# DEPARTMITT OF COMMERCE <br> NATIONTAL BURTAU OF STANDARDS <br> WASHINGTON, D.C. 

Letter
Circular
LC-504

## VAFIETY RPDUCTION ETHECTED BY THE APPLICATION OF SIIPLIFTED PRACIICE THROUGH COOPERATIVE RFFOETS OF INDUSTRY AND THE NATIONAL BUREAU OF STANDARDS.

(September 3, 1937.)
To illustrate the achievenents of industry in the reduction of unecessary variety, and, by example, to show the broad applicability of the procedure which has made them possible, there is presented herein for a selected list of comodities a comparison of the number of varieties produced under simplified practice with the number produced before simplified practice was applied. Those who desire more detailed information on the examples cited are referred to the covering Simplified. Practice Recommendations, the numbers of which are given in the colum headed "S.P.R. No."l

Simplified Practice means reduction of excessive variety of manufactured products, or of methods. Smmplified Practice Recommendations are records of stock itens retained after superfluous variety has been eliminated. These recommendations are developed by voluntary cooperation among manufacturers, distributors, consumers, and other interests, upon the jnitiative of any of these groups, through a regular procedure of the lational Bureau of Standards established for that purpose; a procedure designed to insure not only the initial success of a promam, but also its continued adjustment to meet changing industrial conditions. ${ }^{2}$

The Iollowing brief notes suşest some of the more obvious advantages to be gained from a simplified practice program by the various participants. To the manufacturer: Less capital tied up in slow-moving stocks, simplified inspection requirements, longer runs with fever changes, less ide equipment, less stock to handle, larger production units, less special machinery, more prompt delivery, less chance of error in shiment, and less obsolescence in material and equipment. To the jobber, wholesoler, and retailer: Increased turnover, elimination of slow-moving stock, staple lines--easy to buy and quick to sell, greater concentration of sales efforts on fewer itens, decreased capital invested in new stocks and repair parts, less storage space required, and decreased overhead and handing charges. To the consumer: Better values than otherwise possible, better service in delivery and repairs, and better quality of products.
${ }^{1}$ Supplied by the Superintendent of Docments, Governnent Printino Office, Washington, D. G., at a nominal cost. Lu not send stamos. Those items marked (*) are available at this date, in mineogranhed form only, from the Division of Simolified Practice, National Bureau of Standards, Washington, D. C. A complete list of recommendations (IC-345) may be obtained free from the Division of Simplified Practice.

TThe procedure is explained in detail in Simplified Practice, Its Purpose and Application, Letter Circular LC-456, December 2, 1935, Division of Simplified Practice, National Bureau of Standards.

| Item | Varieties |  |  | $\begin{aligned} & \text { S.P.R. } \\ & \text { No. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: |
|  | Before <br> simplification | $\begin{gathered} \text { After } \\ \text { simplifi- } \\ \text { cation } \end{gathered}$ | $\begin{gathered} \% \\ \text { re- } \\ \text { duc- } \\ \text { tion } \end{gathered}$ |  |
| Abrasive products, coated | 8,000 | 1,865 | 77 | 89-36 |
| Asphalt | 102 | 11 | 89 | $4-36$ |
| Axes, forsed | 845 | 384 | 54 | 158-37 |
| Bags, glassine .....................sizes.. | 124 | 26 | 79 | 107-31 |
| Bags, paper, grocers' ...................... | 61 | 47 | 23 | 42 |
| Bags, paper, notion and millinery ...sizes.. | 188 | 28 | 85 | 129-31 |
| Barrels, steel; and drums .....capacities.. | 66 | 26 | 61 | 20-28 |
| Bars, steel, reinforcing ................... | 32 | 11 | 66 | 26-30 |
| Bars, steel, soiral, reinforcing ....sizes.. | 7 | 4 | 43 | 53-32 |
| (lemaths.. | 33 | 1 | 97) |  |
| Beds, hospital ...................... (widths.. (heights.. | 34 | 1 | 97 98 | *24 |
| (colors.. | 3 | 2 | 33) |  |
| Blackboard, composition ......... ( widths.. | 18 | 3 5 | 83 94 | 75-2.9 |
| Blankets . . . . . . . . . . . . . . . . . . . . . . . . . . . . . | 78 | 11 | 36 | 11-36 |
| Board, binders | 718 | 10 | 99 | 81-28 |
| Borrd, box, thicknesses of .................. | 244 | 96 | 61 | * 44-36 |
| Boilers, range; and expansion tanks ....... | 130 | 13 | 90 | 8-29 |
| Bo:lers, steel, horizontal firebox heating.. | 2,328 | 38 | 98 | 157-37 |
| Bolts, plow ................................. | 1,500 | 840 | 44 | 23 |
| Bools, composition. Counts (No. of leaves).. | 76 | 41 | 46 | $84-28$ |
| Bottles, carbonated beverage: ( shane | 15 | 12 | 20 |  |
| Soda and imported ( capacities.. | 15 | 12 | 20 |  |
| ginger ale ............. ( heights.. | 78 | 6 | 92 |  |
| (wt. of glass.. | 16 | 8 | 50 |  |
|  | 11 | 3 |  | 123-30 |
| Water and water shaoe ginger ale .............. heights.. | 13 | 3 | 77 |  |
| ginger ale ............. (wt. of glass. | 18 | 1 | 78 |  |
| ( capacities.. | 8 | 3 | 62 |  |
| Beers, export, select or C.S.......................... | 18 | 2 | 89 |  |
| or C.S. .................... (mt. of zlass. | 18 | 2 | 89 |  |
| Bottles, milk and cream, and bottle caps ... | 49 | 4 | 92 | * 10 |
| Boxes, corrugated and solid fiber, for canned fruits and vegetables ........ | 150 | 41 | 73 | *146-33 |
| Boxes, corrugated, for denartment and specialty store use ...........sizes.. | 322 | 75 | 77 | *128-31 |

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| Item | Varieties |  |  | $\begin{aligned} & \text { S.P.R. } \\ & \text { No. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { Before } \\ \text { simplifi- } \\ \text { cation } \end{gathered}$ | $\begin{gathered} \text { After } \\ \text { simplifi- } \\ \text { cation } \end{gathered}$ | $\begin{aligned} & \text { \% } \\ & \text { re- } \\ & \text { duc- } \\ & \text { tion } \end{aligned}$ |  |
| Boxes, folding, for department and soecialty store Lise ...........sizes.. | 262 | 59 | 77 | *127-31 |
| Boxes, folding, one-pound for coffee ....... | 100 | 2 | 98 | 64-30 |
| Boxes, set-rip . . . . . . . . . . . . . . . . . . . . sizes. . | 1,084 | 194 | 82 | *126-31 |
| Bricis, common; and rough and smooth face brick | 75 | 2 | 97 | 7 |
| Brictr, face, rough and smooth; and comrnon brick .......... | 75 | $?$ | 97 | 7 |
| Brick, paving, vitrified .... | 66 | 4 | 94 | 1-36 |
| Bricls, sand-lime | 45 | 1 | 98 | 38-37 |
| Brushes, calcimine, block ( $\quad$ widths. sizes for ................. (thicmesses. | 47 34 | 10 | 79 76 | 121-31 |
| Brushes, paint and varnish . . . . . . . . . . . . . | 480 | 143 | 70 | 43-28 |
| Cans, friit and vegetable <br> (names and dimensions) | 200 | 21 | 90 | *155-37 |
| Cans, timed, steel, <br> ice cream ................tyoes and sizes.. | 14 | 5 | 64 | 164-36 |
| Caps, bottle, milk and cream; and milk and crean bottles | 49 | 4 | 92 | *10 |
| Cartons, ice crean; mind ice cream bricl: molds .............mold sizes. | 30 | 1 | 97 | 120-36 |
| Cartridges, metallic .. | 348 | 19 | 44 | 62-37 |
| Chain, welded | 1,831 | 1,214 | 34 | 100-29 |
| Checirs, guest, restaurant: | 4 |  |  |  |
|  | 12 | 3. 5 | 25 58 |  |
| (lengths.. | 16 | 14 | 12 | 113-30 |
|  | 7 | 4 | 4.3 |  |
| Paper chects . . . . . . . . . . . . . ( widths. . | 10 | 8 | 20 |  |
| Chinaware, cafeteria and restaurant | 700 | 309 | 56 | 33 |
| Chinavare, dining car ............. | 700 | 345 | 51 | 39 |
| Chinaware, hospital | 700 | 345 | 51 | 40 |
| Chinware, hotel | 700 | 258 | 63 | 5 |
| Cloth, screen, wire insect ................. | 360 | 154 | 57 | 12.2-31 |
| Containers (cains), fruit and vegetable, (nawes and dimensions) | 200 | 21 | 90 | *155-37 |
| ```Contriners (cans), tinmed, steel, ice cream .......tynes and sizes..``` | 14 | 5 | 64 | 164-36 |
| Containers, extracted honey ...........sises. . | 65 | 10 | 85 | 156-37 |
| Containers, glass; for cottame cheese and sour crean .............sizes.. | 1. 20 | 3 | 85 | 148-33 |

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VARIETY RTDUCTIOIV ZFFECTED BY THE APPLICATION OF SIMPLIFIED PRACTICE' (Cont゚ a.)

(Please turn to page 4

VARIETY RBDUCTION EFEECTED BY. THE APPIICATION OF SIMPIIFIFD PRACTICE (Cont'd.)

| Item | Varieties |  |  | $\begin{aligned} & \text { S.P.R. } \\ & \text { No. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { Before } \\ \text { simplifi- } \\ \text { cation } \end{gathered}$ | $\begin{gathered} \text { After } \\ \text { simplifi- } \\ \text { cation } \end{gathered}$ | $\begin{gathered} \% \\ \text { re- } \\ \text { duc- } \\ \text { tion } \end{gathered}$ |  |
| Lath, metal (expanded and sheet) | 125 | 29 | 76 | $3-36$ |
| Lights; sidewalk, £loor and roof ........... | 120 | 6 | 95 |  |
|  | 80 | 5 | 94 | 49 |
|  | 10 | 2 | 80 |  |
| Lining, brake, antorobile | 100 | 37 | 63 | 66 |
| Lockers, steel | 65 | 23 | 64 | 35-28 |
| $\begin{aligned} & \text { Lumber, rotary cut, for } \\ & \text { wire-bound boxes ........... (thiclmiesses. } \\ & \text { widhs. } \end{aligned}$ | 102 | 6 | 4 |  |
|  | 65 | 6 | 91 | 59 |
|  | 9 | 6 | 33 |  |
| Millboard, asbestos; and ( naper.. asbestos paper ............... (nillboard.. | 72 | 20 | 72 |  |
|  | 21 | 4 | 31 | *19-28 |
| Mirrors, dental cone-socket .........sizes.. Molds, bricl, ice cream; and ice cream cartons ............mold sizes. | 7 | 4 | 43 | 137-32 |
|  | 30 | 1 | 97 | 120-36 |
| Nails, cut, small, andcut tacks . . . . . . .............. (paclages. | 423 | 185 | 57 | $47-28$ |
|  | 423 | 127 | 70. | 4-28 |
| ```Packages, salt ................................. Packaging of dental olaster, investment, and artificial ( plaster.. sto:re .....................................``` | 71 | 35 | 46 | 70 |
|  | 22 | 3 | 86 |  |
|  | 26 | 13 | 50 | 117-30 |
| Pactaging of insecticides and fungicides ... | 38 | 22 | 42 | 41 |
| Parraging, woven-wire fence; ( stryles. and woven-wire fencing .....(pkg. sizes.. | 552 | 71 | 87 | 9-28 |
|  | 2,072 | 200 | 90 |  |
| Parer, asbestos; and ( paper.. asbestos millboard ...........(millboard.. | 72 | 20 | 72 | *19-2\% |
|  | 21 | 4 | 81 | 19-2\% |
| Paoer, photographic ............................. | 73 | 62 | 15 | 93-36 |
| Paper, tissue ................ (roll, shoe, sizes.. | 13 | 3 | 77 81 | 4.6 |
| Pipe, wrought-iron and wrought- |  |  |  | $57-32$ |
| Pioe, conductor; and eaves trough, elbows and fittings ..........varieties.. | 110 | 76 | 31 | *29 |
|  | 26 | 15 | 42 | * 85-28 |
| Plaster, dental; investrint, and artificial stone, ( Dlaster. pacizaging of . . . . . . . . . . . . (investment. . | $\begin{aligned} & 22 \\ & 26 \end{aligned}$ | $\begin{array}{r} 3 \\ 13 \end{array}$ | 86 50 | 117-30 |
| Rasps and files | 640 | 475 | 26 | *6 |
| Refractories, malleable foundry ............ | 188 | 25 | 87 | 79-28 |

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VARIETY REDUCIION EFFECTED BY THE APPLICATION OF SIMPIIFIBD PRACIICE (Cont'a.)

| Item | Varieties |  |  | $\begin{aligned} & \text { S.F.R. } \\ & \text { IO. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { Before } \\ \text { simplifi- } \\ \text { cation } \end{gathered}$ | $\begin{gathered} \text { After } \\ \text { simplifi- } \\ \text { cation } \end{gathered}$ | $\begin{gathered} \% \\ \text { re- } \\ \text { duc- } \\ \text { tion } \end{gathered}$ |  |
| Roofing, iron and steel | 292 | 178 | 39 | 78-28 |
| Rubber, dental (base and veneering). colors | 4. | 11 | 74 | 138-32 |
| Scoops, shovels and spades (lst revision) . | 5,136 | 1,161 | 77 | * 48 |
| Screen cloth, insect, wire | 360 | 154 | 57 | 122-31 |
| Shells, loaded paper shot | 4.067 | 283 | 93 | 31-37. |
| Shovels, spades and. scoops (lst revision) | 5,136. | 1,161 | 77 | * 48 |
| Slate, blackboard | 251 | 25 | 90 | * $15-35$ |
| Slite, roofing ..............possible sizes.. | 1,260 | 309 | 75 | *1.4-28 |
| SIate, structural | 827 | $11 \%$ | 81 | 13-28 |
| Spades, shovels, and scoops (Ist revision)... | 5,136 | 1,161 | 77 | * 48 |
| Spirals, steel, reinforcing .........sizes.. | 7 | 4 | 43 | 53-32 |
| Spools, metal, for amealing, handling, and shipoing wire ........ | 8 | 6 | 25 | 63 |
| Steel, sheet | 1,630 | 209 | 87 | 23-29 |
| Stone, artificial, dental; plaster and investrnent, paciraging of .................. (investrent.. | $\begin{aligned} & 22 \\ & 26 \end{aligned}$ | 3 13 | $\begin{aligned} & 86! \\ & 50! \end{aligned}$ | 117-30 |
| Sweeps, floor ...............block lengths.. | 11 | 7 | 36 | $80-37$ |
| Tacks, cut, and small cut nails ....................... (pacizages. | 428 423 | $\begin{aligned} & 185 \\ & 127 \end{aligned}$ | $\begin{aligned} & 57! \\ & 70 \text { ) } \end{aligned}$ | 47-28 |
| ( sizes.. | 16 | 8 | 50 ) |  |
| Tags, shipoing, naper .... ${ }^{\text {(grades of stocr. }}$ (hicknesses.. | 21 | 8 | 62 $29)$ | 93-29 |
| ( colors.. | 32 | 15 | 53) |  |
| Tanlss expansion; and range boilers ....... | 130 | 13 | 90 | 8-29 |
| Taniss, storage, hot water ........dimensions and capacities. . | 120 | 14 | 85 | 25 |
| Tape, sealing, paper, <br> No. I kraft .............weights of naper.. | 8 | 3 | 62 | 114-30 |
| Ternes, roofing . ............................ | 1,203 | 936 | 22 | * 30-28 |
| Textiles, cotton, hosoital and institutional ..... | 454 | 26 | 94 | $72-30$ |
| Tile, building, hollow ..................... | 36 | 22 | 39 | * 12 |
| Tirware, galvanized, and Japanned ware .... | 1,154 | 873 | 24 | 55 |
| Tools, forged ................................. | 665 | 503 | 24 | 17-35 |
| Towels, terry, fast selvage .........sizes.. | 74 | 6 | 92 | 119-31 |
| Trips, lavatory and sink, brass ............ | 1,114 | 76 | 93 | 21 |
| Trough, eaves; and conductor pipe, elbows and fi.ttings ...........varieties.. | 110 | 76 | 31 | * 29 |
| Turnbuckies ..........................sizes. . | 248 | 115 | 54 | 71-28 |
| Twines, hard-fiber (ply and yarn goods) | I, 304 | 1,124 | 14 | 92-32 |
| Units, building, concrete | 45 | 18 | 60 | 32-32 |

VARIETY REDUCTION EFFECTED BY THE APPIICATIONT OF SIVPIIFIED FRAOTICE (Cont'd.)

| Item | Varieties |  |  | $\begin{aligned} & \text { S.P.R. } \\ & \text { No. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: |
|  | Before simplification | $\begin{gathered} \text { After } \\ \text { simplifi- } \\ \text { cation } \end{gathered}$ | $\begin{gathered} \% \\ \text { re- } \\ \text { duc- } \\ \text { tion } \end{gathered}$ |  |
| Valves, wrought-iron and wrought-steel; and pipe and fittings .......pipe sizes.. | 62 | 48 | 24 | 57-32 |
| Wheelbarrows | 125 | 27 | 78 | 105-32 |
| Wheels, brush, dental ...................... | 50 | 10 | 80 | 116-30 |
| Wheels, buffing, full disk.:stock diameters. | $17$ | $11$ | 35 | 115-30 |
| Wheels, grinding ................................ | 715,200 | 254.400 | 64 | 45-32 |
| Wheels, grinding, dental lathe | 91 | 10 | 89 | 130-32 |

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