

DYERS'-WEED, OR YELLOW-WEED, *Reseda luteola*, WELD, L. an indigenous annual plant growing in meadows, pastures, on walls, and barren uncultivated spots, particularly on the rubbish thrown out of coal-pits. It has a cylindrical, hollow, furrowed stem, and produces yellow flowers which blow in the month of June or July. This plant is not relished by cattle, few eating it except sheep, which sometimes browse it a little.

The dyers'-weed imparts a most beautifully yellow colour to wool, cotton, mohair, silk, and linen, and is principally used by dyers for that purpose, as it affords the fastest and brightest dye. A decoction of this plant also communicates a green colour to blue cloths and constitutes the basis of *Dutch pink*. The tinging properties reside in the stems and roots, which should be cultivated in sandy situations; because rich soils render the stalks hollow, which consequently do not impart so delicate a colouring matter. M. GADD informs us, in the 29th vol. of the *Transactions of the Swedish Academy*, that he found the following proportion of ingredients to be the most practically successful in making the preparatory lixivium: viz. for one pound of wool, two ounces of alum, six drachms of cream of tartar, to be dissolved in three gallons of water, to which are to be added two handfuls of wheaten bran. After remaining 12 hours in this decoction, the wool is to be taken out, rinsed, then half-dried, and afterwards boiled, together with half an ounce of potash, and one pound of dyers'-green-weed, in four gallons of water; the wool must be gently agitated, till it acquire the proper shade of yellow. If silk or linen are to be dyed, both the tartar and bran must be omitted, and the colouring matter fixed with alum and pot-ash, one ounce of pot-ash to one pound of alum: but, in woollen cloth or yarn, the permanency of the colour is remarkably promoted by the addition of wheaten bran.

A water colour is made from weld, and used by paper-hanging manufacturers, for elegant work.

It is the small seeds of the plant only, which afford the colouring matter.

The following process for preparing this elegant yellow colour, is extracted from TILLOCH's *Phil. Mag.* vol. 13. When made, it will fall into a fine powder, and require no grinding. There is not to be found either in the vegetable or mineral kingdoms, any other substance which yields so elegant a yellow colour as the weld.

Take of pure carbonate of lime, (fine washed whiting) any given quantity: say four pounds: put it into a copper boiler, and add to it four pounds of soft water: put a fire under the copper and raise it to a boiling heat, and keep stirring with a deal stick till the whiting be completely divided and form with the water a consistence quite smooth. Then add for each pound of whiting three ounces of alum previously pulverised tolerably fine. The alum must be added gradually, and the operator should keep stirring with his deal stick during the administration; for a double decomposition is effected, accompanied with effervescence, and carbonic acid is discharged. Thus, if the alum were not administered gradually the boiler would overflow from the violence of the effervescence, and if the whiting were not well divided previously to the introduction of the alum, the distribution among the whiting would be unequal, and the colour injured. When the effervescence ceases, the basis is properly prepared. The fire may then be drawn, and it may remain for any length of time without injuring, till the other materials are ready. Place the weld with the roots uppermost, in another copper boiler, pour in soft water enough to cover every part containing seed, and boil them not more than fifteen minutes; then take them out, place them, with their roots uppermost, in a tub to catch the liquor which runs from them, and pass the liquor in the copper with what runs from the weld in the tub, through a flannel filter, to intercept the seeds and fecula; and thus the colouring matter is prepared.

It is impossible to say what quantity of welds should be employed to any given quantity of whiting; for some bundles will contain three times as much seed as others. It is well, however to know, that if too much colouring matter be prepared, it may be kept in an earthen or deal vessel for many weeks, without sustaining any injury.

Having filtered a sufficient quantity of the weld, put a fire under the boiler containing the basis, and add the weld liquor till the colour be attained. When

sufficient colouring matter is added to the basis the fire should be raised to a boiling heat, and the work is finished. In order to be satisfied with the greatest strength of colour is attained, take a little out on chalk, which will absorb the moisture instantly, when it may be laid on paper with a brush, and received perfectly dry in a few minutes.

The contents of the furnace should then be put into a deal or earthen vessel to precipitate. The next day the liquor may be poured off, and the colour may be placed on large pieces of chalk, which in a few hours will absorb the moisture, and it will then be fit for use.

The liquor poured off from the colour, may, with the addition of water be used again, and the old welds may be boiled a second time, and taken out previously to the addition of fresh welds, so that no colouring matter will be lost.