

# Remediasi Tanah Tercemar Logam Berat

*by* Rossyda Priyadarshini

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## **Remediasi Tanah Tercemar Logam Berat**

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## Kata Pengantar Pakar

Pencemaran lingkungan khususnya di tanah pertanian saat ini menjadi perhatian serius, baik ditingkat nasional maupun global karena berkaitan dengan kesehatan pangan. Indonesia memiliki potensi sumberdaya lahan yang cukup luas, namun sebagian diantaranya telah mengalami pencemaran. Sumber pencemaran terbesar berasal dari antropogenik, seperti industri pertambangan dan penggunaan bahan agrokimia yang berlebihan. Budidaya pertanian dengan menggunakan bahan agrokimia memberi dampak positif terhadap peningkatan produksi pertanian, namun disisi lain residu bahan agrokimia dapat memberikan dampak negatif terhadap kesehatan tanah. Sebagian produk pangan yang di konsumsi sehari-hari tidak tertutup kemungkinan telah terpapar logam berat yang bersumber dari bahan agrokimia. Langkah strategi yang dapat dilakukan untuk mengantisipasinya dengan cara pengendalian. Teknologi yang paling ideal dilakukan dengan memanfaatkan potensi sumberdaya lokal. Potensi sumberdaya lokal sebagai agen fitoremediasi cukup tersedia disekitar kita sehingga dapat digunakan untuk mengendalikan pencemaran tanah.

Penulisan buku ini berisi sumber pencemaran dan teknologi pengendalian dengan menggunakan tanaman indigenous. Buku ini merupakan hasil-hasil penelitian yang berkaitan dengan pengendalian pencemaran tanah atau remediasi baik yang dilakukan oleh kedua penulis maupun para peneliti yang lain. Hal yang diungkap sangat relevan dengan permasalahan yang dihadapi saat ini. Teknologi remediasi merupakan salah satu teknologi pengendalian tanah tercemar yang mudah dan murah karena memanfaatkan jasa tanaman. Teknknologi ini menjadi salah satu langkah strategi dibidang pertanian untruk memulihkan lingkungan agar tetap berkelanjutan.

Penerbitan buku ini tentunya dapat menjadi rujukan bagi para pemerhati lingkungan terutama pengendalian pencemaran tanah. Pengungkapannya secara spesifik tentang remediasi tanah tercemar dengan bahasa yang mudah difahami, sehingga dapat digunakan sebagai salah satu referensi bagi mahasiswa, dosen maupun praktisi yang peduli terhadap pengendalian pencemaran tanah. Semoga buku ini dapat berkontribusi bagi terwujudnya pangan yang sehat, karena tanah yang sehat akan menghasilkan pangan yang sehat.

Malang, 15 September 2019

Prof. Dr. Ir. Bambang Guritno



## Kata Pengantar



Isu pencemaran tanah dan tanaman saat ini menyedot perhatian banyak pihak. Hal ini berkaitan dengan produktivitas lahan dan kesehatan tanaman. Faktor penyebabnya cukup beragam, diantaranya penggunaan bahan agrokimia berupa pupuk dan pestisida yang melampaui batas, serta sumber pencemaran lain. Kondisi ini jika tidak diatasi, akan berdampak buruk pada kesehatan manusia dan generasi berikutnya. Aktivitas penambangan emas yang membuang tailing disekitar lahan serta penggunaan pupuk dan pestisida yang melampaui batas ikut memicu akumulasi logam berat di dalam tanah dan merusak lingkungan. Upaya mitigasi terus dilakukan, namun belum mampu memberikan dampak yang signifikan. Penyelesaian yang masih bersifat parsial merupakan penyebabnya, sehingga diperlukan penyelesaian secara holistik.

Buku ini mencoba mengungkap beberapa hasil penelitian yang dilakukan untuk memberikan kontribusi dalam meremediasi logam berat pada tanah pencemaran. Remediasi tanah tercemar yang efektif adalah dengan memanfaatkan potensi sumberdaya lokal. Indonesia memiliki sumberdaya lokal yang potensial untuk dikembangkan sebagai agen fitoremediasi. Kemampuan tanaman jika dikombinasi dengan biochar juga mampu memberikan kontribusi besar dalam meremediasi logam berat. Kontribusi ini diharapkan akan menjadi langkah maju untuk menyelamatkan lingkungan secara berkelanjutan.

Penulis mengucapkan terima kasih yang sebesar-besarnya kepada semua pihak yang berkontribusi dalam penerbitan buku ini. Kepada Direktur Riset dan Pengabdian kepada Masyarakat (DRPM) Kemenristekdikti yang telah membiayai penelitian yang kami ajukan. Sebagian besar data yang kami ungkap dalam buku ini adalah hasil penelitian. Semoga buku ini bermanfaat bagi mahasiswa dan pembaca yang memerlukan.

Malang, 15 September 2019

Penulis



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