

U.S. experiences full range of March weather

WASHINGTON, D.C. — The full potential of March weather patterns was felt in the United States in mid-march, while needed precipitation fell in South America and major European regions, according to a report issued last Tuesday by the Joint Agricultural Weather Facility of the U.S. Departments of Commerce and

Agriculture. A cold front temporarily interrupted very warm weather on the North China Plain, and dry conditions began to cause concern in Mexico's primary crop areas. Highlights of the report follow.

—United States. Summer-like weather aided field work and crop

development in the Gulf Coast states while heavy rains delayed planting in the Southwest. Snow cover from the northern Rockies through the northern Great Plains increased by as much as 10 inches; the same storm dropped heavy rains from the Central Plains to the southern Great Lakes and over much of the East Coast. While

flooding in Indiana and Western Ohio was a great concern to area residents, minimal damage was done to dormant winter grains.

USSR. Major winter grain areas of the Ukraine, North Caucasus and Volga Valley appear to be without snow cover. Temperatures in the eastern Ukraine and Volga Valley dropped to below-normal by week's end, but were not sufficiently cold to produce significant winter kill.

Europe. Spanish crop areas remained dry, continuing a three-week pattern. The dry weather is stressing almond trees which are flowering in southeast coastal areas. Also, Spanish winter grains need rain as the crop approaches the flowering stage. In contrast, precipitation became more widespread over northern Italy, England, France, central and southeast Europe.

Mexico. Sunny, warm weather over most principal agricultural areas further reduced topsoil moisture, and possibly slowed development of young, shallow-rooted crops in nonirrigated corn and bean districts. The only significant rain fell west of the Mexican cotton area where temperatures were cool. Temperatures in the northeast were much warmer than normal and aided crops where moisture was adequate. However, some crops, including citrus, were stressed in nonirrigated districts.

South America. Widespread showers over most crop areas of Brazil and Argentina benefited summer crops which have not yet reached maturity. Brazil's soybean harvest—about 25 percent complete in Parana and just underway in Rio Grande do Sul—was

delayed by wet weather. The substantial rain improved topsoil moisture supplies for late maturing soybeans in southern Brazil and aided fruit development in Sao Paulo and Minas Gerais. In Argentina, overall conditions remain favorable for maturing grain and oilseed crops. Rain probably delayed both the cotton harvest in Chaco and the early sunflower harvest in Buenos Aires.

Eastern Asia. Temperatures on the North China Plain plummeted from a cold front, alleviating stress on young wheat plants which had suffered from dry conditions. Light, localized frost caused only superficial damage. Some dry areas had beneficial precipitation, but by week's end, rising temperatures posed another threat. In South Korea, generous rainfall benefited winter grains and above-normal temperatures allowed continued growth.

South Asia. Warmer, drier weather favored winter grains in northern Pakistan and India. Favorable growing conditions were maintained by seasonable rainfall in Bangladesh and India.

Northwestern Africa. Above-normal temperatures in Morocco somewhat stressed moisture-deficient winter grains as the crop entered the heading stage. Moisture was generally adequate for crop growth in Tunisia and eastern Algeria; however, conditions in central Algeria became drier and additional moisture will be needed soon.

South Africa. Varying degrees of rain fell on parts of the Maize Triangle. The moisture may have benefited filling of late-planted varieties, but generally it was too late to help this season's crop.

Testing used lube oil can pay off

HARVEY, Ill. — Over the past several years, there has been an increasing emphasis on evaluation of used engine lubrication oils, especially in the heavy duty diesel engine field. This increased emphasis is probably proper for several reasons, explains Roger Higgins, engine division manager, Allis-Chalmers Corp.

First of all, with lubricating oils being increasingly more expensive, the extension of oil drain periods of significant importance. Secondly, proper use of oil analysis can prevent a major engine failure or allow repair at more opportune times; all reducing the cost, down time and inconvenience to the engine operator. Regular oil testing can perform a great service both in extending the oil change intervals and in reducing engine overhaul and repair costs.

Two significant areas which are available to most users are spectographic analysis for wear particles in the oil and measurements of insoluble particles and total base number from the used oil. The former method is more often a device for detecting engine malfunction while the latter would be most useful in determining proper drain periods, Higgins said.

The first question one might ask is: "How do I obtain such information?" Essentially, there are two methods. Many oil companies offer oil analysis services to their customers at nominal charges.

Additionally, there are a number of independent laboratories who specialize in analysis. Usually, both types of organizations supply clean sample bottles with labels for indicating engine S/N, hours on the oil, hours on the engine, etc.


Typically, a report will indicate the absolute numbers for the spectographic analysis in parts per million and for insolubles in percent. The insolubles are usually pentane, benzene and resins. However, the absolute numbers are much less important than the trend from sample to sample. The most significant item or alert signal is a sharp increase from one sample to the next.

A relatively new technique is plotting the relative size of particles in an analysis. The chart would have the percentage of particles in small, medium and large sizes. Naturally, as the larger particles increase, another danger sign is flashed. The sample

to sample progression can be plotted on a chart as a function of time or merely tabulated and scanned for changes and trends. Therefore, regular sampling is important. Normally, the analyzing lab will alert the customer for changes in his trend.

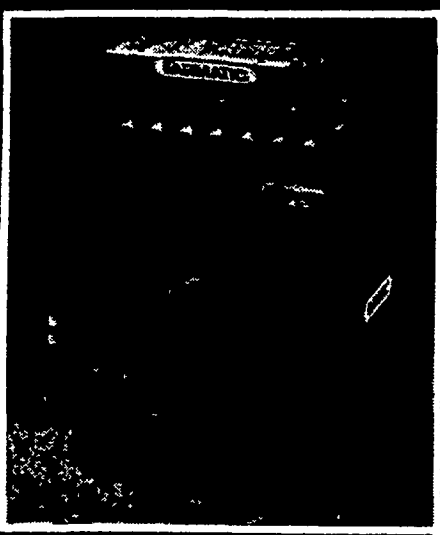
For extended oil drains, the insolubles and base number will gradually show an increase until such time as the oil becomes "saturated" with carbon, varnish, etc. As the saturation point is approached, oil should be changed. Extension of oil drain periods by 100 to 200 percent over the normal period specified in an operators manual is not uncommon for many units. Other engines operating under severe conditions may even require shortening the drain period or providing additional filtration capacity.

In summary, experience indicates that use of modern techniques for analyzing used lube oils may save the engine operator in two areas. The first is in prevention of an expensive engine failure and the second is in extending oil drains beyond the generally conservative or average figure recommended by the engine manufacturer, Higgins concluded.



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