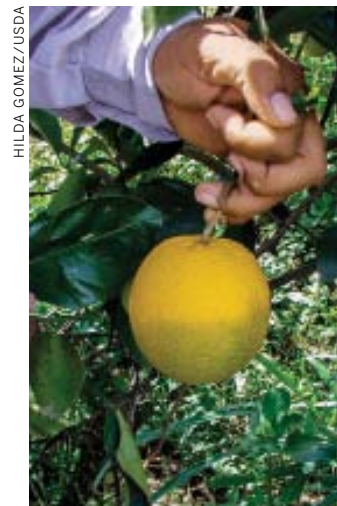
Mechanical engineer Cristina E. Davis of the University of California, Davis, has been developing a portable chemical-sensing system based on gas chromatography/differential mobility spectrometry that sniffs out VOCs produced by organisms. She and her colleagues placed the spectrometer next to the leaves of citrus trees in a greenhouse and saw dramatic differences in the combination of VOCs released from infected trees as compared with healthy ones. They also measured the VOCs released from naturally infected trees in an outdoor grove in Florida over a period of 16 months.

Using these data, the researchers constructed a statistical model of the patterns of VOCs coming off healthy and diseased trees. They then used this model to accurately predict the infection status of all the trees tested in another orchard, where citrus greening disease had begun to take hold.

The work is impressive and provides a technique that's nearly ready for practical application in the field, says Nigel B. Perry, a senior scientist with Plant & Food Research, a government-funded research institute in New Zealand.

The instrument is still a prototype and will require further development for routine use by growers, Davis says. She and her colleagues are conducting additional studies to pin down how early the device can reliably detect HLB infection.—SARAH WEBB, *special to C&EN*

Citrus greening disease causes fruit to ripen backward, leaving green at the base.

HILDA GOMEZ/USDA