

August 21, 1972

FROM: P. G. Hidalgo

FOR: Mr. Wm. Tomc,
D.P.J.

CITY: Strongsville

SUBJECT: REPLACEMENT OF LEAD CONTAINING PIGMENTS

My bulletin of June 2, 1972 carried general recommendations for replacement of lead containing pigments. Several reports have been received from the laboratories regarding work they have done in replacing lead containing pigments in their formulations. Following is a summary of these reports for general information.

The San Francisco lab has reformulated several John Deere enamels as follows:

SF-20793 Green uses 10 lbs. W-943, 11 lbs. X-2476 Sacrdaga Yellow (Code L-359), 10 lbs. L-209 and 3 lbs. A-116 to replace the previous pigmentation based on L-143 and A-204.

SF-20795 Light Yellow uses 18 lbs. X-2476 (Code L-359) and 92 lbs. W-943 to replace 148 lbs. L-138.

SF-20796 Medium Yellow uses 74 lbs. L-343 and 15 lbs. L-356 to replace 114 lbs. W-830, 109 lbs. L-110 and 26 lbs. L-138.

SF-20797 Medium Red uses 5 lbs. R-701 and 15 lbs. of Barium Lithol Red (not further identified in report) to replace 89 lbs. L-251 and 36 lbs. R-670.

San Francisco has also reformulated 337-L-14100 Light Yellow Aerosol Enamel meeting Federal Standard 13618 using L-304 and L-209 plus titanium dioxide to replace a combination of L-110 and W-943.

The Reading laboratory has used X-2864 Sahara Yellow (Code L-364) and titanium dioxide to match the L-138 Medium Chrome Yellow shade in the 318 and 248 line of shading bases. This replacement was selected on the basis of cost, non-bleeding, good lightfastness and baking properties.

The Toronto laboratory has formulated 369-L-304 Hansa Yellow to replace 369-Y-1 Light Chrome Yellow, and 369-L-358 Orange to replace 369-Y-120 Molybdate Orange. They also report that by blending 369-L-358 with 369-L-304 a close approximation of 369-Y-2 Medium Chrome Yellow is obtained.

The Carrollton laboratory tested several pigments in 318 line shading base quality and found that:

Imperial's X-2476 (Code L-359) could be used for L-110 Light Chrome Yellow.

A mixture of 50% X-2476 (L-359) and 50% X-2864 (L-364) could be used for L-138 Medium Chrome Yellow.

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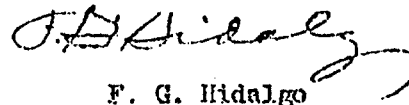
Either American Hoechst 12-1010 (L-357) or 12-5000 (R-752) could be used in place of L-250 and/or L-251, but not as a lb. per lb. replacement.

I-364 (Imperial's X-2864 Sahara Yellow) which appears to be useful in replacing chrome yellow shades, is being added to the "Preferred" list of raw materials for formulation.

Replacement of the following Gel-Kote pigment concentrates 294-Y-928 (L-142 Medium Chrome Yellow), 294-Y-932 (L-114 Light Chrome Yellow) and 294-Y-920 (L-250 Molybdate Orange) is being investigated at the Research Center. They will forward information on results by the end of this week.

In the event that you have formulated any shading bases with lead-free pigments, in whatever quantity, please notify me at once of the formula numbers and the bases they are intended to replace. We would like to circulate that information to avoid duplication of effort in this area.

Note that, in some cases, the lead-free pigments used (i.e., Hansa yellows) may bleed in strong solvents. This information should be shown on the formula cards so that the plant may take the proper precautions to avoid contamination of subsequent productions which they would not have expected when using the lead-containing pigments. The notation: "Contains bleeding pigment" should be placed at the end of the "Manufacturing Instructions" section of the formula card, below the line corresponding to the last raw material used. It will then be reproduced automatically on the production slips wherever the slipwriting program is in use.


F. G. Hidalgo

EGH:mb

FOR: Technical Directors & Lab Mgrs.

cc: Plant Managers
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