

In 1000 lbs. of stable manure there are, say,—

5 lbs. of nitrogen, at 20 cts. per lb.....	\$1 00
6   "   potash, at 7 cts. per lb.....	42
2½   "   phosphoric acid, at 5 cts. per lb.....	12
Amounting to .....	<hr/> \$1 54

Or one-seventh of a cent per lb.

Now potash is a most important fertilizer for the orchard ; (1) it promotes growth, (2) it improves the flavor of the fruit, by causing an increase of sugar and a decrease of acid, and (3) it improves the color of the fruit, and this is very important in apples intended for the market. Apples draw heavily on the soil, and especially upon this element. It has been stated on very good authority that 100 barrels of apples draw more heavily on the soil than a crop of 50 bushels of wheat.

By reference to a table showing the constituents of the apple, the reason will be obvious.

#### Analysis of the Apple Constituents.

1-1000 parts of apple contains :

Water.....	831.
Nitrogen.....	.06
Ash .....	2.2
Potash.....	.8
Soda.....	.6
Lime.....	.1
Magnesia.....	.2
Phosphoric acid.....	.3
Sulphuric acid.....	.1
Silicic acid.....	.1

From this it is evident that of the most important elements, potash is one while the two other important elements, nitrogen and phosphoric acid, present in small quantities are also supplied in wood ashes.

With regard to the action of ashes upon the soil, it is important to notice that a heavy application of unleached wood ashes to a heavy soil is damaging to its texture, rendering it heavier still, more tenacious, and inclined to be cloddy on account of the potash. But for this very reason its action on light soils is highly beneficial, rendering it more compact, filling up the pores and keeping it moist.

It also tends to correct "sourness" in the soil by precipitating the soluble iron salts which are sometimes over abundant.

Another benefit is that it promotes nitrification, or the process by which nitrogenous matters in the soil are rendered available for the tree growth.

It is thus evident that ashes have more value than simply for the amount